

**TMD DISCUSSION PAPER NO. 66****DISTRIBUTION AND GROWTH IN LATIN AMERICA  
IN AN ERA OF STRUCTURAL REFORM****Samuel A. Morley  
Visiting Research Fellow****International Food Policy Research Institute****Trade and Macroeconomics Division  
International Food Policy Research Institute  
2033 K Street, N.W.  
Washington, D.C. 20006, U.S.A.****January 2001**

*TMD Discussion Papers contain preliminary material and research results, and are circulated prior to a full peer review in order to stimulate discussion and critical comment. It is expected that most Discussion Papers will eventually be published in some other form, and that their content may also be revised. This paper is available at <http://www.cgiar.org/ifpri/divs/tmd/dp.htm>*

**TMD DISCUSSION PAPER NO. 66**

**DISTRIBUTION AND GROWTH IN LATIN AMERICA  
IN AN ERA OF STRUCTURAL REFORM**

**Samuel A. Morley  
Visiting Research Fellow**

**International Food Policy Research Institute**

**Trade and Macroeconomics Division  
International Food Policy Research Institute  
2033 K Street, N.W.  
Washington, D.C. 20006, U.S.A.**

**January 2001**

*TMD Discussion Papers contain preliminary material and research results, and are circulated prior to a full peer review in order to stimulate discussion and critical comment. It is expected that most Discussion Papers will eventually be published in some other form, and that their content may also be revised. This paper is available at <http://www.cgiar.org/ifpri/divs/tmd/dp.htm>*



# **Distribution and Growth in Latin America in an Era of Structural Reform**

**Samuel A. Morley<sup>1</sup>**  
**Visiting Research Fellow**  
**International Food Policy Research institute**  
**e-mail: s.morley@cgiar.org**

**January 2001**

## **Abstract**

The first section of this paper reviews the most recent evidence on inequality in 18 Latin American countries and shows that in all but four the changes in inequality over the 1990s were small and insignificant. The distribution depends on the ownership and rate of return on assets, particularly human capital. In the short run changes in these two variables tend to be offsetting-growth widens skill-differentials which is regressive, but advances in education are progressive. The two effects roughly cancel each other out absent severe macroeconomic shocks or revolutionary changes in the rules of the game. The paper then summarizes various recent papers as well as the author's recent work on the impact of structural reforms on inequality. That work shows that the recent reforms have had a negative but small regressive impact on inequality mainly because many of the individual reforms had offsetting effects. Trade and tax reform have been unambiguously regressive, but opening up the capital account is progressive. Finally, the paper presents evidence of a significant slowdown in the growth rate and argues that given this fact and the insensitivity of the distribution to feasible policy measures, the main problem facing the region at present is not how to improve the distribution but rather how to increase the growth rate.

---

<sup>1</sup> Prepared for a OECD conference on the effects of globalization on poverty and income inequality in developing countries in Paris 30 November-December 1, 2000. Support from the Ford Foundation in the preparation of this paper is gratefully acknowledged.



## **Table of Contents**

Section I: Recent Distribution Evidence .....	1
Section II: Determinants of the Distribution of Income .....	5
Physical Capital.....	7
The Interaction Between the Distribution of Land and Unskilled Labor .....	7
Human Capital or Education .....	9
Inequality and Growth.....	12
The Impact of Structural Reform.....	14
Section III: Empirical Evidence on the Impact of Growth and Reform.....	18
Section IV: Inertia in the Distribution .....	21
Section V: The Problem of Finding Sustainable and Rapid Growth .....	22
Exports Are Not a Very Dynamic Leading Sector in Most Countries .....	24
What Explains the Downturn in Growth After 1995? .....	24
References .....	27
List of Discussion Papers.....	32



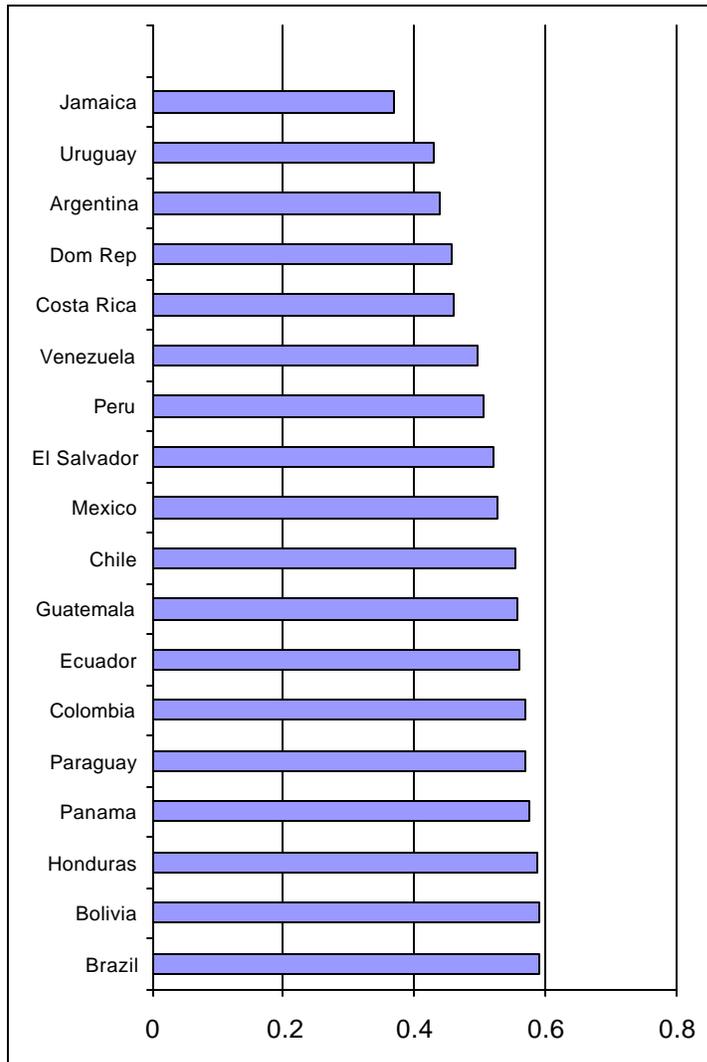
Latin America has long been known as the region with the most unequally distributed income in the world. That was true in 1980 before the start of a decade of debt crises and recession that increased the degree of inequality even further. At the start of the 1990s it was hoped that recovery and growth would improve the situation. But that has not happened. The most recent evidence suggests that at best inequality has stayed constant at the high levels of ten years ago, and may well have gotten worse. (Székely and Hilgert 1999a) Recession and crisis exacerbated inequality, but recovery, growth and structural reform do not seem to have reversed those trends.

In the first section of this paper we review the empirical distribution evidence for the 1990s. It shows either constant or rising inequality in most countries in the region. In section two we examine the main determinants of the distribution and show why the distribution tends to be constant in the short run unless there are significant interventions or macroeconomic shocks such as hyperinflation or extended recession. In section three we summarize several recent studies which have attempted to link structural reform, growth and inequality. These studies show quite convincingly that there has been a rise in the skill-differential in the 1990s, related to both the structural reforms and to increasingly skill-intensive growth. But some decomposition results from my recent CEPAL study show that changes in inequality within different education groups and changes in education structure have to a large extent offset the regressive impact of rising wage differentials, the net result being that the distribution has been roughly constant in spite of the rising differentials. Finally in section four we point out that falling or low rates of growth in most countries in the latter half of the 1990s strongly suggests that the main problem facing the region in the post-reform era is not how to improve the distribution of income but rather how to increase the growth rate of income.

## **Section I: Recent Distribution Evidence**

Figure One displays the most recent estimates for the Gini Coefficients for nineteen countries in the region. Except for Argentina and Uruguay all the data are national, and except for Jamaica all measure the distribution of family income per capita. A table with estimates over the 1990s for each country can be found in annex one. That data gives an idea of how inequality has changed over the first decade of trade and capital account liberalization.

**Figure One: Gini Coefficients for a Recent Year**



Source: Annex one.

The first thing the data show is just how widespread high inequality is in the region. With the possible exception of Jamaica whose survey is based on expenditure rather than income, not another country in the region reaches even the median level of the Gini of Sub Saharan Africa, the most inequitable region in the world after Latin America. Latin America's high average inequality is not due to one or two outlying countries. No less than 13/19 in the figure have Gini's over .50, which is higher than the maximum Gini in all but 14 of the 88 non-Latin American countries in the World Bank data set. (See Deininger & Squire, 1996).

What happened to inequality over the first post-reform decade? From the region-wide averages shown in Londoño and Székely, there seems to have been little change. In Miguel Székely's words inequality is high and persistent in the region. Over the decade as a whole inequality rose in eight of the countries for which we have the data and fell in eight and was constant in one. But most of the changes are small. (See annex one and figure two) In only four of the cases are the changes over 5% (i.e. about 2.5 percentage points on the Gini scale). One of these is Jamaica where the survey is based on expenditures and the country was in recession. A second case is Uruguay for which there is a major difference between two different sources (Székely and Hilgert 1999a, and CEPAL (1999) on whether inequality, rose, fell or stayed constant. On balance one can say that inequality moved within a fairly narrow range for most countries in the region.

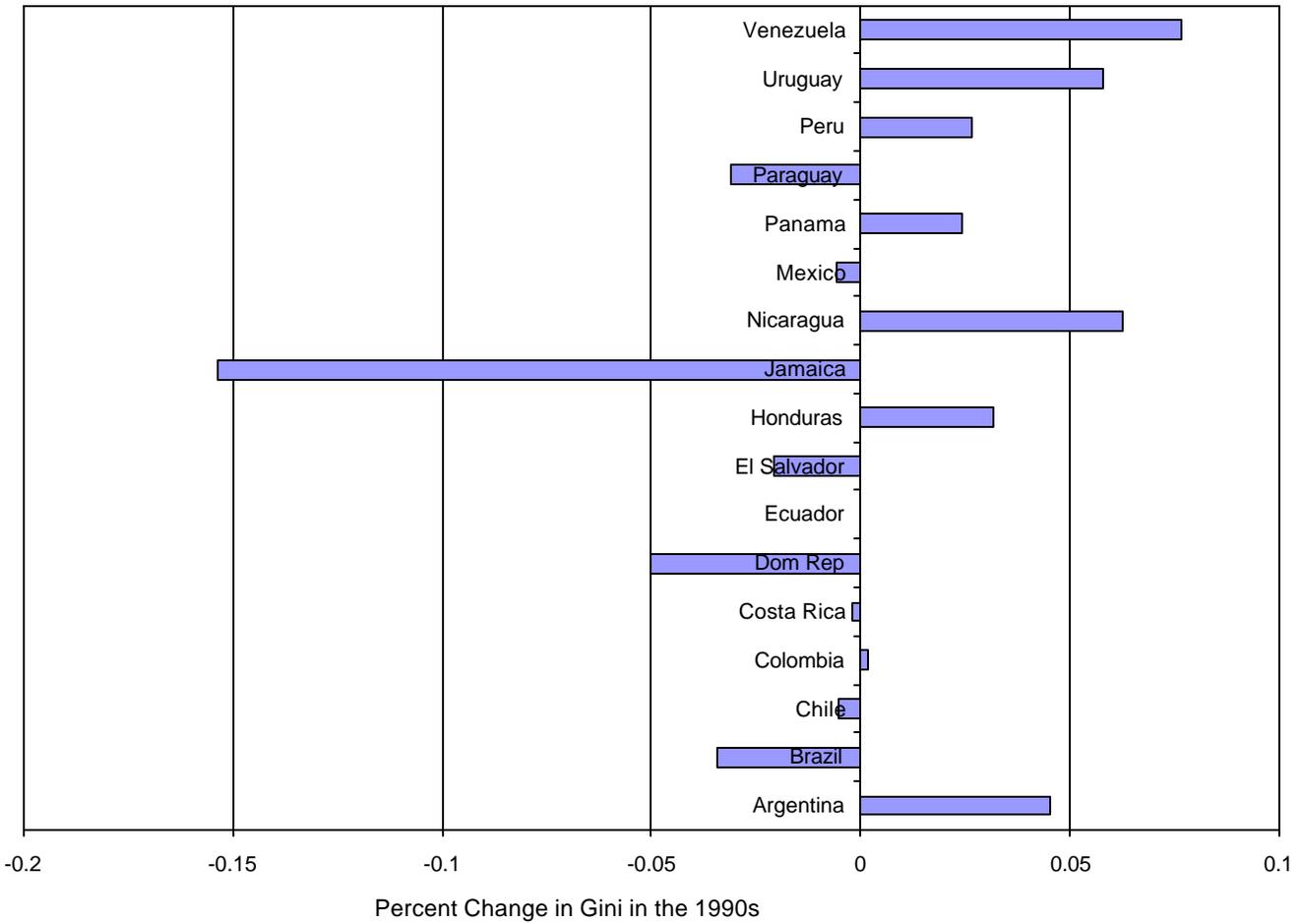
The aggregates do hide some important details. There is one group of six countries where inequality has risen sharply in the past and seems now to be stuck at a very high level. That group includes Brazil, Chile, Colombia, Ecuador, Nicaragua, Mexico and Panama. Another two countries, Argentina and Venezuela, had fairly moderate levels of inequality at one time but have suffered a significant increase in the 1990s. In another three countries, Honduras, Peru and El Salvador, there was some progress between 1990 and 1995, but most or all of that has been reversed after 1995. Finally there are two countries-Bolivia and Ecuador for which national data are only recently becoming available. They are problems too because all of them have very high levels of inequality at the end of the decade.

Not all the distribution evidence is negative. On the positive side in Costa Rica and Uruguay inequality has fallen to levels found in developing countries. Inequality is unlikely to fall much further in these two countries. That is not because growth in inequitable, but because there are lower limits to income inequality in any society. Finally there are three countries, the Dominican Republic, Jamaica and Paraguay in which there was a decline in inequality. However the decline in Jamaica and Paraguay was the result of a severe and lengthy recession in which the rich lost more than the poor whose expenditures or income did not change much because they were living close to subsistence in the first place.

When one adds all of this together what stands out is the extent and severity of the inequality problem. There are only three countries with either low or declining levels of inequality and an adequate growth rate. All the other fourteen countries have serious problems. Either their inequality is stuck at a high level, has been rising significantly in

recent years or they are in serious recessions. Unfortunately this problem group includes more than 90% of the population of the region. And what is worse, there are few if any signs of improvement in the situation. That is the reality and the core of the distribution problem in Latin America.

**Figure 2: Percentage changes in distribution in the 1990s**



## **Section II: Determinants of the Distribution of Income**

Since our interest here is the impact of growth and structural reform on the distribution, we start with the distribution of earnings. This is the distribution that is most closely connected to economic influences. But the reader should remember that the distribution most relevant for welfare comparisons is the distribution across families or individuals. That distribution depends on transfers, dependency ratios, family formation and other demographic variables in addition to all the factors affecting the earnings distribution. Those factors may either offset or emphasize the economic factors working through factor markets.

In the short run the primary distribution is determined by the interaction of three factors: the quantity and ownership of factors of production, and the interplay of supply and demand for those factors. What is critical to an understanding of persistent, high inequality is the role played by the supply and distribution of productive assets in the society. There are four assets to consider—land, skilled labor, unskilled labor and capital. Two of these, skilled labor and capital, are scarce in Latin America which means that their rates of return are high, and all but unskilled labor are distributed unequally relative to either the industrialized countries or other developing areas. It is this unequal distribution of scarce assets more than anything else which explains Latin America's excess inequality. The situation, no doubt, has been exacerbated by the relatively skill and capital intensive growth strategy of Latin America because that has raised profit rates and the return to education. But that would not have mattered so much if the ownership of human and physical capital were more widely spread.

Like other economic markets, prices are determined in factor markets by the interaction of the supply of each factor and the demand for factor services. Markets clear at a price at which someone is willing to use the available supply of each of the factors. That set of market clearing factor prices determines the relative price of skilled and unskilled labor and the rate of return on capital and land. In the labor market, it may well be the case that demand is so low that many are forced to work part time in the informal sector or are unemployed altogether because the legally prescribed minimum wages in the formal sector exceeds the marginal product of fully employed labor force.

On the demand side, economic growth, and expansionary macroeconomic policy shift out the demand for each of the factors which tends to raise each of their prices. What happens to relative factor prices depends on the nature of the growth process. If it is skill intensive, skill differentials widen. If it is led by sectors such as agriculture which use mainly unskilled labor, the reverse should occur. Structural reforms change the composition of output by shifting output toward certain sectors and away from others. That is, the demand side determines the position of factor demand curves, which one would expect to depend negatively on own price and the price of complements, and positively on the prices of substitutes.

The supply side is critical to understanding the dynamics of the process. In the short run the supply of factors is fixed because each of the factors is a stock which produces a flow

of services. That stock can change but that takes time. In the short run, demand factors such as the nature of the growth strategy, macroeconomic conditions and structural economic reforms have a predominant influence on relative incomes and the rate of return on capital and land.

Another important feature of the distribution process is the dynamic feedback between factor prices and factor supplies through investment. If there is a rise in the rate of return to physical capital, investment in physical capital increases. Similarly if there is an increase in the wage differential between skilled and unskilled labor, or between university and high school graduates that will tend to increase the demand for university education. Over time these investments will increase the supply of physical and human capital in the economy. If there were no changes on the demand side, these supply side changes would drive down the rate of return and/or the skill differential.

From the point of view of the earnings distribution, a rising skill differential which tends to increase inequality in the short run is also a signal which expands the supply of educated labor or physical capital in the long run. These long run changes on the supply side may well reverse the short run rise in inequality that induced them since they tend to drive down the rate of return to capital, both human and non-human. And for human capital one has to remember that the expansion in the supply of the well educated implies a rise in upward mobility for the young, more of whom will enter the labor market with university education instead of secondary or primary.

There is thus an important distinction or ambiguity between the short run and the long run meaning of a rise in the skill differential or the rate of return to capital. In the short run an increase in either of these two is almost surely regressive. But in the long run, so long as the supply side reacts positively to these changes in the rate of return, the change could be progressive either because of upward mobility, or because the increase in physical capital drives down the rate of return and raises the productivity and the average wage of workers.

The ambiguity we are discussing here is a specific example of the dual function of income in a market system. On the one hand relative income determines the distribution at each point in time. Any relative increase in the income of the rich is regressive. But on the other hand income is the signal or incentive by which economic agents are encouraged to change their behavior. A rise in the skill-differential induces socially desirable education investment. Similarly a rise in profits induces investment and a shift of productive resources from less desirable to more desirable uses. One makes a serious error of interpretation if one concentrates only on the short run regressive effect of changing factor returns without taking into account progressive long run supply responses.

We turn now to a short discussion of the four factors of production that together determine the earnings distribution.

## **Physical Capital**

Could Latin America's high inequality be the result of a higher profit share in the region? It is well known that the household surveys that we have been using as the basis for our measurement of inequality seriously underestimate total profit income. Nonetheless they do contain some income from that source and, as would be expected, its distribution is far more skewed in favor of the rich than labor income. However because of underreporting, the total amount of income from this source is too small to significantly change the distribution. The Gini of total income including distributed profits is less than one percentage point higher than the Gini of labor income alone. This fact leads to two important conclusions. First, the high reported inequality in Latin America comes mainly from inequality in labor income, not profits. Second, because most profit income is not captured in the surveys, inequality in Latin America must be a good deal higher than what is reported in the household surveys.

## **The Interaction Between the Distribution of Land and Unskilled Labor**

Latin America has always had the most unequal land distribution in the world. In a recent study of land distribution in developing countries, four countries in the region topped the list. They had the highest land distribution Gini Coefficients in the world. Eleven of the top 16 countries in the same list came from Latin America. No Latin country was in the group of low or even medium inequality. (Theisenhusen, 1995, p. 9). The FAO estimated that around 1970 the biggest 7% of land holdings in the region (those above 100 hectares) owned 77% of the land. At the other extreme, the smallest 60% had only 4% of the land! For Asia holdings over 100 hectares comprised 1.6% of all land, while 96% of farms had less than 10 hectares and that comprised 68% of all land. (Cardoso and Helwege, 1992, App. D.)

The relevance of all this for income distribution is clear. Countries with a very unequal distribution of land tended to have a low reservation wage for unskilled labor in the countryside, particularly as population growth increased in the twentieth century. But that condition also meant low wages for the unskilled in the cities because of rural-urban migration. There were a number of attempts to change this inequitable situation through land reform. Mexico, Bolivia, Cuba and Nicaragua are the most extreme examples, but there were also reforms in Peru, Ecuador, Venezuela, Panama, Costa Rica, Chile, Colombia, El Salvador and the Dominican Republic. (Cardoso and Helwege, p. 261)

In most cases these reforms did not reach a large fraction of landholdings, and nor did they equalize land ownership to a significant extent in most cases. Either the reformed land was put into collective farms as in the ejidos of Mexico, or it was later sold by the new owners.<sup>2</sup>

---

<sup>2</sup> A reform will not be effective in redistributing land unless small farms have a productivity advantage that raises the reservation price above what a large landowner is willing to pay. See Carter and Coles (1998)

Rather than confronting the powerful landed oligarchs, the more typical solution was for the rural poor to escape to the cities by migration. One could say that the cities became the safety-valve for the poor landless peasants from the countryside-just the opposite of the Turner hypothesis for the United States. That by and large avoided violent confrontations, but at the cost of transferring inequality and low wages for the unskilled to the cities.

Blocking access to land for the unskilled has the same effect as lowering the supply curve or the reservation wage. That is why relative wages are so low in economies with a large supply of unskilled labor relative to the available supply of land. To make matters worse, there has been a rise in the growth rate of the working age population since 1950 because of the lagged effect of reductions in the death rate. In earlier periods the rate of growth of the population was low because the high birth rate was counterbalanced by an equally high rate of infant mortality and a short life span. The low growth equilibrium was broken, first by a reduction in death rates, then later by a reduction in the birth rate. But there was a lag between the first and the second. During that interval which demographers call the transition, there is a temporary rise in the rate of population growth. That transition occurred in Latin America in the period between 1950 and about 1980, with differences across countries. The rate of growth of the labor force increased from 1.9% in the 1950s to 2.3% in the 60s, 3.8% in the 70s and 2.9% in the 80s (Weller, p. 12).<sup>3</sup> School age population (0-14) peaked as a share of the total population around 1970. (Duryea and Székely, 1998, fig. 1)

What all this has meant is a quite large increase in the size of young age cohorts in the period after 1950. Those cohorts either had to be educated or absorbed into the labor force. But for the most part the education system did not expand enough to absorb them. Instead, most entered the labor force with a low level of education and skills. Thus the demographic transition increased the growth rate and the supply of unskilled labor in a region where lack of access to land and other productive inputs meant that they would flood the cities and drive down the wage for the unskilled.

To make matters worse during that same transition period most of the countries in the region were pursuing a development strategy based on import substitution, and that implied a rapid growth in the demand for skilled labor and capital rather than unskilled labor. The predictable result was a rise in informalization, stagnation in real wages for the unskilled, and a rise in the wage differential. Furthermore a backlog or oversupply of poorly educated workers was created which will have regressive effects on the distribution until it is finally eliminated by a combination of more rapid and hopefully more labor intensive growth, investments in education, and a gradual reduction in population growth as the transition comes to an end.

---

<sup>3</sup> Increases in the participation rate particularly in the 80s affect the magnitude of the changes in the growth rate, and move the peak growth rate back to around 1980. See Weller, p. 10.

## Human Capital or Education

Education is one of the keys to the distribution puzzle. Latin America has a highly unequal distribution of education and the highest skill differentials in the world. Dozens of studies have shown that a person's level of education and experience are the major determinants of where one is likely to be found in the distribution of income. (See in particular Birdsall and Londoño (1997) and Londoño and Székely (1998)) It is therefore reasonable to expect that a big part of the explanation for earnings inequality must lie in the educational profile of the population and in the skill differential.

There is another puzzle here and that is how to explain Latin America's high and persistent education wage differentials. Surprisingly they cannot be explained by the relative scarcity of university graduates. Compared to the typical Asian economy, the share of university graduates in the adult population is actually higher in Latin America. Yet the returns to university education are higher in Latin America than they are in Asia. Furthermore there has been a rapid expansion of university graduates in the labor force in Latin America since 1970, and yet, skill differentials have widened. These facts are a critical part of why inequality has not decreased in the region. But we don't have a good explanation for why this expansion of supply has not driven down education differentials and rates of return to university education.

Getting good historical or comparative data on wage differentials between skilled and unskilled labor or between different education groups is surprisingly difficult. Lora and Marquez (1998) compared white and blue collar average wages in Latin America and several other regions. Their data show that the white collar differential in Latin America in 1982 was twice as high as the developed countries, and 50% higher than the four Asian tigers. Since 1982 that differential has fallen everywhere but Latin America. There, despite increases in the share of college and high school graduates, it has not fallen. Indeed it has risen sharply since 1988. Behrman et al (2000) confirm this widening of the educational wage differential. They ran earnings regressions for a large number of Latin American countries at two points in the 1990s, and found that in eight of the ten countries for which he had data there was an increase in the differential between university and high school graduates and lower education groups. (the exceptions are Costa Rica and Panama) Morley (2000) found the same pattern of widening skill differentials in the nine countries covered in his study, several of which were not in the Behrman et al study. For whatever reason, there is a general consensus that wage differentials in favor of the educated have widened in the post reform period.

To try to explain trends and patterns in relative skill differentials it is natural to ask about demand and supply. We cannot directly observe the demand for skills, but we can observe supply. If one looks at the educational profiles of the adult population in Latin America compared to countries in Asia, what stands out is the large proportion of university graduates in Latin America and the small number of adults with a high school education. Most countries have succeeded in universalizing primary school education in the young cohorts entering the labor force. Over time this has reduced fairly sharply the percent of the labor force without education. But too many are still dropping out of

school to enter the labor market after completing primary school. That is particularly true in countries like Brazil, El Salvador, Guatemala, Honduras and Bolivia where the education of the 1970 labor force was relatively poor. As a result, a good deal of the progress in reducing the group with no schooling in those countries has been offset by an expansion of the group with no more than primary education.

Where the Latin experience differs most sharply from Asia in the period since 1970 is in the rapid expansion of the university component, relative to secondary. In Asia both the secondary school and university component practically doubled between 1970 and 1985. That is not the pattern in Latin America. There the share of university graduates expanded twice as fast as high school graduates. Asia put a lot of its education dollars into eliminating the bottom tail of its educational distribution and universalizing secondary education. Latin America let most of its young cohorts leave school after primary, using the money instead to expand university coverage.

Two aspects of this difference between the two areas are important to us. First Latin America has expanded the supply of university graduates in the labor force faster than Asia. One cannot therefore attribute rising relative wages or returns to university education in Latin America to a failure to expand supply.

Second, the university-intensive education strategy followed by Latin America has increased the variance in the ownership of human capital or what could be called educational inequality. Trends in this variance are critical to understanding trends in earnings inequality. For example, if there are very few university graduates in the population, the high wage differential earned by those graduates will not be an important factor in the distribution, because the overall education variance is low. (Most of the population has a low education level. When any country begins a process of upgrading the education of its population, one should expect educational inequality to increase as the education level of the younger cohorts improves relative to older cohorts. Gradually over time that tendency will reverse as older cohorts retire and are replaced by better and more equally educated young cohorts. But the Latin American educational strategy has delayed this turning point. Not only is educational inequality still increasing in the region. It is also increasing faster than would be expected compared to the experience of other countries. A recent study (Londoño & Székely (1998)) shows the standard deviation of education rising along with education levels from just over three years in the 60's to over 4.5 years in the 90s. That is over twice the increase in educational inequality that would be predicted from the increase in average education level over the same period.

Rising educational inequality in the region is partly a result of the Latin education strategy. On the one hand there was a substantial reduction in those with little or no education—the left hand tail of the distribution. That was helpful. But at the same time there was a significant expansion of university graduates—the right hand tail of the distribution. That increased educational inequality given the relatively small size of the group at the beginning of the period. To put it another way, in Latin America the expansion in education opportunities above the primary school level was limited to a small minority of new entrants. By contrast, the Asian strategy expanded the group in the

middle, those with high school relative to the top, and of course more of their labor forces were in this group to start with. In variance terms, Asia reduced the lower tail, and expanded the middle of the distribution, thus equalizing education over the labor force. Latin America did not. Eventually the educational inequality trends will reverse in Latin America, as they have in Asia because intracohort inequality is now falling in almost all the countries in the region. But the Latin American strategy of expanding primary and university at the expense of secondary has delayed the point at which overall educational inequality begins to decline in the majority of countries in the region.

The distribution of income is related to both the return to human capital and to the variance in its ownership. Both have increased in the last twenty-five years despite the sizable investments in education that have been made in Latin America. So far, changes in the educational profile of the labor force in the region have not succeeded in reducing income inequality, and may have actually increased it. There are in fact two factors at work here: the wage differential earned by better educated workers and the distribution or variance of education in the labor force. One might expect the two to move together and usually they do. That is, if one expands the supply of the educated, one should generally observe a narrowing in the skill differential. But that is not happening in Latin America.

It should be apparent that changes in the rate of return to education or the wage differential are the main channel by which the earnings distribution can change *in the short run*. Upgrading the labor force through investments in education is a critical component in the social policy of any government. But it takes a long time to have an appreciable effect on the distribution of earnings. First of all it takes a long time for the newly educated to join the labor force, longer the lower the coverage of the education system to start with. Second, even when these new graduates enter the labor force, at most they will add 2-3% to the stock of workers in the economy. Those are not big enough changes to very quickly change the variance of education or the educational profile of the labor force. For example, consider Costa Rica, a country with a progressive education policy. In 1970 89% of its adult population had no more than primary education. Fifteen years later that percentage had only dropped by 14%. (Barro-Lee, 1996). The proportion of college graduates rose from 3% to 11%. Those are substantial improvements, among the best in the region. But they are too slow to alter the ownership profile of human capital much in the short run. Therefore, if there is to be a significant change in earnings inequality from this source, it will have to come from changes in the rate of return to education-the wage differential. But that, as we have seen, is moving in favor of the more educated.

University graduates are one key to understanding the distribution puzzle. This is the group best positioned to take advantage of the increasing skill-intensity of the modern economy. Because they are in short supply, their earnings differentials are high-the highest in the world. What is of more concern here is that there seems to have been a rise in the amount of inequality in the distribution of earnings accounted for or explained by

university graduates.<sup>4</sup> In fact the rise in the university group contribution to overall inequality in the Morley sample of countries was so great that it completely offsets favorable trends in the remainder of the population. This is a striking confirmation and result of increasingly skill-intensive growth in the 1990s. Whether that is the result of the opening of the economy or whether it simply reflects changes in the nature of technology we cannot say. Nor can we say with certainty that the pattern observed in our sample is representative of the other countries in the region.

If one calculates the change in the university contribution to total inequality between the beginning and the end of the period in each of the countries in the Morley sample, one finds that in every case the absolute change for the university component is higher than the absolute overall change in inequality. That tells us that in that group of countries rising inequality in the university group is responsible for all the increase in inequality, where there was an increase in inequality, or that offset progressive trends in the non-university group where inequality was constant. To put it another way, earnings inequality would have declined in the region in every country with the possible exception of Argentina had it not been for widening inequality in the university group, and between it and everyone else. Skill-intensive growth in the new economic model strongly favored those few in the labor force with university education.

### **Inequality and Growth**

We have so far been comparing snapshots of factor markets and skill differentials taken at different points in time without considering the economic forces that may be causing changes in the distribution of earnings. Among various possible factors, the most important is growth itself. What is the nature of the growth strategy and what effect does it have on factor markets and the distribution of income across the economy?

The first thing to realize is that economies are heterogeneous and growth is a disequilibrating process that spreads unevenly across the economy. Growth always starts in a particular sector or region and then spreads out or trickles down to the rest of the economy through a series of linkages. Linkages are the connectors between the particular sector where growth begins and the other sectors and agents in the economy. If those linkages are strong, the benefits of growth will be spread out and shared widely throughout the economy and the more equitable growth is likely to be. If they are not, growth will be confined to the leading sector, and will probably exacerbate inequality.

This notion can be applied in a variety of important ways in Latin America. In some economies there are big backward regions or indigenous populations which are only weakly or marginally connected to the modern, dynamic sector where growth is occurring. The Northeast and North of Brazil, the Andean region of Peru, or the indigenous areas of Southern Mexico are powerful and tragic examples of what we are

---

<sup>4</sup> For a fuller report on decompositions of changes earnings inequality for a nine country sample see Morley, (2000), chapter 7. the countries are Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica Jamaica, Mexico and Peru.

talking about here. In these three cases, and many more besides, linkages are weak. The areas themselves have a significant proportion of the nation's population, which means that their relative income levels will have a noticeable effect on inequality. But for reasons that are not entirely understood, growth in the dynamic sectors does not induce much forward or backward linkage activity. As a result, when these countries grow, there is not much of a spread effect to their backward or poor regions. Growth under these conditions tends to be inequitable. One could say that in these countries inequality is high because of growth, in the sense that if the entire country had remained in the same conditions as its backward regions, inequality would be lower. Here, growth leaves behind significant proportions of the population. Growth always leaves some people behind, if one accepts the idea that growth starts in a particular sector or area of the country. The key thing here is that if the linkages are weak and the areas left behind are large, then growth is likely to be inequitable.

For the same reason, inequality is likely to rise with growth in counties with large indigenous populations. Typically the links between indigenous people and the rest of the economy are weak. When growth occurs, it provides little stimulus to incomes of the indigenous. Conversely one could say that inequality is likely to be lower the smaller and more homogenous the economy. Small countries with homogenous populations are unlikely to have backward regions or groups which are disconnected from the modern economy. Examples are countries like Argentina and Uruguay where the bulk of the population lives in a small number of interconnected urban areas. When this sort of country grows, a greater share of the population benefits because most people are linked either directly or indirectly to the sector where the growth stimulus began.

If linkages and relative homogeneity are important one would expect urban income distributions to have a lower level of inequality than national distributions. And they do. In a big cross section study (Morley 2000) we found the urban Ginis were systematically 3-5 point lower than the national Ginis, and these differences were highly significant. Furthermore, if our reasoning about linkages is correct we might expect that the relationship between changes in income and changes in the distribution would be also be different in the urban sector. This expectation also turns out to be correct. Because linkages are higher across a greater fraction of the urban than the national population, the spread effects of growth are larger in the urban sector. Growth tends to benefit more of the population of the cities. It is not that growth doesn't create wide income differentials between the dynamic leading sector and the rest of the urban economy. Rather it is that the leading sector has a lot of backward and forward linkages within the remainder of the urban economy.<sup>5</sup>

All of this tells us that the economic structure of an economy will affect the relationship between growth and the distribution of income. Of equal importance is the growth strategy followed by the country. If a high proportion of growth comes from sectors which are big employers of unskilled labor such as construction or agriculture, it will be

---

<sup>5</sup> For the poor these feedbacks may be nothing more than an increased demand for guards, drivers, groundskeepers and servants all of which will be provided by the urban unskilled. This is a trickle-down from growth that helps to reduce urban poverty.

equalizing. The same should be true if the leading sectors are in backward regions. Conversely if the leading sector is mineral extraction, growth will more than likely raise inequality. Mineral extraction activities have always been criticized for having weak links with the rest of the economy. They do not employ many people directly nor do they buy much from the rest of the economy. Thus there is not much spread effect from that sort of growth.

The same could be said for a growth strategy heavily dependent on the use of skilled labor. It will almost certainly increase the skill differential and raise inequality. There are linkages from that sort of production, but they would mainly have to depend on the consumption expenditures of the skilled workers that are the direct beneficiaries of this sort of growth. It is possible though unlikely that their demand for the services provided by the less skilled would be sufficient to make this style of growth equalizing.

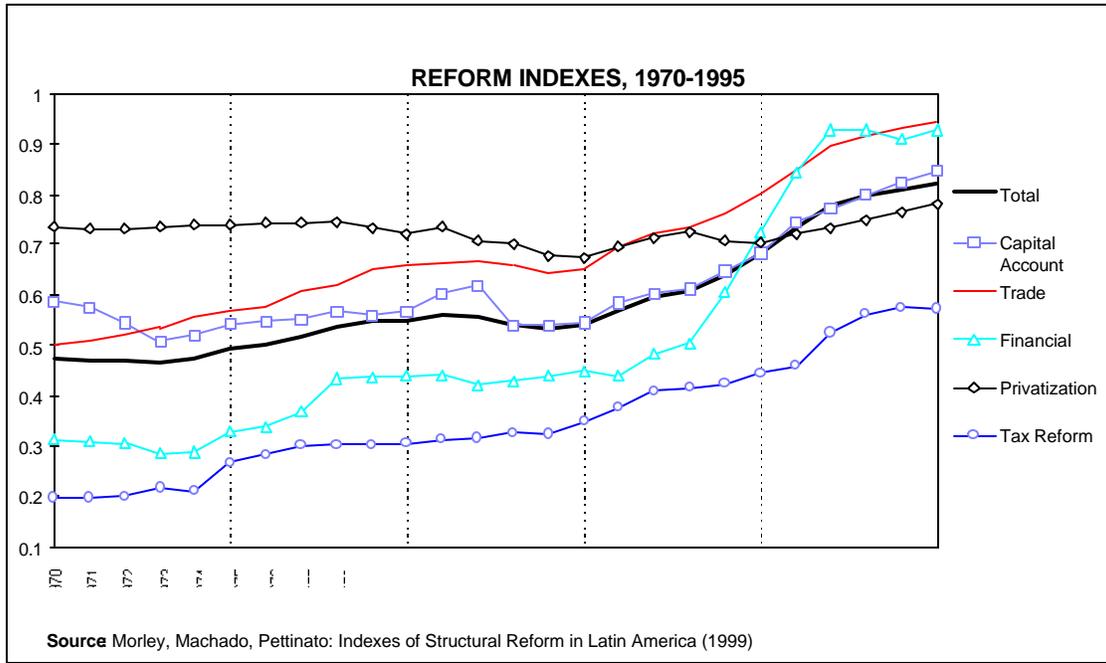
The government itself can play an important role in determining how big the linkage or spread effect of growth is. First of all the government can generate a substantial amount of demand for the unskilled through construction projects because construction is one of the two sectors which intensively uses unskilled labor. Government can also direct its spending to backward regions. Thus even if the basic growth dynamic comes from the extraction of minerals or from skill-intensive exports, the government can use the tax revenues generated by those activities to finance construction projects or other activities such as basic health care, education or direct transfers that will help the poor. Here the government acts as a conduit by which some of the revenues from production in the leading sector reach the poor, the unskilled or backward regions of the country.

To summarize, whether or not growth is equalizing depends on three things: 1) the structure of the economy, in particular how big and heterogeneous it is, and how much skilled and unskilled labor it has; 2) the type of growth strategy being followed and the characteristics of the leading sectors; 3) how much the government does to increase the spread effects of growth.

### **The Impact of Structural Reform**

Latin America has undergone massive structural reform in recent years. These reforms started in the Southern Cone in the 1970s and spread throughout the rest of the region after 1985. Figure three gives a picture of the spread of these reforms in five main areas.

**Figure 3: Reform Indexes, 1970-1995**



What might one expect the effect of these changes to be on equity? When one stops to think about the entire reform package, the broad thrust is to remove any sort of insulation from the market determination of the allocation of resources. Commercial reforms remove tariff protection to domestic production, financial reforms and privatization reduce government influence over the allocation of resources. Balance of payment reforms integrate foreign and domestic capital markets and reduce the capacity of government to control capital movements. Similarly, labor market reform increases labor flexibility or to put it another way, reduces labor's ability to defend against either market-driven fluctuations in demand, or alternatively wage reductions.

One of the key features of the neo-liberal reforms in Latin America has been to reduce tariffs and increase the reliance on exports. According to standard trade theory such a reform should help unskilled labor because it is relatively abundant in the region. But as we have seen it does not seem to have worked out that way in practice. Wage differentials are rising almost everywhere in spite of rising supplies of the more educated. While an increase in wage inequality does not necessarily translate into an increase in inequality of total income, these results suggest caution in accepting the assertion that trade should help countries with large supplies of unskilled labor.

One should not ignore the demand side in considering this question. The purpose of commercial reform is to switch the production of tradables away from inefficient import substitutes to exportables in which countries have a comparative advantage. The connection to the distribution of income comes from the differences in factor demands between these two types of products. That is a relative factor-intensity story. But there is a demand-side to consider as well. The success of the old import-substitution, inward-looking development strategy depended to a large extent on a growing internal market. If there is going to be satisfactory growth in that sort of strategy, there has to be a growing middle class with growing purchasing power. Growing real wages are an integral part of that strategy. The mature capitalist economies long ago discovered that both the owners of capital and their workers could profit from a strategy in which rising wages increased both costs and profits at the same time because of increases in the size of the internal market induced by rising wage payments.

The export-led growth strategy is completely different from this. Its success depends on controlling costs. The internal market is irrelevant. Rising real wages are a clear threat to growth in the export model. They do not have the positive indirect effect through demand that they have in the inward-looking growth strategy. Countries embarking on the outward-looking growth path are making their wage levels hostage to wage levels and labor costs in other countries. It may well be that the advantages of greater efficiency in export production than import-substitutes outweigh the disadvantages of this wage competition so that workers are better off. But that certainly is not immediately obvious, particularly in the large economies.

What is the likely effect of liberalizing the capital account? What this reform does is to integrate more closely the local and international capital markets making local interest and profit rates, adjusted for risk, closer to rates in the rest of the world. Whether or not this is progressive depends on the reactions of foreign and domestic owners of capital. If foreign investors have been deterred from a country because of controls on capital and profit repatriation, the reforms should induce a foreign capital inflow. The distributional effect of this is ambiguous. Wage/profit ratios should fall because of the rise in the capital/labor ratio. That is progressive. But at the same time if capital and skilled labor are complementary, the skill differential will rise which is regressive. A similar ambiguity results from the actions of domestic owners of capital. Part of the liberalization of the capital account was to lift restrictions on capital outflows by domestic savers and investors. If there was an excess demand for foreign exchange under capital controls, the reforms should cause a capital outflow, with results just the reverse of those described for foreign capital inflows.

Aside from the effect of these reforms on factor supplies and factor demands, removing barriers to capital movements increases the bargaining power of capital in its negotiations with both labor and the government. That is likely to be regressive. For if investors are free to move from one country to another, government will find it far more difficult to tax capital or to pass regulations that force businesses to shoulder more of the cost of infrastructure or labor regulation. Indeed, in a world of perfect capital mobility, countries will be forced to compete in offering generous tax holidays, subsidized credits and other

costly assistance as a way of attracting foreign capital. But it is not only foreign capital that is affected. The same argument is valid for domestic capital. Both government and labor will be forced to accept arrangements that are sufficiently generous that domestic entrepreneurs and holders of wealth are content to leave their money invested in their home country. In this way, opening up the capital account shifts the balance of power in favor of the holders of capital. This is one of the reasons why there has been a shift away from the taxation of corporate profits and a big reduction in the top marginal income tax rate in most Latin countries in recent years.

Financial reforms, the third component of the typical reform package, eliminated controls on interest rates, reduced compulsory reserve requirements of banks and reduced the use of directed or subsidized credit. The direct effect of this on the distribution is probably small, but to the extent that these reforms increased private saving and investment, they were probably progressive.

The fourth component of the reform project is tax reform. Two major components have been widely adopted. The first was the value added tax. Reformers favored this tax because they argued that while all taxes have distorting effects on private decisions, these are less with an across the board VAT than for either tariffs or high marginal income tax rates. In addition of course, there should be less tax evasion with a VAT than with an income tax based system. The VAT was introduced in the 1970's in nine of the 17 countries for which we have data. In the 1980's the VAT was adopted in all the remaining countries in the region and in addition, there was an increase in the coverage or efficiency of the VAT in most countries.

A second element of tax reform was the reduction in marginal tax rates on corporate and personal income, which significantly reduced the progressivity of the income tax. Every country in the region has reduced its top marginal tax rate since 1970. Not all have gone as far as Uruguay, which eliminated the personal income tax altogether, but overall the average marginal rate on personal income, has fallen from around 50% in 1970 to about 25% in 1995. The corporate rate has fallen from 37% in 1970 to 29% in 1995. Almost all these changes have taken place since 1985.

From the distribution perspective, the effect of these changes in the tax system was to shift the burden of the tax system away from the wealthy and toward the middle and lower classes. The introduction and later expansion of the value-added tax was a shift away from the taxation of income toward the taxation of consumption. Since the poor consume a greater fraction of their income than the rich, this change must have been regressive, except in certain countries which exempted basic necessities from the tax.

Changes in the income tax amplified the trend toward greater regressivity. Top marginal tax rates on personal income were lowered and the corporate tax rate was cut by over 20%. While a full analysis of the incidence of all these changes is beyond the scope of this paper, it is almost certain that they were regressive.

Another important component of reform in the region was privatization. State enterprises were a key component of the old development model which has been dramatically redesigned by the reforms we are analyzing. The impact of privatization on the distribution depends on three elements. First whether or not the sales price of the assets of the state-owned enterprises reflect their true market value. If it is less, buyers have received a gift from taxpayers. Second, for public utilities like electricity, telephone and water companies, the impact depends on what happens to the price of the services they provide to the public. In many cases publicly-owned utilities subsidized their customers by selling below cost. Transferring that sort of company to the private sector and eliminating the subsidy could be either progressive or regressive, depending on whom their customers were. It is probably the case that most of this sort of subsidy benefited the middle class.

Another effect of privatization is on labor demand and employment. Labor productivity in the typical SOE was low. For political reason many governments seemed more interested in using these enterprises to create jobs than to provide good service at the lowest possible cost. When the SOEs were sold, all of this had to change. Privatizations in places like Chile and Argentina were blamed for a good deal of the job destruction and rising unemployment that accompanied reform. The distributional impact of this depends on who the displaced employees were. There is no good study of this question, but judging by the profile of the labor force of the typical SOE, these jobs came in large part from the middle of the earnings distribution. Thus privatization is likely to have mainly hurt the middle class, both because they were the main users of subsidized SOE services and also the main employees of State-owned firms

### **Section III: Empirical Evidence on the Impact of Growth and Reform**

Separating the impact of the reforms on the distribution of income from all the other factors which affect it, and which have been changing at the same time that the reforms have been implemented, is an exceedingly complex undertaking. Simple comparisons of Ginis before and after the adoption of reform is clearly inadequate, and researchers have relied on two alternatives-econometric estimation and counterfactual exercises. The conclusion of both approaches is similar. The structural reforms have been regressive, but their effect is relatively small and not particularly robust or significant.

Trade reform is the area which has been most widely studied. Wood (1995) argues that the experience of E. Asia in 60's and 70's supports the theory that greater openness to trade tends to narrow the wage gap between skilled and unskilled workers in developing countries. In Latin American, since the mid 80's however increased openness has widened wage differentials. Wood (1997) thinks that this conflict of evidence is probably not the result of differences between E. Asia and Latin America. Rather it is the result of differences between the 1960's and the 1980's, specifically the entry of China into the world market and perhaps the advent of new technology biased against unskilled workers.

Spilimbergo, Londono and Székely (1997) point out that what really matters is each country's factor endowments, including land relative to the average world effective supply of each factor. They find that trade openness is associated with higher inequality-holding endowments constant. But the effect depends on the relative abundance of each type of factor. Inequality increases in countries that are relatively well endowed with skills, but it declines in countries which are well endowed with physical capital and land. Since in their sample, factor endowments in Latin America are relative close to world averages, the effect of opening on inequality is modest-a rise of 10% in their openness index only raises the average Gini Coefficient by .63 of a point. Latin America, in their empirical specification, does not have a high level of unskilled labor relative to the weighted average of the factor endowments of the rest of the world which is consistent with the entry of China and other large Asian countries into the world trading system. If true, that would explain why openness has not reduced the wage differential.

Behrman, Birdsall and Székely (2000) collected data on wage differentials across 18 Latin American countries for the period 1980-1998. They then ran a series of panel-cross section regressions using indexes of the structural reforms as explanatory variables. They found that the overall average reform index had a regressive and significant effect on wage differentials, although there is some indication that this effect fades away over time. When they ran the regressions with indexes for each of the individual areas of reform, they found that all of the regressive impact of reform came from three areas, capital account liberalization, financial market reform and tax reform. Curiously trade reform itself had no significant effect on the skill-differential and privatization tended to narrow differentials. Note here that this study was concerned with wage differentials not the distribution of earnings or of income per capita. The three may or may not move in the same direction either because of structural changes in the supply of labor or the effect of unemployment and transfers.

Ganuzza, Paes de Barros and Vos (2000) summarized the results of a recently-completed set of case studies for 17 countries in Latin America of the impact of trade and capital account liberalization. This study is based on a comparison of the observed household distribution in some recent post-reform year with what the distribution would have been had there been no reform. The counterfactual mimics the labor market structure and relative wages of some pre-reform year by a probabilistic reassignment of the observed labor force across sectors, occupations, employment status, and wage groups so that the structure of the post-reform year is identical to that of the pre-reform year. They find that the effect of the reforms is quite small. In all they studied 31 reform periods in 17 countries. In 15 of those 31 cases inequality went up with the reforms, and in the other 16 it either went down (15 cases) or stayed the same (1 case). Most of the simulated changes in distribution either up or down were small. In 17/31 cases the change was less than 3% and in 11 it was less than 1%. Finally, they find that it is changes in relative wages that explain most of whatever change in distribution there was, not changes in occupational and sectoral structure, participation rates or unemployment.

Morley (2000) in a recent study attempted to relate the reforms directly to the distribution of household income by estimating an econometric model in which both the reforms and

other variables were introduced as explanatory variables. He used a large panel cross-section of 261 observations in 16 countries over the period 1960 to 1997. The sample uses observations over a long period of time to capture the effect of growth and the adoption of the reforms, and it also includes many other variables such as education structure which are thought to have a significant impact on the distribution. A fuller description of the study and results can be found in Morley (2000a).

He drew three main conclusions from the study.

1. There appears to be a robust and significant relationship between the distribution and income. But it is not linear. Rather it has an inverted U shape. That means that other things equal, growth in low income countries is very likely to increase inequality until they reach the income level of Colombia or Costa Rica. There are only seven or eight countries in the region whose income is high enough for growth to drive down inequality.
2. Growth seems to be systematically less equitable than it used to be. In those countries where growth is equalizing, it is now less so than before. In countries where growth increases inequality, it now does so more than it used to. While one cannot be sure of the reasons for this unfortunate result, it appears to be related to the increasingly skill-intensive nature of growth in the region. Growth has widened wage differentials and raised the rate of return to education, particularly at the high school and university level. This evidence is absolutely consistent with the evidence discussed above that in a decomposition of changing inequality in a nine country sample, we found that it was solely because of the university group that inequality did not decline in the region. Growth in the globalized, modern world is putting an increasing premium on the skills of university graduates. It is driving up their relative wages even though the supply of university graduates is also increasing rapidly. That means that it is becoming more and more difficult in Latin American conditions to produce growth with equity.
3. In the aggregate the reforms appear to have a regressive effect on the distribution but the effect is both small and only marginally significant. The reason is that reforms in different areas have offsetting effects on equity. Trade reform is regressive in all of the specifications, but it is insignificant in all but the national sample. Tax reform is unambiguously regressive, and opening up the capital account is unambiguously progressive. The results for tax reform and capital account liberalization are the most robust and significant that he had. For the other two reforms, the data was not good enough to give a clear answer. In three of the reforms, there are changes of sign and significance between the regressions on the level and the change in inequality, but only one, the capital account, is significant. He concluded that the reforms, taken together are mildly regressive, but that their effect on the distribution is relatively small compared to other factors like growth, inflation and changes in education structure. These results are consistent with those obtained in the Ganuza et al study.

#### **Section IV: Inertia in the Distribution**

Unfortunately it does not appear that the distribution statistics will improve very much if at all with growth. One of the reasons is that growth is more skill-intensive now than it used to be. This may be simply a Latin phenomenon, but it is more likely that it reflects changes in technology that are being felt all over the world. The skill-differential or wage premium paid to high school and college graduates has risen in almost every country for which we have data. Consistent with this phenomenon, we found quite strong evidence that the relationship between income and equity is becoming less progressive. Growth that could have been expected to reduce inequality in the 1970's no longer does so in the production conditions of the 90s.

The rise in the skill differential is mainly a result of the nature of labor demand and the pattern of growth of labor supply. Growth is going to increase the relative demand for skilled labor. The education system will be sending better prepared graduates out into the labor market, increasing the supply of skilled or potentially skilled workers. Whether the skill differential rises or falls depends on which of the two grows most rapidly. But even in the most progressive imaginable scenario, there is unlikely to be a large enough reduction in the wage differential to make a significant difference in the overall distribution of earnings. Here the case of Chile is instructive. It has grown very rapidly since 1987, and has had a small reduction in its skill differential. But even that narrowing was not sufficient to cause a significant reduction in inequality. Barring sudden drastic shifts in external conditions or macroeconomic shocks, the earnings distribution is mainly determined by the structure of the labor force, and that changes slowly. Because Latin America in the past did not broaden the coverage of high school education, it now has an adult labor force which has far too many undereducated workers who are ill-equipped to work in an increasingly information-based work place. Until that imbalance can be eliminated, growth is likely to cause rising wage-differentials in favor of those with high school or university education. Correcting that imbalance is one of the priority tasks facing the region.

Paradoxically, improving the education structure of the labor force could in the short run make the distribution get worse rather than better. Morley showed that in the case of Brazil, countries with a very small fraction of high-school or university graduates in their labor forces will find that inequality will go up when they raise that fraction unless they are able to significantly lower the skill-differential at the same time. Of course, reducing the proportion of poorly educated workers at the same time helps to offset this perverse effect, but it does not eliminate it altogether.

One could say that this change in educational structure improves the position of the right and left hand tails of the distribution. At the top, both the number and the income share increase. That is regressive. At the bottom, the number and size shrinks, and that is progressive. In turns out that in those countries where we had the data to study the process, these progressive and regressive effects seem to just about offset each other. This is one of the principal reasons why the overall distribution has not changed much despite substantial growth and structural change.

Another reason why distributions have not improved with growth is because of the very nature of the growth process and the structure of the economy. In some cases growth is more skill-intensive than it need be. That exacerbates the tendency toward rising wage differentials. In other cases economies themselves are heterogeneous. Growth starts in a dynamic sector or region, but has low regional or sectoral multiplier effects elsewhere. There are many examples of such heterogeneity in Latin America, from backward regions, groups of indigenous people, or concentrations of the unskilled who are unable to perform the tasks needed in the dynamic sector. In all those cases growth is relatively disqualifying. Its spread effect or trickle down is small.

## **Section V: The Problem of Finding Sustainable and Rapid Growth**

Despite all the attention being given to the relationship between growth and the distribution of income, recent history in Latin America suggests that the more serious question now is the growth rate itself. In most countries in the region, growth in the 1990s has been disappointing, lower by a considerable margin than the averages attained in the decades before the debt crisis and before the adoption of structural reform. What is worse, there has been a significant slowdown in growth since 1995, particularly in South America. While it is too early to tell whether this slowdown is temporary or permanent, there seems little doubt that a slowdown in exports is a big part of the problem.

For a time, prior to the Tequila Crisis in 1995, things seemed to be going well. Growth rates were much higher than they had been in the 1980s, and for some countries were even higher than they had been in the long period between World War II and the debt crisis. Things were expected to get even better in the following years since in many countries the reforms had only recently been adopted and since it takes time to reap their full benefits.

But it is not working out that way for most of the countries in the region. (See Table one) Instead of accelerating, growth has declined, especially in the countries of South America. Overall average per capita income growth between 1990 and 1995 was 2.9% per year.<sup>6</sup> That rate fell to .8% per year between 1995 and 1999. Only two countries (Trinidad and Tobago and the Dominican Republic) did better in the last five years than they did in the previous four, and both of them are in the Caribbean.

This deceleration of growth is particularly pronounced in South America. Over the entire decade 91-99, growth in South America was 1.6% per year, in Central America 1.4%. But in the last five years growth in South America has fallen to .5% per year while in Central America and the Caribbean it fell to only 1.2% per year. The 95-99 period was for South America a period of recurrent recessions in some countries (Argentina and Peru) and protracted recession in others (Brazil, Colombia, Paraguay, Ecuador and Venezuela (also Jamaica). If one defines a recession year as one in which per capita income declines, the South American countries were in recession 40% of the time

---

<sup>6</sup> That is, for the years 1991-1994.

between 1995 and 1999. In Central America the comparable figure was 20%, or excluding Jamaica, only 12% of the time.

In thinking about growth rates or evaluating country performance, it is appropriate to compare current with past performance avoiding periods of extreme volatility. One is looking for estimates of long term growth rates which one cannot obtain from periods of

<b>Table One: Growth and Recession in the 1990s</b>				
	<b>Growth rates in GDP per capita</b>			<b>years of recession 95-99</b>
	<b>50-80</b>	<b>91-99</b>	<b>95-99</b>	
argentina	1.572	3.300	0.827	2
Bolivia	1.431	1.400	1.338	1
Brazil	4.016	1.000	0.734	2
chile	2.056	4.400	3.222	1
Colombia	2.402	0.500	-0.845	2
C. Rica	3.142	1.200	1.175	2
Ecuador	4.083	-0.200	-1.647	2
El Salvador	2.843	2.300	1.201	1
Guatamala	1.842	1.500	1.438	0
Honduras	1.375	0.200	-0.126	1
Mexico	3.388	1.300	0.895	1
Paraguay	2.637	-0.600	-1.300	4
Peru	1.864	2.900	2.576	1
R. Dom.	2.652	3.100	4.294	0
Uruguay	0.865	2.400	1.414	2
Venezuela	2.373	-0.300	-1.411	3
Jamaica	2.329	-0.500	-1.589	4
T+T	6.774	2.300	2.781	0
Panama	2.738	2.800	1.468	0
<b>average Latin America</b>	2.652	1.526	0.866	0.3053
<b>average-C. America</b>	3.009	1.420	1.154	0.2000
<b>average S. America</b>	2.330	1.644	0.545	0.4000

Source: For 1950-80, IMF and CEPAL, for 1990-98, CEPAL.

recession and recovery. For Latin America that suggests a comparison of growth in the 1990s with growth in the thirty year period 1950-80 period to the debt crisis. (See table one) As the reader can see from the table, only five of the nineteen countries for which we have data significantly improved their performance. (Argentina, Chile, Dominican Republic, Peru and Ecuador) Growth rates in Bolivia and Panama are about the same, and the rest of the countries are doing worse than they used to do. If one looks at just the last five years, there are only four countries whose performance is better than the base

period and nine for which per capita growth is now at least 2% per year below the base period. In short, in the last five years something seems to have gone wrong especially in South America. What could it be?

It does not appear that the problem is a decline in capital formation, except in the three oil exporters: Ecuador, Trinidad and Tobago and Venezuela where both investment and growth have fallen sharply. Of the remaining 16 countries all but three increased their investment rate and for the region as a whole, gross investment as a percentage of GDP is slightly higher in the 1990s than it was in the base period. But the problem is that investment is not as productive in producing growth as it used to be.

### **Exports Are Not a Very Dynamic Leading Sector in Most Countries**

Probably the biggest single change in the growth strategy in Latin America has been the replacement of import substitution by exports. There has been a dramatic reduction in tariff rates and other forms of protection. It is not clear how this was expected to lead to an increase in exports, but there is no doubt that this was the expectation. In most countries exports were the biggest source of demand growth in the 1990s, adding more than 100% to the net increase of GDP in 8 countries and more than 50% in an additional six. Brazil is a significant exception to this general pattern as is Honduras.

Critics of trade liberalization have charged that the rise in imports more than offsets the expansionary effect of increased exports. There appears to be some truth in this charge but only for a small number of countries mainly and specifically Argentina and Brazil. In both of these countries, highly protected domestic manufacturing was penalized both by trade liberalization and currency appreciation. For them as well as Paraguay and Uruguay, the external sector was a drain on domestic production. In 11 of the remaining 13 countries that is not the case. For each of them export growth exceeded, sometimes by a wide margin, the negative effect of rising imports.

### **What Explains the Downturn in Growth After 1995?**

As noted at the outset of this paper, there has been a significant downturn in growth in the region since 1995. All but two of the countries in our sample grew more slowly in the last four years than they did in the previous five. The slowdown is particularly severe in the last two years.

The main reason for this deterioration in performance is a serious and widespread decline in exports affecting almost every country in the region. (See table 2) That reduction has forced most economies onto a slower growth path in order to reduce the volume of imports and conserve foreign exchange. There are exceptions to this pattern of course, the most important being Mexico. The good performance in Mexico, Costa Rica and the Dominican Republic hides the bad performance of the export sector

elsewhere. Exports rose by 22% between 1997 and 1999 in those three economies but fell by 9% in the rest of the region. That permitted a 26% rise in imports for the three and forced a 16% decline elsewhere. (See table 2) Part of the poor export performance is related to the collapse of oil prices in 1998 and 1999. But that is not the only explanation. Every country in Latin America suffered a reduction in exports with the exception of Colombia where they were approximately constant. Every country in Central America north of Panama had an increase in its exports. Mexico and Costa Rica are only the biggest gainers in this regard. If one splits the region by those countries south and north of Panama, the contrast in performance is even more stark than that shown in the table. South America and Panama had a 10% reduction in exports and a 17% reduction in imports compared to a gain of 21% in exports and 26% in imports for their northern neighbors.

Most of the difference in performance between Central and South America undoubtedly relates to the internal conditions in their main respective export markets. South American exports go primarily to Asia and Europe, while Central America's and the Caribbean's go to the United States. Japan and Europe has had a period of slow growth. Meanwhile the United States has been in an extended boom period. These relative trends outside the region must have been reinforced by slow growth in Brazil, a major export market for Argentina, Uruguay, and Paraguay.

	total		total	
	1997	1999	1997	1999
Latin	32686	33985	35686	35955
Costa	547	815	569	754
D.	706	811	778	958
Mexic	12183	14830	12242	15462
sub	13437	16456	13589	17174
Rest of Americ	19249	17529	22096	18781
C Amer+Caribbean north of Panama	14279	17357	14728	18533
South	18406	16627	20958	17421
Source: Balance Preliminar de las Economías de América Latina y el Caribe, CEPAL (1999). In millions of current dollars.				

The contribution of falling exports to the growth slowdown in South America did not come from the sort of destructive import substitution that we discussed earlier. That is import substitution was not displacing domestic production and causing recession except possibly in Argentina and Brazil. Overall we can see from table two that the reduction in imports in the slow growing areas exceeded the reduction in exports. If one calculated the ratio of imports to income, there is not a single country in South America in which

that ratio increased as their growth either slowed down or went negative between 1997 and 1999. Where the foreign sector exerted a contractionary influence, it was falling exports and not rising imports that were the reason. What the experience of South America in the last several years has shown is that the export-led growth model can as easily become an export-led decline when there is a significant contraction in countries' external markets.

Exports have not provided the dynamic growth needed to produce really rapid income growth, in most countries in the region, particularly those in South America. Partly that is because markets in developed countries for the goods produced by developing countries have not been growing as rapidly as they did earlier. (only 4.8% between 1995 and 1998 compared to 9.7% per year between 1991 and 1995). But there is another factor at work and that is that Latin America is losing market share as well. Between 1995 and 1998 Latin American exports to industrialized countries grew by only 1.5% per year. And that is not just because South America exports more to Europe and Japan than it does to the United States. If one separates out the United States as a destination, the non-US industrialized countries imports from LDCs grew by 2.5% per year, still faster than the 1.5% growth of Latin exports into those markets.

I conclude that export promotion as a growth strategy is not working very well in these countries. Partly that may be a short run problem of cyclic downturns in natural resource product markets and slow growth in total demand for the sorts of products Latin countries sell. But the loss of market share time indicates that there is something else going on at the same time. Latin America could be specialized in the wrong products or the wrong countries—ones where the overall growth in demand is low. Or it could be that Latin export activities have failed to modernize and cut costs to more effectively compete against other developing countries. Whatever the cause of the export slowdown is, no export-led growth strategy is going to work if it cannot produce an export growth rate higher than 2-3% per year.

## References

- Altimir, Oscar and Luis Beccaria, (1999a), "El Mercado de Trabajo Bajo el Nuevo Regimen Económica en Argentina," (CEPAL, Serie Reformas Económicas).
- Barro, Robert and Jong-Why Lee, (1996) "International Measures of Schooling Years and Schooling," *American Economic Review Papers and Proceedings* 86 (2) and accompanying data base.
- Berry, Albert, ed. (1998) *Poverty, Economic Reform, and Income Distribution in Latin America*, (London: Lynne Rienner).
- Birdsall, Nancy, Carol Graham and Richard H. Sabot, eds. (1998), *Beyond Trade-Offs: Market Reform and Equitable Growth in Latin America*, (Washington: Inter-American Development Bank and Brookings Institution).
- Birdsall, Nancy and Juan Luis Londoño, (1997), "Asset Inequality Does Matter: Lessons from Latin America," (Inter-American Development Bank, OCE working paper 344).
- Behrman, Jere R., Nancy Birdsall and Miguel Székely, (2000) "Economic Reform and Wage Differentials in Latin America," (mimeo, Carnegie Endowment for International Peace).
- Bulmer-Thomas, Victor ed. (1996) *The New Economic Model in Latin America and its Impact on Income Distribution and Poverty*, (London: Macmillan).
- Cárdenas, Mauricio and Raquel Bernal, (1999) "Changes in the Distribution of Income in the new Economic Model in Colombia," (CEPAL, Serie Reformas Economicas
- Cardoso, Eliana and Ann Helwege, 1992, *Latin America's Economy: Diversity, Trends , and Conflicts*, (Cambridge: MIT Press).
- Carter, Michel R. and Jonathan Coles, (1998), "Inequality-Reducing Growth in Agriculture: A market-Friendly Policy Agenda," in Birdsall, Nancy, Carol Graham and Richard H. Sabot, eds. (1998), *Beyond Trade-Offs: Market Reform and Equitable Growth in Latin America*, (Washington: Inter-American Development Bank and Brookings Institution).
- Deininger, Klaus and Lyn Squire, (1996) "A New Data Set Measuring Income Inequality," *World Bank Economic Review* 10 (3), 565-91.
- Duyea, Suzanne and Miguel Székely, (1998), "'Labor markets in Latin America: a Supply-Side Story," (Inter-American Development Bank, processed).

- Economic Commission for Latin America and the Caribbean, (1999), *Panorama Social de América Latina: 1998*, (Santiago: ECLAC).
- Economic Commission for Latin America and the Caribbean, (1998), *The Equity Gap: Latin America, the Caribbean and the Social Summit* (Santiago: ECLAC)
- Ganuzza, Enrique, Lance Taylor and Samuel Morley, eds., (1998) *Política Macroeconómica y Pobreza en America Latina y el Caribe*, (New York: United Nations, IDB and CEPAL).
- Ganusa, Enrique, Ricardo Paes de Barros and Robert Vos, (2000) “Efectos de la Liberalización sobre la Pobreza y la Desigualdad,” (UNDP, processed).
- King, Damien and Sudhanshu Handa, (1999), “Changes in the Distribution of Income and the new Economic Model in Jamaica,” (CEPAL, Serie Reformas Económicas).
- Kuznets, Simon, (1955), “Economic Growth and Income Inequality,”
- Larrañaga, Osvaldo J. (1999), “Distribución de Ingresos y Crecimiento Económico en Chile,” (CEPAL, Serie Reformas Económicas).
- Londoño, Juan Luis and Miguel Székely, (1997), “Persistent Poverty and Excess Inequality: Latin America, 1970-1995,” (Inter-American Development Bank, OCE working paper #357).
- Londoño, Juan Luis and Miguel Székely, (1998), “Sorpresas distributivas después de una década de reformas,” *Pensamiento Iberoamericano-Revista de Economía Política* (Volumen Extraordinario).
- Lora, Eduardo, (1998), “Una década de reformas estructurales en America Latina; que se ha reformado y como medirlo,” *Pensamiento Iberoamericano-Revista de Economía Política* (Volumen Extraordinario).
- Lora, Eduardo and Felipe Barrera, (1998), “El crecimiento económico en America Latina despues de una decada de reformas estructurales, *Pensamiento Iberoamericano-Revista de Economía Política* (Volumen Extraordinario).
- Lora, Eduardo, and Gustavo Marquez, (1998), “The Employment Problem in Latin America: Perceptions and Stylized Facts. Paper presented at the seminar “El Empleo en America Latina: Cual is el Problema y Como Enfrentarlo,” Cartagena, Colombia.

- Mejia, Jose Antonio and Rob Vos, ((1997), "Poverty in Latin America dn the Caribbean: an Inventory, 1980-95," (Inter-American Development Bank, INDES working paper 1-4).
- Morley, Samuel A. (1995) *Poverty and Inequality in Latin America* (Baltimore: Johns Hopkins).
- Morley, Samuel A. (2000) *La Distribución del Ingreso en America Latina y el Caribe* (CEPAL and Fondo de Cultura). to be published in English as *The Distribution Problem in Latin America*.
- Morley, Samuel A., (2000a) "The Effect of Growth and Economic Reform on the Distribution of Income in Latin America," *Cepal Review vol 71*.
- Morley, Samuel A. Roberto Machado and Stefano Pettinato, (1999) "Indexes of Structural Reform in Latin America," (CEPAL, Serie Reformas Económicas #12).
- Neri, Marcelo and Jose Marcio Camargo, "Structural Reforms, Macroeconomic Fluctuations and Income Distribution in Brazil, (1999) (IPEA-PUC, processed).
- Ocampo, José Antonio, Maria Jose Perez, Camilo Tovar and Francisco Javier Lasso, (1998), "Macroeconomia, Ajuste Estructural y Equidad en Colombia: 1978-1996," in Ganuza, Enrique, Lance Taylor and Samuel Morley, eds. (1998) *Política Macroeconómica y Pobreza en America Latina y el Caribe, (New York: United Nations, IDB and CEPAL)*.
- Robbins, Donald (1995), "Trade, Trade Liberalization and Inequality in Latin America and East Asia: Synthesis of Seven Country Studies," (Harvard Institute for International Development, processed).
- Robbins, Donald (1996), "HOS Hits Facts: Facts Win: Evidence on Trade and Wages in the Developing World," (Harvard Institute for International Development, processed).
- Saavedra, Jaime and Juan José Díaz, (1999) "Desigualdad de Ingreso y del Gasto en el Peru antes y Despues de las Reformas Estructurales, (CEPAL, Serie Reformas Económicas)
- Spilimbergo, Antonio, Juan Luis Londoño and Miguel Székely, (1997), "Income Distribution, Factor Endowments, and Trade Openness," (Inter-American Development Bank, OCE working paper # 356).
- Székely, Miguel and Mariannne Hilgert, (1999a), "The 1990s in Latin America: Another Decade of Persistent Inequality," (Inter-American Development Bank, OCE working paper #410).

- Székely, Miguel and Marianne Hilgert, (1999b) “What’s Behind the Inequality We Measure: An Investigation using Latin American Data,” (Inter-American Development Bank, OCE working paper #409).
- Székely, Miguel, (1998), *The Economics of Poverty, Inequality and Wealth Accumulation in Mexico*, (New York: St. Martins Press).
- Thiesenhusen, William C. (1995), *Broken Promises: Agrarian Reform and the Latin American Campesino*, (Boulder: Westview).
- Torre, Rodolfo de la, (1999), “La Distribución Factorial del Ingreso en el Nuevo Modelo Económico en Mexico,” (CEPAL, Serie Reformas Económicas)
- Trejos, Juan Diego, (1999), “Reformas Económicas y Distribución del Ingreso en Costa Rica,” (CEPAL, Serie Reformas Económicas)
- Weller, Jurgen, (1998), “Los Mercados Laborales en America Latina: su Evolucion en el Largo Plazo y sus Tendencias Recientes,” (CEPAL, Serie Reformas Económicas, #11).
- Williamson, Jeffrey G. (1997), “Globalization and Inequality: Past and Present,” *World Bank Research Observer* 12 (1). 117-37.
- Wood, Adrian (1994), *North-South Trade, Employment and Inequality: Changing Fortunes in a Skill-Driven World*, (Oxford: Clarendon Press).
- Wood, Adrian (1997), “Openness and Wage Inequality in Developing Countries: the Latin American challenge to East Asian Conventional Wisdom,” *World Bank Economic Review*, 11 (1), 33-57.

## Annex One

Changes in the Distribution of Household Income per Capita in the 1990s											Sources
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Argentina		0.42		0.41		0.439				0.439	ECLAC
Bolivia								0.5877	0.589		S&H
Brazil		0.61			0.6				0.59		Neri
Brazil	0.607	0.611		0.594	0.617		0.614				L&S
Chile		0.556		0.553		0.545		0.553			Larranaga
Colombia			0.5315	0.5315	0.5231	0.5291	0.5337				Ocampo
Colombia			0.567		0.6038		0.5697		0.5758	0.5679	S&H
Costa Rica	0.4595		0.4598		0.455		0.4571		0.4589		S&H
Dom Rep				0.482						0.456	Aristy
Ecuador							0.56			0.5601	S&H
El Salvador				0.531	0.523	0.53	0.5				Mejia-Vos
El Salvador							0.505		0.5195	0.5589	S&H
Guatemala										0.5569	S&H (#409)
Honduras	0.5704			0.5489				0.5284		0.5876	S&H
Jamaica	0.436				0.382			0.369			King & Handa
Nicaragua					0.567					0.6024	S&H
Mexico	0.5309			0.5341		0.5361		0.5276			S&H
Panama			0.5625				0.5602		0.5755		S&H
Paraguay							0.6203			0.5692	S&H
Peru			0.4643			0.4832			0.5055		S&H
Peru			0.467			0.458		0.435			Saavedra&Dias
Uruguay	0.4064			0.4319			0.4209		0.43		S&H
Venezuela	0.461	0.459		0.446		0.498	0.471				L&S
Venezuela							0.4703		0.4963		S&H
<p>Note: All the series are national household income per capita with the exception of Jamaica which is household expenditure per capita, and Argentina and Uruguay which are urban distributions, not national. Note that in Peru, the Saavedra &amp; Dias distribution uses the same areas for 1994 and 1996 that were surveyed in 1991. This may explain the differences with the S&amp;H estimates. The source abbreviations are: S&amp;H-Szekely and Hilgert 1999a, L&amp;S-Londono &amp; Szekely, ECLAC is the Panorama CEPAL. The remaining author sources can be found in the bibliographic references.</p>											

## List of Discussion Papers

- No. 1 - "Land, Water, and Agriculture in Egypt: The Economywide Impact of Policy Reform" by Sherman Robinson and Clemen Gehlhar (January 1995)
- No. 2 - "Price Competitiveness and Variability in Egyptian Cotton: Effects of Sectoral and Economywide Policies" by Romeo M. Bautista and Clemen Gehlhar (January 1995)
- No. 3 - "International Trade, Regional Integration and Food Security in the Middle East" by Dean A. DeRosa (January 1995)
- No. 4 - "The Green Revolution in a Macroeconomic Perspective: The Philippine Case" by Romeo M. Bautista (May 1995)
- No. 5 - "Macro and Micro Effects of Subsidy Cuts: A Short-Run CGE Analysis for Egypt" by Hans Löfgren (May 1995)
- No. 6 - "On the Production Economics of Cattle" by Yair Mundlak, He Huang and Edgardo Favaro (May 1995)
- No. 7 - "The Cost of Managing with Less: Cutting Water Subsidies and Supplies in Egypt's Agriculture" by Hans Löfgren (July 1995, Revised April 1996)
- No. 8 - "The Impact of the Mexican Crisis on Trade, Agriculture and Migration" by Sherman Robinson, Mary Burfisher and Karen Thierfelder (September 1995)
- No. 9 - "The Trade-Wage Debate in a Model with Nontraded Goods: Making Room for Labor Economists in Trade Theory" by Sherman Robinson and Karen Thierfelder (Revised March 1996)
- No. 10 - "Macroeconomic Adjustment and Agricultural Performance in Southern Africa: A Quantitative Overview" by Romeo M. Bautista (February 1996)
- No. 11 - "Tiger or Turtle? Exploring Alternative Futures for Egypt to 2020" by Hans Löfgren, Sherman Robinson and David Nygaard (August 1996)
- No. 12 - "Water and Land in South Africa: Economywide Impacts of Reform - A Case Study for the Olifants River" by Natasha Mukherjee (July 1996)

- No. 13 - "Agriculture and the New Industrial Revolution in Asia" by Romeo M. Bautista and Dean A. DeRosa (September 1996)
- No. 14 - "Income and Equity Effects of Crop Productivity Growth Under Alternative Foreign Trade Regimes: A CGE Analysis for the Philippines" by Romeo M. Bautista and Sherman Robinson (September 1996)
- No. 15 - "Southern Africa: Economic Structure, Trade, and Regional Integration" by Natasha Mukherjee and Sherman Robinson (October 1996)
- No. 16 - "The 1990's Global Grain Situation and its Impact on the Food Security of Selected Developing Countries" by Mark Friedberg and Marcelle Thomas (February 1997)
- No. 17 - "Rural Development in Morocco: Alternative Scenarios to the Year 2000" by Hans Löfgren, Rachid Doukkali, Hassan Serghini and Sherman Robinson (February 1997)
- No. 18 - "Evaluating the Effects of Domestic Policies and External Factors on the Price Competitiveness of Indonesian Crops: Cassava, Soybean, Corn, and Sugarcane" by Romeo M. Bautista, Nu Nu San, Dewa Swastika, Sjaiful Bachri and Hermanto (June 1997)
- No. 19 - "Rice Price Policies in Indonesia: A Computable General Equilibrium (CGE) Analysis" by Sherman Robinson, Moataz El-Said, Nu Nu San, Achmad Suryana, Hermanto, Dewa Swastika and Sjaiful Bahri (June 1997)
- No. 20 - "The Mixed-Complementarity Approach to Specifying Agricultural Supply in Computable General Equilibrium Models" by Hans Löfgren and Sherman Robinson (August 1997)
- No. 21 - "Estimating a Social Accounting Matrix Using Entropy Difference Methods" by Sherman Robinson and Moataz-El-Said (September 1997)
- No. 22 - "Income Effects of Alternative Trade Policy Adjustments on Philippine Rural Households: A General Equilibrium Analysis" by Romeo M. Bautista and Marcelle Thomas (October 1997)
- No. 23 - "South American Wheat Markets and MERCOSUR" by Eugenio Díaz-Bonilla (November 1997)

- No. 24 - "Changes in Latin American Agricultural Markets" by Lucio Reca and Eugenio Díaz-Bonilla (November 1997)
- No. 25\* - "Policy Bias and Agriculture: Partial and General Equilibrium Measures" by Romeo M. Bautista, Sherman Robinson, Finn Tarp and Peter Wobst (May 1998)
- No. 26 - "Estimating Income Mobility in Colombia Using Maximum Entropy Econometrics" by Samuel Morley, Sherman Robinson and Rebecca Harris (Revised February 1999)
- No. 27 - "Rice Policy, Trade, and Exchange Rate Changes in Indonesia: A General Equilibrium Analysis" by Sherman Robinson, Moataz El-Said and Nu Nu San (June 1998)
- No. 28\* - "Social Accounting Matrices for Mozambique - 1994 and 1995" by Channing Arndt, Antonio Cruz, Henning Tarp Jensen, Sherman Robinson and Finn Tarp (July 1998)
- No. 29\* - "Agriculture and Macroeconomic Reforms in Zimbabwe: A Political-Economy Perspective" by Kay Muir-Leresche (August 1998)
- No. 30\* - "A 1992 Social Accounting Matrix (SAM) for Tanzania" by Peter Wobst (August 1998)
- No. 31\* - "Agricultural Growth Linkages in Zimbabwe: Income and Equity Effects" by Romeo M. Bautista and Marcelle Thomas (September 1998)
- No. 32\* - "Does Trade Liberalization Enhance Income Growth and Equity in Zimbabwe? The Role of Complementary Policies" by Romeo M. Bautista, Hans Lofgren and Marcelle Thomas (September 1998)
- No. 33 - "Estimating a Social Accounting Matrix Using Cross Entropy Methods" by Sherman Robinson, Andrea Cattaneo and Moataz El-Said (October 1998)
- No. 34 - "Trade Liberalization and Regional Integration: The Search for Large Numbers" by Sherman Robinson and Karen Thierfelder (January 1999)
- No. 35 - "Spatial Networks in Multi-Region Computable General Equilibrium Models" by Hans Lofgren and Sherman Robinson (January 1999)

- No. 36\* - "A 1991 Social Accounting Matrix (SAM) for Zimbabwe" by Marcelle Thomas, and Romeo M. Bautista (January 1999)
- No. 37 - "To Trade or not to Trade: Non-Separable Farm Household Models in Partial and General Equilibrium" by Hans Löfgren and Sherman Robinson (January 1999)
- No. 38 - "Trade Reform and the Poor in Morocco: A Rural-Urban General Equilibrium Analysis of Reduced Protection" by Hans Löfgren (January 1999)
- No. 39 - "A Note on Taxes, Prices, Wages, and Welfare in General Equilibrium Models" by Sherman Robinson and Karen Thierfelder (January 1999)
- No. 40 - "Parameter Estimation for a Computable General Equilibrium Model: A Maximum Entropy Approach" by Channing Arndt, Sherman Robinson and Finn Tarp (February 1999)
- No. 41 - "Trade Liberalization and Complementary Domestic Policies: A Rural-Urban General Equilibrium Analysis of Morocco" by Hans Löfgren, Moataz El-Said and Sherman Robinson (April 1999)
- No. 42 - "Alternative Industrial Development Paths for Indonesia: SAM and CGE Analysis" by Romeo M. Bautista, Sherman Robinson and Moataz El-Said (May 1999)
- No. 43\* - "Marketing Margins and Agricultural Technology in Mozambique" by Channing Arndt, Henning Tarp Jensen, Sherman Robinson and Finn Tarp (July 1999)
- No. 44 - "The Distributional Impact of Macroeconomic Shocks in Mexico: Threshold Effects in a Multi-Region CGE Model" by Rebecca Lee Harris (July 1999)
- No. 45 - "Economic Growth and Poverty Reduction in Indochina: Lessons From East Asia" by Romeo M. Bautista (September 1999)
- No. 46\* - "After the Negotiations: Assessing the Impact of Free Trade Agreements in Southern Africa" by Jeffrey D. Lewis, Sherman Robinson and Karen Thierfelder (September 1999)

- No. 47\* - "Impediments to Agricultural Growth in Zambia" by Rainer Wichern, Ulrich Hausner and Dennis K. Chiwele (September 1999)
- No. 48 - "A General Equilibrium Analysis of Alternative Scenarios for Food Subsidy Reform in Egypt" by Hans Lofgren and Moataz El-Said (September 1999)
- No. 49\* - "A 1995 Social Accounting Matrix for Zambia" by Ulrich Hausner (September 1999)
- No. 50 - "Reconciling Household Surveys and National Accounts Data Using a Cross Entropy Estimation Method" by Anne-Sophie Robilliard and Sherman Robinson (November 1999)
- No. 51 - "Agriculture-Based Development: A SAM Perspective on Central Viet Nam" by Romeo M. Bautista (January 2000)
- No. 52 - "Structural Adjustment, Agriculture, and Deforestation in the Sumatera Regional Economy" by Nu Nu San, Hans Lofgren and Sherman Robinson (March 2000)
- No. 53 - "Empirical Models, Rules, and Optimization: Turning Positive Economics on its Head" by Andrea Cattaneo and Sherman Robinson (April 2000)
- No. 54 - "Small Countries and the Case for Regionalism vs. Multilateralism" by Mary E. Burfisher, Sherman Robinson and Karen Thierfelder (May 2000)
- No. 55 - "Genetic Engineering and Trade: Panacea or Dilemma for Developing Countries" by Chantal Pohl Nielsen, Sherman Robinson and Karen Thierfelder (May 2000)
- No. 56 - "An International, Multi-region General Equilibrium Model of Agricultural Trade Liberalization in the South Mediterranean NIC's, Turkey, and the European Union" by Ali Bayar, Xinshen Diao, A. Erinc Yeldan (May 2000)
- No. 57\* - "Macroeconomic and Agricultural Reforms in Zimbabwe: Policy Complementarities Toward Equitable Growth" by Romeo M. Bautista and Marcelle Thomas (June 2000)
- No. 58 - "Updating and Estimating a Social Accounting Matrix Using Cross Entropy Methods" by Sherman Robinson, Andrea Cattaneo and Moataz El-Said (August 2000)

- No. 59 - “Food Security and Trade Negotiations in the World Trade Organization : A Cluster Analysis of Country Groups ” by Eugenio Diaz-Bonilla, Marcelle Thomas, Andrea Cattaneo and Sherman Robinson (November 2000)
- No. 60\* - “Why the Poor Care About Partial Versus General Equilibrium Effects Part 1: Methodology and Country Case” by Peter Wobst (November 2000)
- No. 61 - “Growth, Distribution and Poverty in Madagascar : Learning from a Microsimulation Model in a General Equilibrium Framework ” by Denis Cogneau and Anne-Sophie Robilliard (November 2000)
- No. 62 - “Farmland Holdings, Crop Planting Structure and Input Usage: An Analysis of China’s Agricultural Census” by Xinshen Diao, Yi Zhang and Agapi Somwaru (November 2000)
- No. 63 - “Rural Labor Migration, Characteristics, and Employment Patterns: A Study Based on China’s Agricultural Census” by Francis Tuan, Agapi Somwaru and Xinshen Diao (November 2000)
- No. 64 - “GAMS Code for Estimating a Social Accounting Matrix (SAM) Using Cross Entropy (CE) Methods” by Sherman Robinson and Moataz El-Said (December 2000)
- No. 65 - “A Computable General Equilibrium Analysis of Mexico’s Agricultural Policy Reforms” by Rebecca Lee Harris (January 2001)
- No. 66 - “Distribution and Growth in Latin America in an Era of Structural Reform” by Samuel A. Morley (January 2001)

*TMD Discussion Papers marked with an ‘\*’ are MERRISA-related. Copies can be obtained by calling Maria Cohan at 202-862-5627 or e-mail: m.cohan@cgiar.org*

