

Inequality in Latin America:
a synthesis of recent research on the levels, trends, effects
and determinants of inequality in its different dimensions

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Executive Summary

The objective of this study is to uncover: what inequality means in Latin America in different dimensions; what the consequences are for poverty reduction and growth; what the causes are of inequality; and to review some policy interventions that have been useful in fighting poverty. It also aims to discover where we are in terms of amount of knowledge on inequality in Latin America, and what is left to find out.

This paper has been organised into four main analytical sections. **Levels and Trends in Inequality** describes the level of inequality in Latin America and its trends in different dimensions: income, consumption, education and health. **The Effects of Inequality** analyses the possible effects of inequality on growth and poverty reduction. **The Diagnostics of Inequality** describes the possible causes and diagnostics of inequality in Latin America. **Programmes and Policy Interventions** details some programmes that have been implemented in several countries in Latin America to reduce poverty and inequality. Annexed to this main work is a list of research institutions studying inequality in different countries in Latin America and a summary of the ideas about future research on this topic.

Regarding **levels and trends in inequality** this section concludes that income inequality in Latin America and the Caribbean is the highest in the world. It has increased in South America and there have been no significant changes in Central America and the Caribbean. The studies able to compute consumption inequality show better measures than those on income, highlighting that people are able to smooth consumption. It is therefore important to include these measures in the household surveys.

Education inequality has improved in relative terms, even though the differences between rich and poor have not improved. In particular, the school enrolment gap has increased between quintiles for children in higher education and of college age. Quality of education is also highly unequal, showing a relatively bad performance of public schools. Health inequality is also high, although Latin America is a region of relatively good average health status measures.

The section called **The Effects of Inequality** concentrates the analysis on the functional reasons for caring about inequality, that means how it affects other economic variables like social cohesion, economic growth and societal effects. In particular, we review the effects of inequality within countries in Latin America on rates of economic growth and on the extent to which these rates reduce absolute poverty. We analyse the sources and impacts of even and uneven income growths, the requirements of collateral, and the allocation of public spending. Finally, we review some studies to measure the impact of economic growth on poverty alleviation. We conclude that inequality may be related to lower growth rates because of an inefficient assignment of talent, and for political economy issues. There is also an inefficient allocation of talent due to credit market imperfections, e.g. lack of collateral. This may prevent poor families from making profitable investments, such as human capital investments. Second, unequal societies in which political power is intertwined with wealth may be less likely to choose policies that reduce these inefficiencies than to allocate scarce resources to alternative uses. With respect to poverty alleviation, several empirical studies and micro-econometric simulations show that Latin American countries need to make a much greater effort in order to reduce poverty, given the high levels of inequality.

In the next section, **The Diagnostics of Inequality**, we present an analytical framework under which we point out some of the main issues behind the causes of inequality. The analytical framework concentrates on the process that determines the level of labour income or wages. Wages

are the result of different individual investment decisions and circumstances. First, individuals decide the level of human capital they want to accumulate. However, this investment decision depends on the level of assets owned by the family. Therefore, these assets determine the level of schooling an individual can reach.

Secondly, once he or she is at school there are several other forms of asset and circumstance that can affect the level of schooling, such as peer effects, neighbourhood effects, school quality, parents schooling and so on. These are part of the social capital, and their levels also affect the level of future labour income. Thirdly, when the process of accumulation of human capital finishes, individuals need to decide whether or not to participate in the labour market. Again, several circumstances could affect this decision. Even more, the decision to participate in the labour market is often not a choice. Several secondary workers work when the main worker in the family is unemployed; among them are, for example, children.

Fourthly, once the individual enters the labour market, he or she matches different types of jobs. Jobs can be found in the formal or informal sector. The quality of jobs varies extensively and finding a good quality job may also depend on social capital in the form of networks. Fifthly, wages need to be shared by all the members in the household. Larger families will need more income to attain a certain level of consumption and investment. Choices about partners for reproductive decisions will also affect socioeconomic status. Finally, the nature of state taxes and transfers and non-labour income leads from primary to secondary income distribution.

Thus, we analyse how educational attainment and quality, social exclusion, social mobility, labour market, macroeconomic volatility, demographic trends, family structure and government interventions affect income distribution.

Regarding education attainment, it becomes clear that observed income inequality is affected by the distribution of different schooling levels and by the rate of return to those levels. Even if educational policy increases the mean years of schooling, we observe an increase in income inequality, owing to the convexity of the returns to education.

With respect to social exclusion, Latin American countries have a diverse racial and ethnic composition, and levels of welfare are not equal between the groups. Diverse studies in the region confirm that there are racial, ethnic and gender inequalities across Latin American countries, along a number of dimensions and for a variety of different reasons. The most advantaged group in terms of labour income, formal sector jobs, assets and education are white/non-indigenous men. Non-white workers have much lower earnings than white workers. In terms of trends, the position of women has improved relative to men, but still represents significant inequalities. There are also evidence that there are great residential segregation in Latin American Cities.

The evidence on social mobility shows that both Chile and Brazil have a very low level of social mobility compared to developed countries. With regard to labour markets, the informal sector is about 30–70%, and there is high inequality and heterogeneity in the self-employment sector. Unions may have negative effect, but minimum wages seem to generate equalizing effects.

The evidence on macroeconomic volatility shows that the poor are affected more than the rich when the shocks are big, but when the shocks are smaller is vice-versa. Permanent investment decisions are not sensitive to aggregate economic fluctuations. The ownership of assets reduces the risk. Demographic trends show that the average number of children has decreased in all countries in LAC. For all income quintiles and parental educational level, being the exception Argentina, Bolivia and Dominican Republic. There is strong evidence that demographic factors can explain a

significant part of the increase in poverty and inequality. Changes in family structure shows that there is high marital sorting.

Regarding Government Interventions we report that Argentina, Brazil, and Uruguay have higher levels of social spending. Gini income elasticities are negative with regard to total spending for public education in Argentina, Chile, Mexico, and Uruguay. Primary education is highly redistributive. In summary, there is little evidence of much fiscal redistribution through taxes in Latin America.

The final section called **Programs and Policy Interventions**, presents a summary of some policy interventions to reduce poverty and inequality in Latin America. This section does not cover all the possible programmes in all countries in Latin America, but offers a sample of what has been done in different dimensions in some countries. These include conditional cash transfer (CCT) programmes, and programmes related to education, health and labour markets. CCT programmes impart certain amounts of money to poor people, conditional on them making investments in their children's human capital, such as school attendance or regular use of preventive health care services. The evidence available reveals that conditional cash transfer programmes are administratively efficient and serve as an effective means for promoting human capital accumulation among poor households. There has also been several school decentralization, work and employment, and health availability programmes.

1. Introduction

Latin America has gone through enormous changes during the last three decades, in both political and economic dimensions: from an import substitution/industrialist strategy that passed through several populist policies and military governments during the 1970s to, in several countries, a free-market and open economy.

In Latin America, a broad set of schemes has been implemented in the search for an increase in economic growth, development and welfare. However, low economic performance, high unemployment rates, inflation and instability have contributed to keeping levels of poverty and inequality high in most countries.

Income distribution in Latin America has been discussed extensively over the past several decades. Since the 1960s, the Economic Commission for Latin America and the Caribbean (ECLAC) has contributed systematic work in reporting poverty and inequality levels in Latin America. At the beginning, most of this work was mainly descriptive. They reported poverty and inequality measures for the region, as well as for each country. In addition, following the ‘basic needs’ approach, poverty maps were developed aimed at identifying vulnerable groups. These were useful for promoting policies targeted at the poor.

Later, on top of the work by ECLAC, other institutions, such as the World Bank (WB) and the Inter-American Development Bank (IADB), initiated an extensive research agenda on poverty and inequality in the region. The first projects were mainly descriptive at the national level. Country reports and coordinated papers on a similar topic were prepared by researchers from the home country along with people from the institutions. This strategy allowed for the development and increase of technical capabilities in the region.

During the 1990s, these institutions, as well as local universities and think tanks, worked extensively together. Combining research from different countries on a particular policy question has been used as a method of answering important questions in an effort to better understand poverty and inequality. The *Red de Centros* from IADB, country reports from the WB, United Nations Development Program (UNDP) studies on the impact of economic reforms on welfare across Latin American countries: all are examples of such practices. In addition, these institutions have funded new datasets, which are specially designed to enable understanding of living conditions in Latin American countries. These new data sources have allowed high standard quality research in many country and cross-country studies and, more importantly, policy recommendations.

In addition, the increasing level of human capital in the region has allowed us to develop some initiatives to generate new knowledge. Ricardo Paes de Barros from IPEA in Brazil, Sebastián Galiani, Director of the Network of Inequality and Poverty (NIP) in Argentina, and researchers from each country have been working systematically during the past years to better understand the determinants of poverty and inequality.

Several studies on the effects of trade liberalisation on poverty and inequality have been provided by Enrique Ganuza, Ricardo Paes de Barros, Lance Taylor and Rob Vos (2001); through the analysis of micro-simulations on labour market outcomes, access to different assets, and initial endowments, they have been able to simulate the elasticity of poverty and inequality in different policy interventions across countries. A summary of this work is found in Bourguignon, Ferreira and Lusting (2005). The relationship between assets, their returns and poverty are summarised in Attanassio and Szekely (2001), where a new picture of poverty – the greatest challenge facing Latin American policymakers today – is presented. The authors argue that unequal access to education, credit and other income-generating assets are the main causes explaining poverty in the region. In

addition, the lower return to such assets prevents many household from improving income in the future. However, from this analysis we can derive some implications of inequality. For many Latin American households with a low level of assets and returns, inequality implies suboptimal investment (in particular in human capital), which affects also the inequality levels from an intergenerational perspective.

The most recent effort in the field of reporting data on Latin American inequality is *Inequality in Latin America and the Caribbean: Breaking with History?*, which again was a product of a collaborative effort between people both within and outside the World Bank. The report emphasises the influence of history and its contemporary reflection in institutional structures. It used a complete set of datasets for most countries in Latin America and concluded that inequality in Latin America could be traced to colonial times and historical institutions; to change the pattern, Latin America needs to break with its history.

The objective of this paper is to uncover: what inequality means in Latin America in different dimensions; what the consequences are for poverty reduction and growth; what the causes are of inequality; and some policy interventions that have been useful in fighting poverty. It also aims to discover where we are in terms of amount of knowledge on inequality in Latin America, and what there is left to find out.

This paper has been organised into four main analytical sections. Section 2 describes the level of inequality in LAC and its trends in different dimensions: income, consumption, education and health. Section 3 analyses the possible effects of inequality on growth and poverty reduction. Section 4 describes the possible causes and diagnostics of inequality in Latin America. Section 5 details some programmes that have been implemented in several countries in Latin America to improve different socioeconomic indicators. Annexed to the paper is a list of research institutions studying inequality in different countries in Latin America and a summary of the ideas about future research on this topic.

2. Levels and Trends in Inequality

In this section we summarise the main facts about inequality in Latin America, considering measures of income inequality, consumption, education and health.

2.1 Background information

Table 2.1 shows the LAC inequality index compared with other regions, as taken from Deininger and Squire (1996). In the 1960s, LAC had the worst income distribution, with a Gini coefficient three points higher than in SSA and 28 points higher than in Eastern Europe. This decreased in the 1970s but did not then improve. In the 1990s, it was four points higher than SSA and still further away from other regions.

Table 2.1 Distribution of Household Income/Expenditure (Region): Gini

Region	Gini Coefficient				
	1960s	1970s	1980s	1990s	Av.
LAC	53.2	49.1	49.8	49.3	49.8
Sub-Saharan Africa (SSA)	49.9	48.2	43.5	47.0	46.1
Middle East and North Africa	41.4	41.9	40.5	38.0	40.5
East Asia and Pacific	37.4	39.9	38.7	38.1	38.8
South Asia	36.2	34.0	35.0	31.9	35.1
Industrial and high income developing	35.0	34.8	33.2	33.8	34.3
Eastern Europe	25.1	24.6	25.0	28.9	26.6

Source: Deininger and Squire (1996).

2.2 Income inequality

Gasparini (2003) reports information on income inequality in LAC computed from a sample of more than 50 household surveys from 20 LAC countries from 1989 to 2001. He also reports other indicators of inequality, such as aggregate welfare and polarisation. Table 2.2 shows a summary of the income inequality data.

Table 2.2 Trends in Distribution of Income

	Year	Gini	Year	Gini	Change	Years
Argentina	1992	44.7	2001	52.2	7.5	9
Bolivia	1996	57.6	1999	57.8	0.2	3
Brazil	1990	61.2	2001	59	-2.2	11
Chile	1990	55.9	2000	57.1	1.2	10
Colombia	1996	56.1	1999	57.6	1.5	3
Costa Rica	1990	45.6	2000	46.5	0.9	10
Dom Rep.	1995	51.5	1997	49.7	-1.8	2
Ecuador	1994	54.8	1998	56.2	1.4	4
El Salvador	1991	52.7	2000	53.2	0.5	9
Honduras	1990	57.8	1999	55	-2.8	9
Jamaica	1990	51.7	1999	52	0.3	9
Mexico	1992	55.9	2000	54.6	-1.3	8
Nicaragua	1993	55.9	1998	55.9	0	5
Panama	1991	56.4	2000	56.4	0	9
Paraguay	1995	59.5	1999	56.8	-2.7	4
Peru	1994	48.6	2000	49.4	0.8	6
Uruguay	1989	42.2	2000	44.6	2.4	11
Venezuela	1989	44.2	1998	47.6	3.4	9
High Income	1980s	33.2	1990s	33.8	0.6	10

Note: data for Dominican Republic (1995), Honduras (1990) and Venezuela (1989) include only monetary income from labour sources.

Source: Gasparini (2003).

Inequality has increased moderately in South America in the last decade. The two main exceptions are Argentina, with a significant increase of 7.5 points in nine years, and Brazil, where inequality decreased 2.2 points in 11 years. Honduras also has a considerable decrease in its Gini of 2.8 points in nine years. Changes have not been significant in Central America and the Caribbean. Gasparini also finds that aggregate welfare has increased in most countries owing to economic growth and despite distributional changes.

Altimir, Beccaria and González (n.d.) argued that the deterioration in income distribution in Argentina is one of the main characteristics of its economic evolution during the last 25 years. Argentina has passed through a process of great macroeconomic instability, a productive stagnation and other processes of growth and improvement in its basic equilibriums. Cuenin (2002) finds that the groups that present lower levels of inequality tend to observe higher educational diffusion (secondary and higher), relative employment stability, lower levels of unemployment, and higher development. She also finds that these conclusions do not vary with other measures of income inequality.

Ferreira and Litchfield (2001) investigate the increases in inequality observed in Brazil during the 1980s, as well as the declines in the first half of the 1990s. Using static decompositions of inequality by household characteristics, they quantify the importance of education, race, geographic location and demographic structure of the household as determinants of inequality levels. Decomposing inequality by factor components reveals that almost half of overall inequality is a result of the distribution of self-employment incomes. The causes of changes in inequality differ across the two decades. The rise in inequality in the 1980s appears to have been driven by increases in the educational attainment of the population, in a context of highly convex returns, and by high and accelerating inflation. In the 1990s, the fall in inequality was associated with increasing equality between urban and rural areas, declining returns to education, and falling inflation. Poverty dynamics were closely associated with real wage levels.

Several other country studies have reported causes of their patterns of income inequality, e.g. Contreras, Larrañaga and Litchfield (2001) for Chile; Gray-Molina (2004) for Bolivia; Maldonado and Rios (2004) for Peru; Londoño (1995) for Colombia; and Calvo, Torre, and Szwarcberg (2002) for Argentina.

2.3 Consumption inequality

It is theoretically expected that consumption inequality measures show a better distribution than income measures for the following reasons. First, income data is taken before taxes and transfers, and people like to smooth consumption. Thus, if sometimes households do not have any income they do continue receiving transfers, such as subsidies or credits that allow them to attain a certain level of consumption. Secondly, some households have personal consumption from own household farming.

In general, household's surveys in Latin American countries do not have detailed consumption information. The World Bank has carried out Living Standard and Measurement Surveys (LSMS) in some countries; these surveys do have such data. They have been carried out in the following countries in Latin America: Brazil, Ecuador, Guatemala, Jamaica, Nicaragua, Mexico, Panama and Peru.

Research on consumption inequality is available from the Planning Institute of Jamaica, using the Jamaica Survey of Living Conditions (JSLC), a unique instrument for this period of Jamaican history. The reports have been compiled yearly since 1992, in collaboration between two technical public sector agencies: the Planning Institute of Jamaica and the Statistical Institute of Jamaica. The survey is financed by the Government of the Netherlands with technical support investment from the World Bank. The reports show that households smooth consumption over time; this is usually observed during periods of instability, such as downturns in tourism and natural disasters. There has been relative stability of the Gini coefficient over the past 10 years, at around 37.5. This is much lower than that presented by Gasparini (2003) on income, which was 52 in 2000 (See Table 2.2).

Other studies have been carried out by institutions outside LAC. Elbers et al. (2003b) for Brazil show that the Gini based on consumption data is significantly lower than that based on income. They employ a recently developed methodology to impute consumption from the PPV (*Pesquisa sobre Padrões de Vida*) survey into Brazil's traditional (income-based) PNAD (*Pesquisa Nacional por Amostra de Domicílios*) survey. This approach allows the authors to estimate consumption- rather than income-related inequality in Brazil, based on the same underlying data from the PNAD household survey. This new Gini coefficient in Brazil as a whole is measured at around 45, compared with around 60 using household per capita income.

In addition, Elbers et al. (2003a) take three developing countries, Ecuador, Madagascar and Mozambique, and implement in each a methodology to produce disaggregated estimates of inequality combining household consumption expenditure data with population census data, by imputing into the latter a measure of economic welfare from the former. The paper shows that the mean consumption, poverty and inequality estimates produced from census data are well matched with the estimates calculated directly from the country's surveys. Hentschel and Lanjouw (1996) also devise a welfare indicator for households from consumption data for Ecuador. Their work demonstrates that the definition of consumption adopted can have a significant bearing on measured poverty. To conclude, in seeking to obtain correct international comparisons on inequality, it could be useful for Latin American countries to incorporate expenditures questions into their household surveys.

2.4 Education inequality

Gasparini (2003) reports information on education inequality for most countries in LAC. He shows that there are significant differences across countries in terms of average years of education. In Argentina, Chile and Panama, this average is around 8 years; for Guatemala, Honduras and Nicaragua the corresponding figure is lower than five. These cross-country differences hold for all income quintiles, although the gap between the Southern Cone and the rest is wider for the poorest quintile.

Table 2.3 Schooling in Latin America

	Mean Years of Schooling			Gini in Years of Education
	1980	1990	2000	1990
Argentina	6.6	7.8	8.5	27.3
Bolivia	4	4.7	5.5	53.7
Brazil	3	3.8	4.6	39.3
Chile	6	7.1	7.9	31.3
Colombia	3.9	4.4	5	48.6
Costa Rica	4.7	5.6	6	42.6
Dom Rep.	3.4	4.3	5.2	
Ecuador	5.4	5.9	6.5	44.9
El Salvador	3.3	3.6	4.5	
Guatemala	2.3	2.6	3.1	62.6

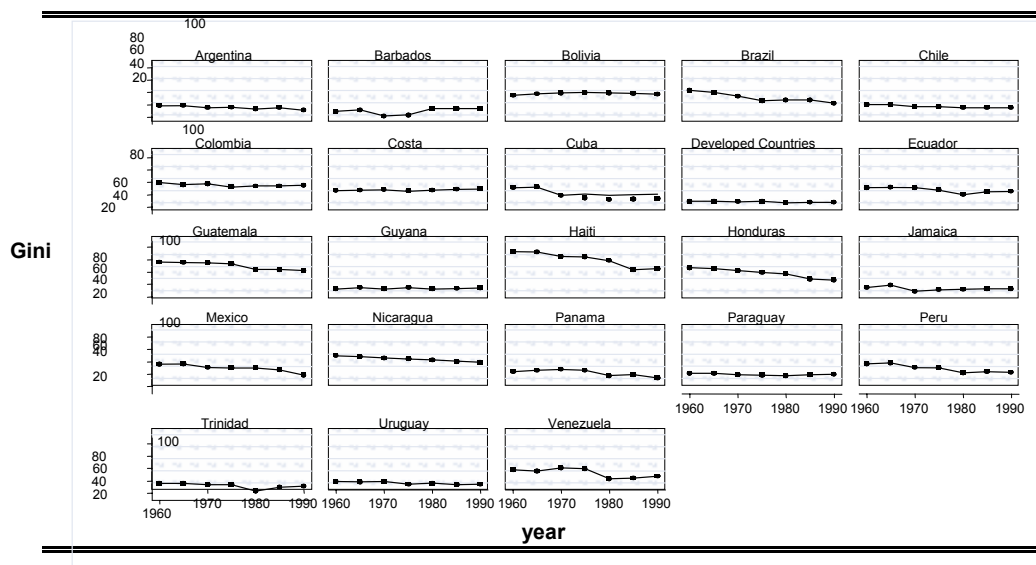
	Mean Years of Schooling			Gini in Years of Education
	1980	1990	2000	1990
Guyana	4.7	5.4	6	34
Haiti	1.5	2.4	2.7	65
Honduras	2.3	3.7	4.1	46.8
Jamaica	3.6	4.6	5.2	33
Mexico	4	5.9	6.7	38.4
Nicaragua	2.9	3.6	4.4	58.7
Panama	5.9	7.3	7.9	33.9
Paraguay	4.6	5.8	5.7	39.8
Peru	5.4	5.9	7.3	43.1
Trinidad	6.6	6.7	7.6	31.2
Uruguay	5.8	6.7	7.2	34.2
Venezuela	4.9	4.9	5.6	47.2

Source: Gasparini (2003).

Table 2.3 shows the substantial increase in the average years of education in all LAC countries during the 1990s, continuing a process initiated decades ago. The Southern Cone countries (Argentina, Chile and Uruguay), Jamaica, Panama and Trinidad & Tobago have the lowest inequality levels.

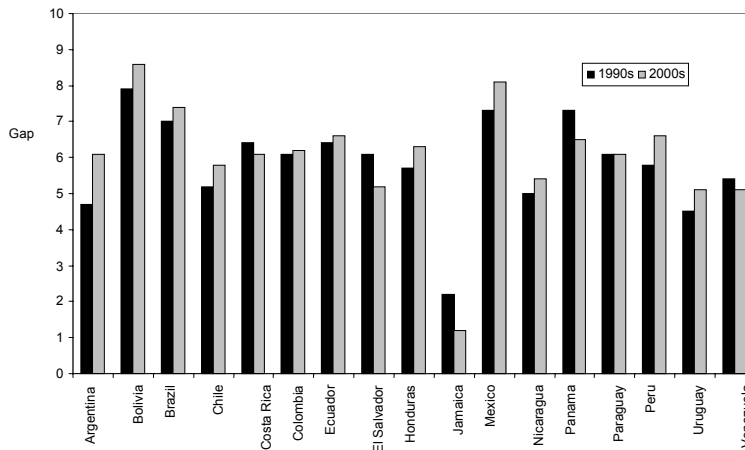
Figure 2.1 shows the tendency of education inequality, measured by the Gini coefficient from 1960 to 1990 for some countries in Latin America. Educational Ginis fell for most of the LAC countries during the 1990s.

Figure 2.1 Evolution and Distribution of Years of Education: Gini



Source: Gasparini (2003).

However, there have been widening gaps in years of schooling between the bottom and the top income quintiles, as shown in Figure 2.2. For example, between 1990 and 2001, the years of education in Brazil increased from 1.9 to 3.0 in the bottom quintile, and from 8.9 to 10.4 in the top quintile. The absolute difference in years of education between the rich and the poor has increased, but the ratio has decreased. This latter effect is captured by the Gini, a measure of relative rather than absolute differences among individuals.

Figure 2.2 Years of Schooling Gap Between Q1 and Q2 for LAC

Source: Gasparini (2003).

The International Comparative Study carried out by the Latin American Laboratory for assessment of quality education (LLECE, 1998) aims to determine the quality of the years of education in each country. Table 2.4 shows the performance of fourth grade students in mathematics. The country with the highest performance is Cuba, followed by Argentina and Brazil; the lowest is Venezuela. An alternative is to look at some indicator of inequality of the quality of education: ratio between the test score of the first to the last decile, ratio public/private school and ratio rural/urban. The country that presents the most unequal performance in this case is Cuba, with the first decile score at 62% of the highest. Although Cuba presents the best average test score, we can note public school performance is worse than private,¹ and urban school performance is better than rural.

Table 2.4 LLECE Test Scores Fourth Grade Mathematics

	Median	First/Last Decile	Public/Private	Rural/Urban
Argentina	269	0.69	0.92	0.88
Bolivia	245	0.68	0.92	0.88
Brazil	269	0.68	0.90	0.90
Chile	265	0.68	0.93	0.91
Colombia	258	0.71	0.94	0.91
Cuba	353	0.62		0.96
Honduras	231	0.68	0.99	0.90
Mexico	256	0.65	0.90	0.89
Paraguay	248	0.63	0.93	0.95
Dom. Rep.	234	0.67	0.98	0.88
Venezuela	226	0.68	0.99	0.88

Source: LLECE First Report (1998).

The third set of evidence is presented in Table 2.5. It shows school enrolment statistics by income strata, computing inequality measures of school attendance. In all, schooling rates increased. The differences are smaller between quintile 1 and 5 for children ages 6–12 and larger for older and preschool children. Enrolment rates increase among all quintiles in almost every country. Larger increases are in children ages 3–5, then 13–17, 18–23, and finally 6–12. In the last group, primary school rates are reaching full rates. Differences in enrolment rates between the bottom and the top quintiles decrease for children under 12. However, the enrolment rate gap between the poor and the rich increases in some countries for youths in secondary school, and has become larger in most countries for children at college age.

¹ In Cuba there are no private schools.

This is the general picture on inequality in education in LAC. Summarising the findings on educational attainment we observe an increase in the years of schooling, and an improvement of the Gini coefficient in relative terms, even though the differences between rich and poor have not improved. There is high inequality in terms of education quality, showing a relatively bad performance of public schools. School enrolment has increased among all quintiles; nonetheless, the enrolment gap between quintiles increased for children in college age.

Table 2.5 School Enrolment Rates, by Age and Income Quintile

	Year	3-5 year olds			6-12 year olds			13-17 year olds			18-23 year olds		
		1	5	Mn	1	5	Mn	1	5	Mn	1	5	Mn
Argentina	1992	0.22	0.51	0.34	0.97	0.99	0.98	0.73	0.94	0.78	0.33	0.54	0.41
	2001	0.34	0.54	0.44	0.97	0.99	0.99	0.87	0.99	0.92	0.36	0.72	0.49
Bolivia	1996	0.89	0.99	0.95	0.39	0.77	0.61	0.08	0.49	0.33			
	1999	0.40	0.74	0.50	0.87	0.97	0.94	0.41	0.89	0.68	0.13	0.62	0.42
Brazil	1990	0.25	0.64	0.38	0.70	0.96	0.83	0.52	0.84	0.65	0.14	0.40	0.24
	2001	0.36	0.72	0.45	0.93	0.99	0.96	0.81	0.96	0.86	0.32	0.55	0.36
Chile	1990	0.24	0.48	0.31	0.96	0.99	0.97	0.79	0.94	0.83	0.25	0.52	0.31
	2000	0.37	0.65	0.46	0.98	1.00	0.99	0.87	0.98	0.92	0.26	0.64	0.40
Colombia	1996	0.16	0.26	0.21	0.86	0.98	0.91	0.64	0.83	0.75	0.20	0.47	0.31
	1999	0.18	0.29	0.22	0.88	0.97	0.92	0.66	0.85	0.75	0.22	0.46	0.29
Costa Rica	1990	0.83	0.94	0.88	0.45	0.82	0.58	0.16	0.42	0.23			
	2000	0.28	0.56	0.38	0.94	0.98	0.96	0.59	0.84	0.66	0.20	0.55	0.34
Dom. Rep.	1995	0.26	0.51	0.32	0.92	0.96	0.94	0.85	0.91	0.88	0.37	0.47	0.39
Ecuador	1994	0.22	0.48	0.30	0.78	0.95	0.86	0.47	0.77	0.61	0.22	0.39	0.29
	1998	0.18	0.47	0.31	0.91	0.99	0.94	0.50	0.85	0.68	0.19	0.48	0.29
El Salvador	1991	0.12	0.54	0.24	0.64	0.92	0.75	0.47	0.74	0.59	0.14	0.39	0.24
	2000	0.22	0.47	0.29	0.79	0.97	0.86	0.61	0.81	0.70	0.24	0.42	0.27
Guatemala	2000	0.06	0.29	0.11	0.67	0.93	0.77	0.42	0.75	0.53	0.09	0.40	0.21
Honduras	1990	0.73	0.91	0.79	0.38	0.63	0.45	0.04	0.31	0.15			
	1999	0.78	0.92	0.85	0.40	0.67	0.52	0.07	0.34	0.20			
Jamaica	1990	0.79	0.84	0.77	0.98	1.00	0.98	0.81	0.79	0.80	0.05	0.03	0.04
	1996	0.85	0.90	0.82	0.99	1.00	1.00	0.88	0.94	0.89	0.14	0.14	0.12
Mexico	1992	0.39	0.83	0.62	0.86	0.97	0.93	0.48	0.84	0.61	0.12	0.40	0.23
	2000	0.67	0.92	0.85	0.93	1.00	0.96	0.57	0.90	0.7	0.16	0.52	0.29
Nicaragua	1993	0.11	0.54	0.28	0.93	0.99	0.97	0.54	0.86	0.72	0.21	0.41	0.28
	1998	0.22	0.54	0.37	0.73	0.95	0.85	0.45	0.79	0.62	0.13	0.42	0.28
Panama	1991	0.30	0.76	0.47	0.93	0.98	0.96	0.56	0.88	0.76	0.14	0.53	0.33
	2000	0.52	0.91	0.69	0.96	1.00	0.98	0.70	0.96	0.83	0.22	0.65	0.39
Paraguay	1995	0.02	0.17	0.10	0.84	0.96	0.89	0.48	0.76	0.61	0.10	0.35	0.22
	1999	0.11	0.17	0.15	0.90	0.99	0.95	0.60	0.84	0.73	0.13	0.49	0.30
Peru	1994	0.98	0.99	0.99	0.84	0.95	0.89	0.35	0.56	0.43			
	2000	0.63	0.80	0.67	0.99	1.00	0.99	0.86	0.96	0.91	0.25	0.56	0.39
T&T	1992	0.53	0.73	0.66	0.98	0.98	0.98	0.69	0.93	0.79	0.07	0.30	0.19
Uruguay	1989	0.24	0.85	0.50	0.96	0.99	0.98	0.68	0.92	0.78	0.17	0.50	0.32
	2000	0.51	0.91	0.65	0.98	1.00	0.99	0.68	0.98	0.81	0.17	0.68	0.36
Venezuela	1989	0.25	0.55	0.36	0.86	0.97	0.92	0.65	0.84	0.73	0.24	0.43	0.29
	1998	0.45	0.68	0.52	0.94	0.99	0.96	0.72	0.91	0.78	0.27	0.54	0.35

Source: Gasparini (2003).

2.5 Health inequality

The Demographic and Health Surveys (DHS) programme is the main initiative in gathering information on a large number of health variables, as well as data on respondents' demographic, social and economic characteristics. Regarding inequality in health status, Tables 2.6 – 2.8 present some health status measures and health services indicators for quintiles 1 and 5, the concentration

index² and average for some countries in Latin America. Indicators are those such as under-5 mortality rates, child underweight rates, complete immunisation coverage, prevalence of diarrhoea, basic antenatal care rates and attended delivery rates. These data were also presented by Gasparini (2003).

The countries listed have inequalities in health that disadvantage the poor. And although Latin America is a region of relatively good average health status measures, it has high inequality indexes. The CI is, in absolute terms, larger than the world mean for both under-5 mortality and underweight children. In particular, Peru and Bolivia present the worst inequalities in under-5 mortality rate. For example, in Peru a child being born in quintile 1 has nearly five times more probability of not reaching five years old compared with a child in quintile 5. Guatemala and Haiti have high inequality in this indicator as well. Paraguay is ranked badly in complete immunisation rates. Brazil, Paraguay and Peru present the highest inequalities in prevalence of diarrhoea. With respect to antenatal care rates, Bolivia, Guatemala, Haiti and Peru are over the average level of inequality, meaning that this rate is twice as high in quintile 5 as in quintile 1. The same happens in attended delivery rates.

Valdivia (2002) has comprehensively documented the health inequalities in Peru. His analysis shows that the size of inequities in health and health service utilisation in Peru is large, even for a country with the level of development of Peru. At the end of the 1990s, the Peruvian government implemented two public insurances to improve access to health services of women and of the poorest children of the population: the Free School Insurance (SEG) and the Child Maternal Insurance (SMI). According to theory, they should have contributed to diminishing the barriers of access to health services, redistributing resources towards the poorest, and therefore inducing an improvement in equity. Jaramillo and Parodi (2004) evaluate the impact on equity of these programmes. First, they find that the implementation of the insurances had a positive effect on cover age before health risks, so much that the SEG as much as the SMI became the main source of health insurance for the population. At the same time, it impacted positively on access health services. Nevertheless, analyses of the incidence of the affiliation show errors of resources focus; therefore, the benefits did not concentrate particularly on the poorest segments of population, but on the richest. Consequently, the effect on equity has been negative.

Table 2.6 Under-5 Mortality and Children Underweight Rates (per 1000)

	Under-5 Mortality				Child Underweight Rate			
	Q1	Q5	CI	Av	Q1	Q5	CI	Av
Bolivia	146.5	32	-0.22	99.1	16.9	3.1	-0.31	9.0
Brazil	98.9	33.3	-0.26	56.7	11.5	3.0	-0.21	5.7
Colombia	52.1	23.6	-0.13	37.4	14.7	3.0	-0.29	8.4
Dom. Rep.	89.9	26.6	-0.21	61.0	12.9	1.0	-0.42	5.9
Guatemala	89.1	37.9	-0.12	79.2	35.1	7.3	-0.19	26.6
Haiti	163.3	105.6	-0.07	140.6	38.9	10.2	-0.17	27.5
Nicaragua	68.8	29.7	-0.12	56.0	18.4	3.9	-0.23	12.2
Paraguay	57.2	20.1	-0.13	46.6	5.9	0.8	-0.28	3.7
Peru	110.0	22.1	-0.25	68.4	16.7	1.4	-0.4	7.8
World	148.3	77.4	-0.12	124.2	32.2	14.6	-0.17	24.8

Source: Gasparini (2003).

Table 2.7 Complete Immunisation Coverage and Prevalence of Diarrhoea (%)

	Complete Immunisation Cov. Rates				Prevalence of Diarrhoea			
	Q1	Q5	CI	Av	Q1	Q5	CI	Av

² The concentration index (CI) measures the size of the inequality of a particular variable. The higher the CI in absolute value, the more concentrated the variable. If a country has CI values close to zero, health inequalities are said to be relatively low.

Bolivia	21.8	30.6	0.08	25.5	21.8	11.7	-0.07	19.2
Brazil	56.6	73.8	0.07	72.5	18.3	7.4	-0.16	13.1
Colombia	53.8	74.1	0.06	65.5	18.4	10.0	-0.09	16.7
Dom. Rep.	28.0	51.7	0.12	38.7	17.9	10.1	-0.08	15.7
Guatemala	41.2	42.5	0	42.6	22.8	16.0	-0.06	20.9
Haiti	18.8	44.1	0.17	30.2	30.9	20.4	-0.04	27.4
Nicaragua	61.0	73.1	0.05	72.6	16.1	8.7	-0.07	14.0
Paraguay	20.2	53.0	0.18	34.2	9.8	4.6	-0.11	8.1
Peru	55.3	66.0	0.04	63.0	21.4	9.3	-0.11	17.9
World	38.3	66.6	0.14	50.7	21.2	14.8	-0.05	18.9

Source: Gasparini (2003).

Table 2.8 Basic Antenatal Care Rates and Attended Delivery Rates (%)

	Basic Antenatal Care Rates				Attended Delivery Rate			
	Q1	Q5	CI	Av	Q1	Q5	CI	Av
Bolivia	38.8	95.3	0.17	65.1	19.8	97.9	0.28	56.7
Brazil	67.5	98.1	0.08	85.6	71.6	98.6	0.07	87.7
Colombia	62.3	95.9	0.09	82.5	60.6	98.1	0.09	84.5
Dom. Rep.	96.1	99.9	0.01	98.3	88.6	97.8	0.02	95.3
Guatemala	34.6	90.0	0.19	52.5	9.3	91.5	0.42	34.8
Haiti	44.3	91.0	0.14	67.7	24.0	78.2	0.21	46.3
Nicaragua	67.0	96.0	0.07	81.5	32.9	92.3	0.19	64.6
Paraguay	69.5	98.5	0.07	83.9	41.2	98.1	0.18	66.0
Peru	37.3	96.0	0.17	67.3	13.7	96.6	0.31	56.4
World	55.0	91.0	0.13	70.8	31.2	84.0	0.25	52.5

Source: Gasparini (2003).

Summarising, this section shows that: Income inequality in LAC is the highest in the world. It has increased in South America and there have been no significant changes in Central America and the Caribbean. The rise in inequality during the 1980s appears to have been driven by increases in educational attainment in a context of highly convex returns, and by high and increasing inflation. Studies able to compute consumption inequality show better measures than those on income, highlighting that people are able to smooth consumption. It is therefore important to include these measures in the household surveys.

Education inequality has improved in relative terms, even though the differences between rich and poor have not improved. In particular, the school enrolment gap has increased between quintiles for children in higher education and of college age. Quality of education is also highly unequal, showing a relatively bad performance of public schools. Health inequality is also high, although Latin America is a region of relatively good average health status measures.

In the following section we will describe in more detail the consequences of inequality on growth and poverty reduction.

3. The Effects of Inequality

There are at least two reasons for caring about inequality: (i) a functional reason, since it affects other economic variables, social cohesion, economic growth and societal effects; and (ii) an intrinsic reason, namely, an aversion to inequality per se.

In this section we will concentrate on the functional reason, since this appears more significant in developing countries. In particular, we will review the effect of inequalities within countries in Latin America on rates of economic growth and on the extent to which these rates reduce absolute poverty.

We analyse the sources and impacts of even and uneven income growths, the requirements of collateral, and the allocation of public spending. Finally, we review some studies to measure the impact of economic growth on poverty alleviation.

3.1 Effects on economic growth

The link between inequality and growth is not unambiguous. The presence of inequality may affect development of other goals in the economy. These issues are probably of greater importance in Least Developed Countries. If a country has a low average income and, in addition, huge inequality, there will be a great proportion of the population with not enough income to feed itself. Under-nutrition affects ability to work and, therefore, to gain income. For any given distribution of endowments, the economic interaction will lead to a new distribution. Therefore, the analysis takes a given initial distribution of assets, but then evaluates whether the inequality worsens over time or narrows. Thus, we can state that economic growth and inequality evolve together, but that the relationship can vary.

Work by Kuznets in 1955 and 1963 suggests that developing countries tend to possess higher degrees of inequality than developed ones, when measured by the income share of upper income groups. The data suggest that development at low levels of income first increase inequality, and thereafter decrease it, leading to an inverted-U pattern.

Some types of income growth are inherently uneven. This is the case when a particular sector takes off: economic growth is concentrated in a small sector, and therefore is inequality-creating. On the other hand, there are compensatory income growths: individuals in the growing sector may demand all sort of goods and services in the economy and therefore spread income gain more evenly through society. The observed pattern in the data would suggest that in low-income countries uneven income growth is more important than compensatory growth, and the magnitude of both effects switches for higher income countries.

In addition to these stylised facts, there is some evidence of causalities between high levels of inequality and lower rates of growth in mean incomes. A traditional view of income generation considers that people accumulate wealth, acquire skills and find a job in the labour market. Nonetheless, there are several features that may break or slow down this chain of income generation. Among the most important are credit market imperfections and questions of political economy, as well as unequal labour market returns and discrimination.

Imperfection in the credit market may prevent poor families from starting profitable projects or investment, such as providing education for their children so that they are prepared to work in more rewarding jobs. Other credit market imperfections can arise when collateral is required to obtain a loan and start up a profitable business. Since poor people do not have initial assets, credit may be denied or given only at higher interest rates to compensate for the risk of default. In any case, this

would drastically reduce opportunities for starting a business and therefore getting out of poverty. Thus, society assumes a cost in inefficiency. With the same reasoning, it may be too costly for poor people to continue studies, because they need to deal with current income possibilities without the option of relying on a loan.

The second conceptual reason for inequality leading to lower growth involves questions of political economy. In societies with high degrees of concentration of power and wealth, Bénabou (2000) states that wealthy people may not choose to allocate public spending to the benefit of the poor. This may increase the problems in the context of credit market imperfections, as described. The provision of free public schooling or good roads and public transportation, by which students can reach schools, would alleviate the problems described above. However, unequal societies in which political power is intertwined with wealth may be less likely to choose policies that reduce these inefficiencies than to allocate scarce resources to alternative uses.

In summary, inequality may be related to lower growth rates because of an inefficient assignment of talents or political economy issues.

3.2 Effects on absolute poverty reduction

In addition to the effect just described, in general we observe that inequality has a negative effect on poverty. Theoretically, for any given poverty line that lies below the average income of a society, a more unequal distribution of income would increase the number of poor individuals.³ Therefore, if a society moves from a more equal to a more unequal income distribution with the same mean, the incidence of poverty will rise. What is the effect of higher inequality on the ability to reduce poverty? To answer this question, we need to look at the sensitivity of the poverty measure to higher growth rates. Bourguignon (2002) and Ravallion and Chen (1997) find that higher rates of economic growth are unambiguously associated with higher rates of poverty reduction. Bourguignon also establishes that a percentage point of growth has a smaller impact on poverty reduction in more unequal countries. In other words, a more unequal country requires higher growth rates to reduce the percentage of poor people. This finding is summarised in a smaller growth elasticity of poverty reduction, although always negative.

The estimates of growth elasticity of poverty reduction found by López (2003) are presented in the first panel of Table 3.1. The second panel of the table reveals that the magnitude of the direct (that is, instantaneous) effect of inequality on poverty also falls with initial inequality.

Table 3.1 Theoretical Elasticities of Poverty with Respect to Aggregate Income Growth

		Gini				
		PL*	0.3	0.4	0.5	0.6
Growth	0.33	-3.9	-2.1	-1.3	-0.8	
	0.50	-2.8	-1.6	-1.0	-0.7	
	0.67	-2.0	-1.2	-0.8	-0.5	
	1.00	-1.2	-0.8	-0.5	-0.4	
		Gini				
		PL	0.3	0.4	0.5	0.6
Inequality	0.33	5.2	3.3	2.4	2.0	
	0.50	2.5	1.7	1.3	1.2	
	0.67	1.2	0.9	0.8	0.8	
	1.00	0.2	0.2	0.3	0.4	

* Poverty line as share of per capita GDP.

Source: De Ferranti et al. (2004), based on López (2003).

³ Assuming the inequality increases affects the poor without affecting the mean of the distribution.

Bearing in mind that Latin American countries present very high inequality indexes, the studies on growth inequality elasticities establish that they need to make a huge effort to succeed in reducing inequality. If local government were able to reduce inequality,⁴ economic growth would be more effective in helping reduce poverty.

ECLAC (2002) analyses different scenarios under which the 18 Latin American countries would be able to reduce extreme poverty rates by 50% by 2015. It considers two scenarios: the historic one, taking growth and inequality dynamics observed during the 1990s; and an alternative one, with richer and more equal countries. These scenarios are simulated in order to determine the scale of growth and inequality reduction efforts required by each country to reach the Millennium Targets. The higher the simulated growth rate, the lower the inequality reduction required to reach the target.

The conclusions establish that if the countries maintained the growth and inequality behaviour of the 1990s, only seven out of 18 would reach the Millennium Development Goals. These countries are Argentina (before the crisis), Chile, Colombia, Honduras, Panama, the Dominican Republic and Uruguay.

Gasparini et al. (2004) use microeconomic simulations to characterise the distributional changes that occurred in the Bolivian economy in the period 1993–2002, to assess the potential distributional impact of various alternative economic scenarios for the next decade. They find that a sizeable increase in the dispersion in worker-unobserved wage determinants is the main factor behind the significant increase in household income inequality in the 1990s. The results of the micro-simulations suggest that sustainable and vigorous productivity growth seems to be a necessary condition for Bolivia to meet the MDG poverty target by 2015.

In summary, Latin American countries need to make a much greater effort in order to reduce poverty, given the high levels of inequality, than that it would were inequality lower.

⁴ In Section 3.2 we review some determinants of inequality.

4. The Diagnostics of Inequality

For as long as data on living standards have been available, Latin America has been one of the regions of the world with the greatest inequality. 'Whereas the richest tenth of the population in the region earn 48% of total income, the poorest tenth earn only 1.6%. By contrast, in developed countries the top tenth receive 29% of total income, compared to 2.5% for the bottom tenth' (De Ferranti et al., 2004). What explains this bad ranking? Are there policy decisions that could improve Latin America's situation?

4.1 Established analytical framework

Considering that labour income represents an important part of total income, we will concentrate on the process that determines the level of labour income or wages. Wages are the result of different individual investment decisions and circumstances. First, an individual decides the level of human capital he or she wants to accumulate. This is understood as an investment decision: individuals who invest in schooling are willing or allowed to give up earnings today in return for higher earnings in the future. Indeed, most of these decisions are taken by the parents. However, the earnings people have to give up today are restricted. Many families would need to go to the capital market to borrow money; poor families lack collateral to do this, and there is usually no capital market financing schooling. Therefore, the level of assets owned by the family now determines the level of schooling an individual can reach.

Secondly, once he or she is at school there are several other forms of asset and circumstance that can affect the level of schooling, such as peer effects, neighbourhood effects, school quality, parents schooling and so on. These are part of the social capital, and their levels also affect the level of future labour income. Thirdly, when the process of accumulation of human capital finishes, individuals need to decide whether or not to participate in the labour market. Again, several circumstances could affect this decision. Even more, the decision to participate in the labour market is often not a choice. Several secondary workers work when the main worker in the family is unemployed; among them are, for example, children. Fourthly, once the individual enters the labour market, he or she matches different types of jobs. Jobs can be found in the formal or informal sector. The quality of jobs varies extensively and finding a good quality job may also depend on social capital in the form of networks. Fifthly, wages need to be shared by all the members in the household. Larger families will need more income to attain a certain level of consumption and investment. Choices about partners for reproductive decisions will also affect socioeconomic status. Finally, the nature of state taxes and transfers and non-labour income leads from primary to secondary income distribution.

Attanasio and Székely (2001) summarise these issues by identifying that family income is a function of the combination of four crucial elements: (i) the stock of income-earning assets owned by an individual; (ii) the rate at which these assets are used for producing income; (iii) the market value of income-earning assets; and (iv) transfer and bequests independent of the income-earning assets owned. Thus, a family total income can be described as:

$$y_i = \frac{\sum_i \sum_a A_i^a R_i^a P^a + \sum_{\text{for some } i} T_i}{n}$$

Where $i=1, \dots, n$ is the number of individuals in the household, $a=1, \dots, k$ is the number of assets owned by family member i , A represents the asset type a that member i owns, R represents the return to that asset, P represents the market value of that asset (that is the same for all the members) and T represents the transfers or bequests for some family members. The types of assets are basically three: human capital, physical capital and social capital.

4.2 Available evidence

Following the analytical framework exposed in the previous subsection, we will now review how each particular element may explain the high inequality observed in Latin American countries. In particular, we review how educational attainment and quality, social exclusion, social mobility, labour market, macroeconomic volatility, demographic trends, family structure and government interventions affect income distribution.

4.2.1 Educational attainment and quality

Education is one of the key factors determining individuals' income. Therefore, a review on educational attainment in Latin American countries could help us explain existing inequality.

Studies that relate income inequality with educational inequality through their respective Gini coefficient show that the correlation is positive and significant. The Pearson correlation coefficient between the Gini indices is 0.76 for the income-only sample and 0.40 for the joint income and education sample. Nonetheless, educational inequality in terms of attainment is relatively low in Latin America, concentrated toward the middle range, with educational Gini coefficients ranging between 0.29 (Argentina) and 0.60 (Guatemala). It appears that the inequality levels observed can not be explained by differences in years of schooling.

Economic theory tells us that the capability to generate income is related to the level of human capital we have.⁵ What else could explain the income inequalities we observe? It is not enough to take into account educational attainment to proxy the level of human capital. We also consider the quality of the education we are acquiring. The Programme for International Student Assessment (PISA) 2000, undertaken in 31 countries, shows important variations on what students learn in any given year. Additionally, it reports more pronounced variations in the quality of education *within* some Latin American countries than in the OECD. Therefore, it is possible that educational inequality is higher when we are considering quality. If this is the case, income inequality conditional on educational quality may not be so high for this region.

To get a better sense of the effect of the distribution of education on inequality we can review two studies. Bourguignon, Ferreira, and Leite (2004) compared household income distributions for Brazil and the US by simulating what the Brazilian distribution might look like if it adopted the parameters of the US conditional distribution of non-labour incomes. It found that replacing the Brazilian conditional distribution of education with that of the US would reduce the Brazilian Gini coefficient by 6.4 points (from 0.569 to 0.505), which corresponds with just over half of the total Gini gap between the two countries. A similar microeconomic comparison between Chile and Italy found that 'importing' the parameters of the Italian conditional distribution of education into Chile accounted for only two points of the 20 Gini point difference between the two countries. Factors other than the structure of education lie behind the differences in income inequality between these two countries. On the other hand, for any given distribution of education, a higher rate of return to education would lead to higher earnings inequality. If we imposed the distribution of return to education of the US on Brazil or of Italy on Chile, it would reduce the gap by about one-third and one-half respectively.

Therefore, it becomes clear that the observed income inequality is affected by the distribution of different schooling levels and by the rate of return of those levels. Even if educational policy increases the mean years of schooling, we observe an increase in income inequality, owing to the convexity of the returns to education. Velez, Barros and Ferreira (2004) document the Brazilian

⁵ The most common relation is established through the Mincer equation:
 $\log \text{earnings} = a + b_0 \text{schooling} + b_1 \text{experience} + b_2 \text{experience}^2 + \text{error}$

case: the supply of 6–10 years of schooling has increased more than the demand, reducing the wage premium. The demand for highly educated workers has increased more than the supply, generating a higher skill premium. Blom and Velez (2004) estimate that around 60% of the increase in skill premium of tertiary education can be attributed to supply shortage.

4.2.2 *Social exclusion*

Social exclusion is the process by which some groups are constantly relegated to the periphery of development. Some forms of exclusion are visible and evident, like discrimination by race, ethnic group, socioeconomic level or sex. But sometimes social exclusion is more subtle and occurs when a group does not have access to the same opportunities as the remainder of the population in health, education, dwelling or jobs.

This exclusion determines a vicious circle linked to regional economic problems. These are barriers of exclusion that stop the citizens from reaching their full productive potential – at the same time negatively influencing countries' growth – and that eventually enlarge the costs of social services and of the public health system.

Behrman, Gaviria and Székely (2003) analyse segregation in various Bolivian cities (Gray, Perez de Rada and Jimenez); exclusion of determined sectors of the population of the sanitary system in Brazil (Alves and Timmins), legal obstacles imposed on Nicaraguan immigrants in Costa Rica in obtaining citizenship (Funkhouser, Perez and Sojo); geographical isolation in El Salvador (Vides, Larde and Calderon); and difficulties of different native populations in Mexico in accessing education (Parker, Rubalcava and Teruel). They describe the exacerbation of the process of social exclusion through the self-perpetuation of social networks, the prohibitive prices that are charged for determined services and the false impressions of the society in general and of the excluded groups particularly.

Latin Americans perceive social exclusion in different ways. A survey of public opinion, *Latinobarómetro*, asked the opinions on discrimination of the populations of 17 countries in the region. The results obtained indicate that Latin Americans disagree as to who suffers discrimination; they believe there are high levels of discrimination, but the basis of this varies by major country cleavage, e.g. race (Brazil) versus class (El Salvador).

Many think that the roots of discrimination in the continent are to be found in racial differences, whereas others believe discrimination is mainly to do with groups of low socioeconomic background, with ethnic group making no difference. Even when differing perceptions exist, people coincide as to proposed laws to compensate victims of the social exclusion and to punish discriminators. Some countries have tried to eliminate cases of exclusion by approving laws against discriminatory practices, especially in the labour market. These measures are positive but many obstacles still remain, since determined groups keep being excluded by means of subtle mechanisms.

Engerman and Sokoloff (1997) study the historical composition of Latin American population groups. The groups changed largely after the arrival of Europeans: before, Latin America was populated nearly 100% by indigenous people. After three and a half centuries (from 1570 to 1935) of European colonialism, Spanish America was 50% indigenous, about 35% white and 15% of African descent. Brazil's indigenous population had decreased to just above 20%, with 40% white and 40% African. In the US/Canada only nearly 2% were indigenous, compared with 90% white and 8% African.

Nowadays, Latin American countries have a diverse racial and ethnic composition, and levels of welfare are not equal between the groups. Inequalities are also present in gender. Diverse studies in

the region confirm that there are racial, ethnic and gender inequalities across Latin American countries, along a number of dimensions and for a variety of different reasons. De Ferranti et al. (2004) report that the most advantaged group in terms of labour income, formal sector jobs, assets and education are white/non-indigenous men. Non-white workers have much lower earnings than white workers.

In terms of trends, the position of women has improved relative to men, but still represents significant inequalities. For example, women, on average, earn less than men. Improvements can be traced to better opportunities for women and changing needs of society which have altered gender roles. Indicators such as maternal mortality have decreased;⁶ women's educational attainment is approaching or surpassing that of men; women's labour force participation continues to increase, and the wage gap is decreasing over time. There has also been an important increase in women's involvement in the political, cultural and intellectual arenas. However, these successes are unequally distributed. Those living in urban areas, who are not indigenous or of African descent, are making gains at a much faster rate than are women in rural areas or those of indigenous or African descent.

Various studies look at the severity and reasons for such inequality. Psacharopoulos and Patrinos (1994) show that indigenous people are systematically poorer than non-indigenous people, and that this owes substantially to fewer 'endowments', such as education, job experience, family structure and occupation, and also to differential preferences, institutions, social relations, cultural norms and discrimination. Psacharopoulos and Tzannatos (1992) present gender difference evidence for LAC, finding that women's earnings and labour force participation are consistently lower than men's, and can also be a result of 'endowment' and other effects.

Torero et al. (2002) study social exclusion in Peru, summarising the findings of a project studying the extent and consequences of certain aspects of social exclusion. They analyse the ways in which some groups may be explicitly or implicitly excluded from acquiring education, and the elements behind the impossibility of certain groups improving their wellbeing on their own. This seems to be one of the factors explaining the high level of inequality in Peru. The effect of ethnic exclusion over earnings is also studied. Learning how these forms of exclusion impact on access to opportunities for socioeconomic advancement, and also how they could increase the probability of discrimination, will shed light on the discussion and on potential elements for the formulation of policies.

Other studies within LAC describe the sex and ethnic discrimination: Contreras and Puentes (2001) and Poblete (2003) for Chile; Fleury (1999) for Argentina.

4.2.3 Social mobility

Núñez and Risco (2004) argue that the study of intergenerational mobility of income is as important for normative reasons as it is for economic efficiency. 'Normative reasons' refers to the concept of equality of opportunities. The concept of social mobility of income has been considered a measure of the existing degree of equality of opportunities in a country. A greater index of mobility would indicate that the socioeconomic origin of the individual is less important in determining opportunities available to them. Regarding the efficiency argument, a greater social mobility promotes a more efficient allocation of human resources. Under the assumption that talents and comparative advantages are equally distributed along the income distribution, a greater degree of mobility would allow talents to be assigned to those activities according to their comparative advantages.

⁶ It is worth noting the significant data reliability problems regarding maternal mortality.

Andersen (2000) points out that high inequality combined with high social mobility is not as bad as high inequality combined with low social mobility. Actually, the high inequality/high mobility combination appears to be beneficial for long-run growth, e.g. in the US. It provides people with an incentive to work hard, be innovative, and take risks, because the expected returns are high. The high inequality/low mobility combination, on the other hand, does not provide such incentives. Rich people have little incentive to work hard, because they are born rich and will remain rich no matter what. Poor people also have little incentive because, no matter what they do, they are unlikely to move up the economic ladder. This latter would be the LAC case.

The ideal set-up for studying social mobility is to have long panel data; most countries in LAC do not have this kind of information. A second best is to use cross-sectional information and to ask for background parents' information. This is the method used in the studies shown in Table 4.1 for Brazil and Chile; the other countries are presented as international comparison. These studies measure social mobility as the OLS coefficient of a regression of individual wages on parents' education and income. Some of them also use instrumental variables to face the endogeneity problems. We can see that both Chile and Brazil have a very low level of social mobility. The return to parents' socioeconomic background is 54%.

Table 4.1 Parents' Income: Children's Income Elasticity

	OLS*	IV	Source
Brazil	0.53-0.54	0.54-0.74	Dunn (2003)
Chile	0.54	0.58	Núñez and Risco (2004)
Finland	0.13		Osterbacka (2001)
Sweden	0.13		Osterberg (2000)
Canada	0.12-0.19		Corak and Heisz (1995)
Spain	0.24	0.44	Sánchez (2004)
Malaysia	0.26		Lillard and Kilburn (1995)
Germany	0.11-0.34		Couch and Dunn (1997), Wiegand (1997)
Italy	0.36		Checchi (1997)
EU	0.59-0.39	0.45-0.53	Solon (1992)
France	0.41	0.44	Lefrane and Trannoy (2004)
England	0.43	0.57	Dearden, Machin and Reed (1997)
South Africa	0.44		Solon (2002)

* This parameter is the OLS coefficient in a regression of individual wages on parents' years of schooling, correcting for a set of other individual variables. the lower the coefficient, the higher the social mobility.

Source: Núñez and Risco (2004).

Andersen (2000) uses a different methodology that provides estimates of educational mobility. It measures the importance of family background in teenagers' educational attainment. He calculates the Social Mobility Index (SMI), defined as 1 minus the proportion of the variance of the school gap⁷ that is explained by family background. In this case, the higher the index the higher the social mobility.

De Ferranti et al. (2004) use this methodology to calculate what they called the education mobility index (EMI).⁸ Table 4.2 shows the EMI for teenagers and young adults in Latin American countries. The countries with the highest educational mobility around the 2000s are Uruguay, Chile, Argentina and Jamaica. The countries with the lowest are El Salvador and Ecuador. Social mobility is lower for young adults than for teenagers. Most countries have at least one group, either teenager or young adults, worsening their EMI between the 1990s and the 2000s. Only Bolivia, Brazil and Panama have improved their EMI during the decade.

⁷ The schooling gap is defined as the difference between years of education that children would have completed had they entered school at a normal age and advanced one grade each year, and actual years of education. Thus, it measures years of missing education.

⁸ This is a measure of equal opportunity that can be understood as a one of social mobility.

Table 4.2 Educational Mobility Index

	Year	Teenager (13-19)	Young Adults (20-5)
Argentina	1992	0.922	0.851
	2001	0.907	0.814
Bolivia	1996	0.828	0.799
	1999	0.838	0.799
Brazil	1990	0.827	0.763
	2001	0.844	0.795
Chile	1990	0.918	0.862
	2000	0.922	0.834
Colombia	1996	0.845	0.794
	1999	0.842	0.812
Costa Rica	1990	0.854	0.806
	2000	0.856	0.766
Dom. Rep.	1995	0.885	0.871
Ecuador	1994	0.852	0.815
	1998	0.824	0.782
El Salvador	1991	0.865	0.786
	2000	0.819	0.793
Guatemala	2000	0.799	0.735
Honduras	1990	0.841	0.727
	1999	0.84	0.728
Jamaica	1990	0.99	0.929
	1999	0.984	0.973
Mexico	1992	0.905	0.842
	2000	0.868	0.768
Nicaragua	1993	0.86	0.855
	1998	0.828	0.811
Panama	1991	0.867	0.822
	2000	0.893	0.856
Paraguay	1995	0.846	0.768
	1999	0.851	0.762
Peru	1994	0.917	0.912
	2000	0.898	0.874
Trinidad & Tobago	1992	0.964	0.944
Uruguay	1989	0.923	0.88
	2000	0.9	0.82
Venezuela	1989	0.831	0.799
	1998	0.843	0.788

Source: De Ferranti et al. (2004).

4.2.4 Labour market

The outcomes in the labour market are closely related to the stylised facts previously described. We established that the amount of human capital, its quality and how the market values the human capital, all would determine the labour income of an individual and social capital as a level of social exclusion and social mobility. However, the type of jobs available and the institutions also play a role in determining labour income.

Considering the share of informal sector employment in total employment and the income Gini coefficients, a positive coefficient of correlation has been documented. Latin American countries lie along the middle ranges of informality, between African countries and more developed countries.

The informal sector includes, among others, unpaid family workers, voluntary owners of small family businesses, street vendors who cannot find work elsewhere, employees in small firms who receive training in their first jobs, young mothers earning pocket money, and well educated owners of small firms that are just being established. This heterogeneity may explain the higher inequality in the sector.

Additionally, self-employed workers present higher variance in their wages than employees; their average earnings are even similar to employees of the formal sector. In fact, inequality is greater among the self-employed than among salaried workers. Between 30% and 70% of the labour force is in the informal sector, and it is mostly composed of self-employed workers. Table 4.3 presents evidence from six Latin American countries and shows that earnings inequality in the self-employment sector is double the degree of inequality in the wage sector. The last two rows present the decomposition of inequality for each type of employment, into within-group and between-group inequality. For all six countries, most of this inequality is within groups. In general, the between groups inequality is very small (except Chile).

These findings help explain the impact of a labour market duality on inequality, even when there are no large differences in mean income between the formal and informal sector. The mechanism works through the composition effect. A larger informal sector contributes to inequality owing to its large within-group inequality.

Table 4.3 Earnings Inequality Decomposition for Salaried Versus Self-Employed Workers (1995)

	Argentina	Bolivia	Chile	Colombia	Uruguay	Venezuela
Self-employed	26%	56%	29%	33%	26%	37%
	Inequality measures for all workers with non-zero wages					
Theil Index	0.362	0.642	0.735	0.667	0.398	0.340
	Inequality measures for all self-employed workers with non-zero wages					
Theil Index	0.484	0.819	0.867	0.972	0.499	0.470
	Inequality measures for all salaried workers with non-zero wages					
Theil Index	0.295	0.430	0.411	0.433	0.350	0.264
	Within/between-group inequality, groups defined by employment type					
Within-group	0.355	0.642	0.639	0.653	0.395	0.340
Between-group	0.007	0.001	0.096	0.013	0.004	0.000

Source: De Ferranti et al. (2004) based on Wodon and Maloney (2000).

Even though educational or land endowments explain a bigger proportion of income inequality than occupational structure and labour market duality, informality plays an important role in accounting for Latin America's excess inequality. This would suggest that labour market institutions that contribute to informality may contribute to more inequality. Heckman and Pagés-Serra (2000) point to the role of high hiring and firing costs on inequality.

Other labour market institutions that may contribute to this inequality are regulatory features that may affect workers' decisions as to whether to enter the formal or informal sectors. Additionally, labour unions or the prevalence of minimum wages may affect wage distribution. Cunningham and Santamaría (2003) establish that unionised workers appear to have greater wage disparities than non-unionised workers, and unionisation appears to contribute to greater wage dispersion in the economy as a whole.

Minimum wages, on the other hand, appear to have the potential to generate equalising effects on wage distributions in Latin America. In Colombia and Brazil, for example, a 1% increase in the minimum wage results in increases along the formal sector wage distribution, with effects greatest below the minimum wage and diminishing across the wage distribution (Maloney and Núñez, 2001; Neri, Gonzaga, and Carmargo, 2000). On the other hand, minimum wage laws may help to reduce inequality provided they do not induce migration from the formal to the informal sector.

4.2.5 Macroeconomic volatility

Aggregates affect household income status mainly through income volatility, and aggregate volatility is high in LAC. De Ferranti et al. (2000) show that aggregate volatility of real private consumption in Latin America was substantially higher than in industrial economies between 1960

and 1999. In addition, it was higher than in most countries in Asia, but lower than in sub-Saharan Africa. This aggregate volatility translates into high levels of risk and uncertainty at a more disaggregated level. De Ferranti et al. present the following stylised facts of aggregate income risk and household welfare in Latin America:

Aggregate income volatility affects different ranges of income distribution differently, depending on the country and on the episode. There is no evidence to suggest that the poorest or the richest households always have higher income volatility than others.

The ownership of assets such as land, education and surplus household labour reduces the risk faced by households.

The poor, like everyone else, appear to be unwilling to make permanent divestments during bad times. This is especially true regarding education of their children. The evidence indicates that school enrolment is not sensitive to aggregate economic fluctuations, although school performance is. Child labour is generally pro-cyclical rather than countercyclical.

The experience analysed of some countries suggests that relatively large crises seem to have qualitatively different effects than smaller shocks on poverty and investments in human capital. The poor are affected more than the rich when the shocks are big, but when the shocks are smaller it is reversed.

For Mexico and Argentina, Arango and Maloney (2000) have used panel household data to study more carefully the dynamics of unemployment, especially the incidence and duration of unemployment spells. In both Argentina and Mexico, people with more schooling tend to become unemployed less frequently, but remain unemployed longer. This is consistent with firmer specific human capital leading to both lower separation rates and longer job searches. No clear pattern by age is shared across countries. In Mexico, older workers are more likely to become unemployed and for longer periods. In Argentina, the young workers are far more likely to become unemployed and, among the less skilled, for longer periods.

The following studies discuss the main results of the impact of shocks on households and their coping strategies: Conning, Olinto, and Trigueros (2000) for the agricultural production crisis of 1997 in rural El Salvador; Cunningham and Maloney (2000) for the 1995 Mexican Tequila Crisis; and Neri and Thomas (2000) for various boom and bust episodes in Brazil in the 1980s and 1990s.

Conning, Olinto, and Trigueros (2000) use a panel of 489 rural households surveyed in 1995 and 1997 by the Universidad Centroamericana. The authors use these data to quantify the incidence of the impact by income groups, to disaggregate it by occupational category, and to investigate which household characteristics were associated with differences in the magnitude of the income shock. The poorest households in this case did fare worse than richer households in terms of the relative income losses inflicted by a shock. This was found for the rural Salvadoran sample, where the mean proportional income loss during the aggregate shock suffered by the poorest 20% of the population was 32%; 18% for the second fifth; 2% for the third; 5% for the fourth; and the richest 20% actually experienced a 9% gain in income.

Cunningham and Maloney (2000) identify the groups worst affected by the 1995 Tequila Crisis in Mexico, and study the results of labour force participation changes around the shock. The dataset used is a panel of 21,262 households in 16 metropolitan areas in Mexico, from 1994 to 1997, taken from the National Urban Employment Survey (ENEU). Households that suffered average or median losses were found to be evenly spread across the whole income distribution. But households in the poorest 40% of the population were less likely to suffer large negative losses and were overrepresented among those 'suffering' small losses (or even gaining) in the aftermath of the 1995 crisis. In addition, some groups often thought to suffer disproportionately, such as the elderly and single mothers, do not appear to be particularly badly affected.

Neri and Thomas (2000) identify the groups most affected by aggregate economic fluctuations in Brazil, and then investigate the nature of the household responses. They use urban households' effects from 1982 to 1999. The dataset was taken from the Monthly Employment Survey (PME), carried out by the Brazilian Statistical Institute (IBGE). Brazilian recessions studied, show that only the most severe (1982–3) recession generated a greater proportional income loss to the poorest quintile than to any other. In all other cases (1990–1, 1996–7, and 1998–9), the greatest proportional income losses were borne by the richest quintile. Growth episodes also appeared to have been more benevolent to the poor than is generally acknowledged. In two of the three boom episodes considered (1984–5 and 1986–7) proportional income gains also declined consistently by income quintile. The third episode, which followed the successful stabilisation of the Brazilian real during 1994–5, is best described as broadly neutral.

4.2.6 *Demographic trends*

The number of people within a household determines how an income has to be shared and the resources finally available to each person. Therefore, size and family composition determines the distribution of income per capita in the economy. Here we present some demographic trend measures with respect to family size and structure in Latin American countries.

Gaviria (2002) presents information based on household surveys. Table 4.4 presents a summary of this information. The table shows the number of children under 12 per household by parental income quintile and parental educational level around the 1990s and 2000s. First, the average number of children has decreased in all countries in LAC. In most countries, these trends are repeated for all income quintiles, the exception being Argentina, Bolivia and Dominican Republic for quintile 1, Ecuador and Bolivia for quintile 2 and Paraguay for quintile 3.

Regarding the number of children by parental educational level, again in most cases this number has decreased for each level of education. However, again the exceptions are Argentina and Bolivia. In general, in all countries fertility rates are lower, at all levels of the distribution. Brazil and Jamaica have the highest decrease in fertility rate, also at all quintiles. On the other hand, Argentina, Bolivia and Dominican Republic have an increase of parents with less education. In Ecuador and Peru, the number of parents with higher educational level has increased.

Marchionni and Gasparini (2002) analyse the distributive impact of changes in fertility decisions in Greater Buenos Aires. Fertility decisions have varied considerably; these variations are not uniform along the income distribution. This work studies the effect of these demographic changes on poverty and inequality. The authors conclude that demographic factors can explain a significant part of the increase in poverty between 1980 and 1992, and increase in inequality between 1980 and 2000.

Kremer and Chen (2000) find empirical evidence that the fertility differential between educated and uneducated is greater in less equal countries. Assuming children of educated workers are more likely to become educated, their model predicts a reduction in the number of educated workers and an increase in the number of uneducated workers. A greater supply of uneducated workers will reduce the wage and therefore the opportunity cost of having children, generating a vicious circle. The results suggest that an educational policy based on increasing access to education could permanently reduce inequality. Based on Brazilian data, Velez, Medeiros and Soares (2004) show that a temporary acceleration of improvements in education during a period of highest demographic growth permanently accelerates the extension of educational benefits from cohorts to the whole labour force.

Table 4.4 Number of Children Under 12 per Household by Parental Income and Education

	Parental Income Quintile							Parental Education		
	Year	1	2	3	4	5	Mean	Low	Medium	High
Argentina	1992	1.8	1.7	1.68	1.44	1.32	1.59	1.87	1.53	1.15
	2001	1.89	1.68	1.35	1.25	1.04	1.44	1.96	1.31	0.93
Bolivia	1996	2.09	2.13	2.26	2.09	1.93	2.1	2.27	2.04	1.56
	1999	2.61	2.18	2.03	1.86	1.61	2.06	2.47	1.76	1.39
Brazil	1990	2.13	1.9	1.72	1.55	1.42	1.74	1.9	1.36	1.23
	2001	1.63	1.41	1.27	1.13	0.97	1.28	1.43	1.04	0.83
Chile	1990	1.59	1.59	1.51	1.38	1.43	1.5	1.55	1.5	1.36
	2000	1.44	1.41	1.37	1.24	1.3	1.35	1.45	1.35	1.24
Colombia	1996	1.97	1.67	1.61	1.5	1.29	1.61	1.76	1.4	1.14
	1999	1.77	1.7	1.56	1.37	1.24	1.53	1.69	1.35	1.05
Costa R.	1990	2.06	2.0	1.94	1.72	1.88	1.92	2.02	1.75	1.64
	2000	1.86	1.68	1.64	1.57	1.3	1.61	1.75	1.49	1.23
Dom. R.	1995	1.51	1.64	1.69	1.62	1.58	1.61	1.61	1.51	1.56
	1997	1.54	1.61	1.57	1.68	1.53	1.59	1.64	1.52	1.4
Ecuador	1994	2.3	2.05	2.12	1.86	1.56	1.98	2.29	1.56	1.39
	1998	2.07	2.21	1.86	1.77	1.55	1.89	2.17	1.63	1.48
El S.	1991	2.43	2.32	2.2	2.05	1.82	2.16	2.4	1.79	1.42
	2000	1.9	1.81	1.83	1.76	1.65	1.82	2.05	1.56	1.36
Honduras	1990	3.0	2.85	2.68	2.53	2.28	2.67	2.85	1.9	1.77
	1999	2.7	2.47	2.19	2.08	1.8	2.25	2.5	1.72	1.46
Jamaica	1990	1.62	1.24	1.1	1.41	1.53	1.38	1.36	1.4	1.15
	1999	1.18	1.24	1.1	1.19	1.04	1.15	1.2	1.17	0.86
Mexico	1992	2.59	2.22	2.14	1.93	1.75	2.13	2.37	1.77	1.58
	2000	2.15	1.81	1.62	1.63	1.4	1.72	1.94	1.55	1.3
Nicaragua	1993	3.11	2.6	2.66	2.39	2.16	2.58	2.85	1.93	1.71
	1998	2.61	2.6	2.44	2.28	2.05	2.4	2.64	1.87	1.56
Panama	1991	1.86	1.7	1.73	1.51	1.38	1.64	1.89	1.52	1.32
	2000	1.76	1.55	1.48	1.23	1.17	1.44	1.67	1.4	0.98
Paraguay	1995	2.7	2.6	2.11	2.08	1.95	2.29	2.5	1.81	1.61
	1999	2.48	2.27	2.16	2.04	1.72	2.14	2.41	1.86	1.52
Peru	1994	2.59	2.43	2.15	2.09	1.71	2.19	2.7	2.06	1.54
	2000	2.48	2.25	1.93	2.01	1.68	2.07	2.45	1.97	1.63
Uruguay	1989	1.48	1.47	1.46	1.26	1.42	1.42	1.53	1.33	1.32
	2000	1.33	1.33	1.26	1.11	1.11	1.23	1.46	1.15	0.92
Venezuela	1989	2.35	2.23	2.1	1.84	1.65	2.03	2.28	1.73	1.38
	1998	1.99	1.95	1.8	1.74	1.5	1.8	2.03	1.65	1.27

Source: Gasparini (2003).

4.2.7 Changes in family structure

In the last 20–30 years, Latin America has gone through a considerable transformation of the most commonly observed family structure. Even though there may be diverse explanations for this, we are interested in the effect of these transformations on income distribution. The way in which a household is established may affect how earnings distributions are transformed into household income distributions. In particular, we will review the effect of marital sorting and the number of dependants.

For any given income distribution, we would observe higher household income inequality if rich people married among themselves, than if rich married poor people. The correlation coefficients between marital sorting and income inequality computed by Fernández, Gunerm, and Knowles (2001) are considerably high: between 0.63 and 0.68. These estimates would suggest that in more unequal societies, men may be likelier to marry women from the same social stratum and with similar education levels. At the same time, if education increases labour market participation and earnings, this will likely contribute to the persistence of income inequality in the future.

Additionally, household income distribution will depend on the number of dependants and their ages. These effects may be captured through the youth dependency ratio⁹ and the old-age dependency ratio.¹⁰ The correlation coefficients fluctuate between 0.50 and 0.84 for youth dependency and between -0.56 and -0.83 for old-age dependency. Hence, a larger share of youth in a population is associated with higher inequality, whereas a larger share of the elderly in a population is associated with lower inequality.

4.2.8 *Government intervention*

Given the high levels of inequality in the region, it is interesting to analyse the potential for redistributive action by the government. It would be possible to pass from a primary income distribution defined by the market to a secondary income distribution that considers taxes and transfers. The public social policy affects the income distribution in the short run, and has the potential to affect long-run income distribution if it is able to change asset distribution, a major determinant of tomorrow's income distribution.

It has been established that, given the low importance of personal income taxes and property taxes in Latin American countries, the direct redistributive leverage of the tax system in most countries should be expected to be very small or even negative. Studies pursued by Bird and De Wulf (1973) found little evidence of much fiscal redistribution through taxes in Latin America. On the other hand, economic theory teaches us that taxes may reduce efficiency gains. Therefore, how can we make the tax system more progressive, without imposing a high cost on efficiency?

De Ferranti et al. (2004) suggest that a tax policy may be more progressive at a relatively low cost, if it considers the following elements:

Tax bases should be as broad as possible. A broad-based consumption tax, for example, will still discourage work effort, but choices between tradable and non-tradable goods and services will not be altered if all are taxed.

Tax rates should be as low as possible, provided they raise sufficient revenue to finance the appropriate expenditures of government. In fact, the general rule is that the distorting effect of taxes increases proportionally to the square of the tax rate. Therefore, from an efficiency perspective, it is always better to raise revenue by imposing a single rate on a broad base of taxpayers, than to divide that base into segments and impose differential rates on each one.

Indirect taxes need not be regressive. In particular, VATs – which are generally preferable to excise or import taxes – can often be made less regressive with a few key exemptions.

There is scope for raising personal income tax collections. Collections from personal income taxes are low in Latin America, even when compared with countries with the same level of income. This suggests that there is scope for increasing such revenues, provided of course that increased revenues finance socially useful, and hopefully progressive, expenditures.

Property taxes are currently underutilised and should be made to generate more revenue. Property taxes at present account for only about 0.3% of GDP for the region as a whole (Stotsky and WoldeMariam, 2002). Collections from property taxes are low in Latin America even when compared with countries with the same level of income.

In order to realise the potential for redistributive action by the government, Table 4.5 provides estimates of income inequality before and after taxes and transfers for a set of industrialised societies. The interesting result is that very equal societies are much less equal before taxes and transfers than after them.

⁹ Ratio of number of persons ages 0–15 to the number of persons ages 16–64.

¹⁰ Ratio of number of persons ages 65 or over to the number of persons ages 16–64.

Table 4.5 Income Inequality Before and After Taxes and Transfers in Selected Industrialised Countries

	Gini coefficient for income inequality before taxes and transfers	Gini coefficient for income inequality after taxes and transfers
Australia	46.3	30.6
Belgium	52.7	27.2
Denmark	42.0	21.7
Finland	39.2	23.1
Germany	43.6	28.2
Italy	51.0	34.5
Japan	34.0	26.5
Neth.	42.1	25.3
Sweden	48.7	23.0
US	45.5	34.4

Source: De Ferranti et al. (2004) based on OECD reported in Burniaux and others (1998).

An additional element to consider is the fraction of total spending that is devoted to the social sectors like health and education. Table 4.6 classifies the countries by share of public spending allocated to social sectors and share of fiscal spending in terms of GDP. This is an indirect measure of redistribution by the government.

Table 4.6 Typology of Latin American Countries by Fiscal Position and Social Spending (1998)

	Fiscal priority: share of total public spending on social sectors		
	Less than 40%	40–60%	More than 60%
More than 30%	Nicaragua (12.7) Colombia (15.0) Panama (19.4)	Costa Rica (16.8)	Argentina (20.5) Brazil (21.0) Uruguay (22.8)
20–30%	Honduras (7.4) Venezuela (8.6)	Bolivia (16.1)	Chile (16.0)
Less than 20%	El Salvador (4.3) Dominican Rep. (6.6) Peru (6.8)	Guatemala (6.2) Mexico (9.1) Paraguay (7.4)	

Source: De Ferranti et al. (2004) based on ECLAC (2001).

Argentina, Brazil and Uruguay have high levels of social spending as a share of gross national product (GNP) because they have high spending levels overall and devote large shares to social programmes. Bolivia, Chile, Costa Rica and Panama also have levels of social spending of 16% or more. On the other hand, Dominican Republic, El Salvador and Peru have low aggregate spending levels and low shares of social spending, at less than 7% of national income. Guatemala, Honduras and Paraguay also have notably low social spending because of varying mixes of relatively low aggregate spending and low shares of social spending. These differences may be explained by different socio-political histories, tax collection capacities, and reactions to changes in thinking about tax and development policy across the continent.

In order to assess the incidence of public expenditures, we need to understand who benefits from access to public services. Conceptually, it is critical to distinguish between the access to and valuation of the services at a given time (average incidence) and benefits from increases in access that over a period of time (marginal incidence).

The analysis found that when overall enrolment rates are low (as they are for preschool and tertiary education), increased access benefits the rich more than the poor. When overall enrolment rates are already high, on the contrary, increased access benefits the poor more, since children from rich families are overwhelmingly already enrolled in school.

Having some clues on which individuals benefit from public spending, we should figure out the value of this public spending across the income distribution. Table 4.7 presents the Gini Income Elasticities (GIEs)¹¹ for six Latin American countries.

Table 4.7 Synthesis of Case Studies Using Estimates of the GIE

	Argentina	Brazil	Chile	Colombia	Mexico	Uruguay
Education	-0.28	0.39	-0.44	-0.05	-0.06	-0.3
Primary	-0.52	-0.34	-	-0.58	-0.5	-0.91
Secondary	-0.19	0.32	-	-0.29	-0.005	-0.33
Tertiary	0.54	1.25	-	0.67	0.81	1.13
Health	-0.25	0.06	-1.05	-0.5	0.25	0
Pensions	-	0.7	0.91/-0.58*	-	1	1.15
Childcare (child dev servs)	-	-0.6	-0.6	-0.44	-	-1.79
Family allowances	-	-	-1.03	-	-	-1.17
Cash transfers	-	-	-0.78	-	-	-0.1
					1.12**	
Unemp. bens (ins or asstnce)	-	0.17	-	-	-	-0.02
Nutrition	-1.06	-0.47	-	-	-	-1.56
Housing programmes	-0.08	0.59	-0.56	-	-	-0.29
Infrastr. and transport	-	0.35	-	-	-	-
Subsidies	-	-	-0.35	-	0.49	-
Water	-0.35	-	-	-	-	-
Electricity	-	-	0.53	-	-	-

* Non-contributory pensions.

** PROGRESA food transfers (-0.99) and PROGRESA scholarships (-1.25).

Source: Bravo, Contreras and Millán (2002).

We can observe that the Gini income elasticities are negative with regard to total spending for public education in Argentina (-0.28), Chile (-0.44), Mexico (-0.06) and Uruguay (-0.30). Gini income elasticities for spending on primary education is highly redistributive, with GIEs ranging from -0.91 to -0.34, whereas spending for tertiary education is regressive, with GIEs ranging from 0.54 to 1.25 (the highest value is observed for Brazil).

¹¹ Impact on inequality of a marginal percentage increase in spending for any given income source or public transfer (in cash or the monetary value of an in-kind transfer). A GIE less than zero means that income and spending are negatively correlated, implying that people in the lower part of the distribution benefit more than those in the higher part from increases in spending. At zero, everybody benefits equally. A GIE between zero and one means that the distribution of the increase in spending is correlated with income, and therefore is regressive in absolute terms but progressive relative to income. A GIE of one means that public expenditures are distributed in the same way as the distribution of total per capita income, and a GIE greater than one implies an even more unequal distribution than that associated with income.

5. Programmes and Policy Interventions

In this section we present a summary of some policy interventions to reduce poverty and inequality in Latin America (for further reference, see Bibliography). This section does not pretend to cover all the possible programmes in all countries in Latin America, but offers a sample of what has been done in different dimensions in some countries: education, health and labour markets. We have chosen the following: Argentina, Colombia, Honduras, Mexico, Nicaragua and Peru. Argentina (before the crisis), Colombia and Honduras make up some of the countries likely to attain the MDGs; Mexico, Nicaragua and Peru are probably not going to attain them.

5.1 Conditional cash transfer programmes

Conditional cash transfer (CCT) programmes impart certain amounts of money to poor people, conditional on them making investments in their children's human capital, such as school attendance or regular use of preventive health care services. The evidence available reveals that conditional cash transfer programmes are administratively efficient and serve as an effective mean for promoting human capital accumulation among poor households (see Rawlings, 2004).

Below is a list of the programmes implemented in Latin America so far. The most popular programmes are those which include a combination of health, education and nutrition objectives, such as:

Mexico's Programa de Educación, Salud y Alimentación (PROGRESA) launched in 1997, the first large scale CCT programme both in the region and globally

Colombia's Familias en Acción programme (FA)

Honduras' Programa de Asignación Familiar (PRAF)

Jamaica's Programme of Advancement through Health and Education (PATH)

Nicaragua's Red de Protección Social (RPS)

Bolivia's Beca Futuro

Ecuador's Bono de Desarrollo Humano

Chile's Chile Solidario Social Protection Programme

Brazil's Bolsa Familia programme

Other programmes provide education grants only, such as:

Brazil's established Programa Nacional de Bolsa Escola, the Programa de Erradicação do Trabalho Infantil (PETI), and Agente Joven

A third category is focused on health and nutrition objectives:

Brazil's Bolsa Alimentação and Cartão Alimentação

5.2 Education programmes

Berlinski, S. and S. Galiani (2004) 'The Effect of a Large Expansion of Pre-primary School Facilities on Preschool Attendance and Maternal Employment'.

Provides evidence on the impact of a large construction of pre-primary school facilities in Argentina. They estimate the causal impact of the programme on pre-primary school attendance and maternal labour supply. They find a sizeable programmatic impact on pre-primary school participation among children aged three to five. They do not find much impact on maternal labour market behaviour. The implicit childcare subsidy induced by the construction programme only appears to have positively affected the labour market supply of the most skilled mothers.

King, E., L. Rawlings, M. Gutierrez, C. Pardo and C. Torres (1997) 'Colombia's Targeted Education Voucher Program: Features, Coverage, and Participation'.

Describes the Colombian's secondary school voucher programme. Vouchers were given to poor students to attend private secondary schools. Municipalities that have greater demand for secondary education, where public school capacity is limited and in which the private sector is larger, are more likely to participate in the programme. The private schools that have decided to participate usually serve the poor, seeming to offer at least as good a service as public schools, at lower cost to the government.

King, E., P. Orazen and D. Wohlgemuth (1998) 'Central Mandates and Local Incentives: The Colombia Education Voucher Program'.

Models the incentives for municipalities to participate in the voucher programme and compares it with data on programme participation. Impact of the programme on enrolment and school quality for poor children depends on the heterogeneity across municipalities and across private schools. Schools of moderate quality and tuition fees are more likely to participate, rather than low and high school quality/tuition fee. When school participation in the programme is voluntary (not mandatory), the estimated impact on education quality received by voucher students will be biased.

Martinelli, C., and S. Parker (2003) 'Do School Subsidies Promote Human Capital Accumulation among the Poor?'

Investigates the hypothesis that conditioning transfers to poor families on school attendance leads to a reallocation of household resources enhancing the human capital of the next generation, via the effect of the conditionality on the shadow price of human capital. Findings are, using data from a social programme in Mexico, that the price effect of conditional transfers to mothers on intra-household allocations are large and statistically significant. The estimates suggest that household resources beyond those directly subject to conditionality have been reallocated favourably to children's human capital.

Paxson C. and N. Schady 'Do School Facilities Matter? The Case of the Peruvian Social Fund (FONCODES)'.

The Peruvian Social Fund was created in 1991. It funds micro-projects throughout the country, many of which have involved the construction and renovation of school facilities. This paper uses data from FONCODES, the 1993 Peru population census, the 1994 and 1997 Peru Living Standards Measurement Surveys (LSMS), and a 1996 household survey conducted by the Peruvian Statistical Institute (INEI) to analyse the targeting and impact of FONCODES investments in the education sector. Findings are that FONCODES projects in the education sector have reached poor districts and, to the extent that they live in these districts, poor households. FONCODES has had positive effects on school attendance rates for young children, but not on the likelihood that children are at an appropriate school level for their age.

5.3 Labour market programmes

Galiani, S. and E. Schargrotsky (2004) 'The Health Effects of Land Titling'.

This project evaluates the impact of land titling on child health and education. The author exploits a natural experiment in the allocation of property rights. A homogenous group of squatters occupied a piece of privately owned land in a suburban area of Buenos Aires, Argentina. When the provincial Congress passed an expropriation law transferring the land from the former owners to

the squatters, some of the former owners surrendered the land (and received a compensation), while others decide to sue in the slow Argentine courts. These different decisions by the former owners generated an allocation of property rights that is exogenous to the characteristics of the squatters. Preliminary results show significant effects on weight-for-height Z-scores, school repetition grade and teenage pregnancy. Children in the titled parcels show better nutrition, less grade repetition and lower teenage pregnancy rates than children in the untitled parcels.

Ronconi, L. (2002) 'El Programa TRABAJAR'.

Describes the programme TRABAJAR and makes a critical assessment of the performance and evaluations (as synthesised below). TRABAJAR is a labour-financing programme for the execution of common projects oriented to satisfy socially prominent needs of the population with smaller resources. To be a beneficiary, the person should be poor or unemployed. There appears to be a large amount of political interference at the micro and macro level. The way in which the benefits are assigned, among provinces, projects and beneficiaries, indicates that a significant part of the resources is utilised with exclusively political ends. The fact that there are no complete and reliable databases on the beneficiaries and that there is a need to have 'friends' in the government to agree to the existing information illustrates the lack of transparency in the management of the resources. Poorest citizens who do not belong to a political party and apolitical NGOs were in great measure excluded from the distribution. Resources have mainly been utilised with electoral objectives and through clientelism, as much to reward 'friends' as to appease organised political adversaries.

Jalan, J. and M. Ravallion (1999) 'Income Gains to the Poor from Welfare: Estimates for Argentina's TRABAJAR Program'.

Using propensity score matching, estimates the net income gains to families of workers participating in the Argentina workfare programme TRABAJAR. The average gain is about half the gross wage and the gains are pro-poor. Most of the beneficiaries are from the poorest quintile. Gains are similar, on average, for men and women, but higher for younger workers. Greater participation by women would decrease average gains, and the distribution of gains would not improve. Greater participation by the young would increase average gains, and the distribution of gains would also worsen.

Ravallion, M., E. Galasso, T. Lazo and E. Philipp (2001) 'Do Workfare Participants Recover Quickly from Retrenchment?'

This is a randomly sampled workfare participant in a welfare-dependent region of Argentina. One group was given a voucher that entitled an employer to receive a sizable wage subsidy. Another sample received voluntary skill training. A third was retained as control group. Voucher recipients had significantly higher probability of employment after 18 months, although their incomes were not higher. The impact was substantially larger on women and younger workers. The experiment was cost effective.

Galasso, E., M. Ravallion and A. Salvia (2001) 'Assisting the Transition from Workfare to Work: Argentina's Proempleo Experiment'.

Using propensity score matching techniques, compared the incomes of workers who continued in a workfare programme (which imposes work requirements on welfare recipients) with a control group of non-participants and another control group of past participants who have left the programme. They find partial income replacement of about one-quarter of the gross workfare wage within six months of leaving the programme, rising to one half in 12 months.

Revena, A., M. Riboud, and H. Tan (1994) 'The Impact of Mexico's Retraining Program on Employment and Wages'.

Analyses the impact and effectiveness of the Mexican labour retraining programme for unemployed and displaced workers – Programa de Becas de Capacitación para Trabajadores (PROBECAT). The strategy compared the post-training labour market experiences of trainees with those of a comparison group – a matched sample of unemployed individuals who were eligible for, but did not participate in, PROBECAT.

The results of this exercise suggest that participation in PROBECAT reduced the mean duration of unemployment for both men and women trainees and increased the monthly earnings of men, but not of women. The results also show that the post-training earnings effect varied systematically by level of education attained, with the largest earnings increases (about 28–37%) for men with six to 12 years of education.

5.4 Health programmes

Walker, I., R. Cid, F. Ordonez and F. Rodriguez (1999) 'Ex-Post Evaluation of the Honduran Social Investment Fund'.

The reports present the results of the Ex-Post Evaluation of the FHIS 2. This programme was financed by the World Bank and was originally understood as a social compensation programme to reduce the impact of structural adjustment programme (FHIS). The FHIS 2 was reoriented towards social infrastructure. Resources were given to municipalities with the lowest per capita income. The investments were mainly in preschool and primary education (56%), primary health (13%), water and sanitation (15%), municipal projects (12%) and others (4%). Investment in primary education had no statistically significant impact on enrolment rates. It had a statistically significant impact in the age-for-grade (proportion of children in the grades they should have reached at their age) position of the cohorts aged eight to nine years. Investments in rural health had a statistically significant impact on the probability of seeking professional attention when facing a health problem. Construction of sanitary services had a significant impact on diarrhoea incidence. Investment in water systems showed improved quality service at the same cost and no statistically significant impact on diarrhoea incidence level. Sewerage investments had no apparent impact on diarrhoea incidence.

Rawlings, L., L. Sherburne-Benz and J. Van Domelen (2002) 'Evaluating Social Fund Performance: A Cross-Country Analysis of Community Investments'.

A cross-country study for Armenia, Bolivia, Honduras, Nicaragua, Peru and Zambia. The study aimed to answer the following questions: Do social funds reach the poor? Do they impact living standards? What is the quality and sustainability of social fund infrastructure investments? How do social fund costs compare with institutions undertaking similar investments? It compares communities with and without social funds with similar characteristics.

Overall, social funds reach the poor more than the better off. In all countries, poor districts received comparatively more than wealthier. At household level, the distribution of social funds resources favoured the poor. The poorest 20% received between 23% and 27% of the funds. In all countries studied, school size grew, utilisation rate of supported health centres increased, and likelihood of a household having piped water, sewerage or latrines also increased. Regarding changes in primary school enrolments, impacts varied. In Honduras, there are indicators of positive impact on enrolment but the sample was too small to be clear. In almost all countries, there was a positive impact on education attainment. In Honduras, net health impact was not observed, but social fund water investments focused on rehabilitating pre-existing urban water systems only. There was no

significant impact on health benefits from sewerage systems, but a positive impact on reducing the incidence of diarrhoea from latrines. Large variations in cost of projects complicated cost efficiency analysis.

Jaramillo M. and S. Parodi (2004) 'Free School Insurance and the Mother-Infant Insurance Scheme: Analysis of Incidence and Impact on Access to Health Services and its Equity'.

The Peruvian Ministry of Health established two social programmes in 1997 and 1998: a free school insurance for children between three and 17 years old enrolled in public schools (Seguro Escolar Gratuito, SEG), and a mother-infant insurance scheme covering pregnant women and newborns up to four years old who are not covered by any other health insurance (Seguro Materno Infantil, SMI). This paper studies the impact of these programmes on equity in access to health services. The results suggest the programmes were not able to reduce inequality through higher coverage. Additionally, there is a considerable resource allocation problem, given that one out of three beneficiaries of the SEG were not poor. SMI shows similar results. However, both programmes had a positive impact on access to health services (16% in SEG and 8% in SMI).

6. Conclusions

This paper presents a summary of research on inequality in Latin America, with an additional focus on research carried out by research institutions and authors from Latin America. We have analysed the following aspects: (i) facts about inequalities in Latin America; (ii) relevance of poverty reduction and growth in Latin America, (iii) main causes and diagnostics; and (iv) policy interventions.

Section 2 of the document describes the level of inequality in LAC and its trends. We considered four dimensions: income, consumption, education and health. From this analysis we note that income inequality in LAC has not improved. In fact, the only two countries that present some significant differences are Argentina, with a significant increase in income inequality, and Brazil, with a significant decrease. Consumption inequality is revealed as less flagrant than income inequality; however, consumption data is scarce and analysis of the data has not been extensive. With respect to education, it can be seen that measures of relative inequality – Gini in years of schooling – have improved considerably, basically because more people are attaining primary education. However, absolute measures of inequality – gap in years of schooling between poor and rich children – have worsened. Finally, health measures show a very high inequality measure, although the levels are not bad compared with other equal level countries in terms of poverty.

Section 3 analyses the possible effects of inequality on growth and poverty reduction. Such deep inequalities as those in LAC imply an inefficient allocation of talent in the economy. This harms growth. Also, it is thought that unequal societies in which political power is intertwined with wealth may be less likely to choose policies that reduce those inefficiencies than to allocate scarce resources to alternative uses. Regarding poverty reduction, micro-simulations have shown that a country with a higher level of inequality needs a much higher rate of growth to reduce the same level of poverty than a country with lower inequality.

Section 4 describes the possible causes and diagnostics of inequality in Latin America. We base our analysis on a theoretical framework that identifies the following aspects as main causes of a given distribution of income in a country: human capital; labour market structure; social capital such as social exclusion and social mobility; macroeconomic volatility; demographic trends and structure of the family; and government interventions. There is a strong impact on inequality of the convexity in returns to schooling: it is shown that this explains one-third of inequality in this area. Moreover, Latin American countries have large and unequal secondary sectors in which jobs quality can vary significantly. Latin America has several forms of social exclusion, such as: segregated metropolitan cities; discrimination; and geographic and cultural isolation. It also has significantly lower educational mobility indexes compared with developed countries and macroeconomic instability has been prevalent throughout Latin American history. This makes the value of different assets volatile. Finally, fertility trends also have a strong impact on inequality.

Section 5 details some programmes implemented in countries in Latin America regarding different socioeconomic indicators, such as poverty and education. The most important contributions come from 'conditional cash transfer' programmes. These provide income subject to a set of conditions with respect to child school attendance, health appointments etc., and have had a positive impact on education and health. Evaluations of the impact of these programmes have captured the interest of several distinguished economists owing to their methodology, which is in the context of natural experiments and programme evaluation.

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Annex 1: Institutional Sources

- Centro de Estudios para el Desarrollo Institucional, Fundación Gobierno y Sociedad, Argentina
<http://www.fgys.org/>
- Banco de la República de Colombia
<http://www.banrep.gov.co>
- Centro de Estudios Distributivos, Laborales y Sociales (CEDLAS)
<http://www.depeco.econo.unlp.edu.ar/cedlas.htm>
- Centro de Investigación y Docencia Económicas, Mexico City
http://web.idrc.ca/en/ev-70868-201-1-DO_TOPIC.html
- Centro de Investigación Económica, ITAM
http://mteoria.itam.mx/investigacion/cie_doc2003.html
- Cepal, Chile
<http://www.eclac.cl/publicaciones/SecretariaEjecutiva/0/LCG2060PE/ferreira.pdf>
- Consortio de Investigación Económica y Social (CIES)
<http://www.consortio.org/CIES/>
- Departamento de Economía, Universidad Católica de Chile
<http://volcan.facea.puc.cl/economia/publicaciones/cuadernos/>
- Departamento de Economía, Universidad de Chile
<http://www.econ.uchile.cl>
- Departamento de Economía, Universidad de San Andrés
<http://www.udesa.edu.ar>
- Departamento de Estudios Económicos y Sociales (DEES) de la Fundación Salvadoreña para el Desarrollo Económico y Social (FUSADES)
<http://www.fusades.com.sv/>
- Desarrollo GRADE. Lima, Peru
<http://www.grade.org.pe/>
- Instituto de Investigación Económica Aplicada, Rio de Economía, Sociedad, Ambiente e Ingeniería (ESA) Consultores, Honduras
<http://www.esa.hn/>
- Economic and Social Policy Analysis Unit (UDAPE)
<http://www.udape.gov.bo>
- Facultad de Filosofía y Humanidades, Universidad Austral de Chile
<http://www.humanidades.uach.cl/>
- Facultad de Economía, Universidad del Rosario, Colombia
http://economia.urosario.edu.co/investigacion/lineas_inv.htm
- Facultad Latinoamericana de Ciencias Sociales (FLACSO) in Costa Rica
<http://www.flacso.or.cr>
- Fundacion Dialogo. La Paz, Bolivia
<http://www.ucordillera.edu.bo/fdialogo.html>
- Fundacao Getulio Vargas, Brasil
<http://epge.fgv.br/portal/index.html>
- Gobierno de la Ciudad de Buenos Aires
http://www.buenosaires.gov.ar/areas/des_social/
- Instituto de Investigación Económica Aplicada, Rio de Janeiro
<http://www.clad.org.ve/congreso/panelde.html>
- International Food Policy Research Institute (out-posted to Brasil)
<http://www.ifpri.org>
- Instituto de Pesquisa Economicas Aplicadas
<http://www.ipea.gov.br/>
- Planning Institute of Jamaica
<http://www.pioj.gov.jm/>

Pontificia Universidad Católica de Rio de Janeiro

<http://www.econ.puc-rio.br/>

Prospectiva, Planeación y Evaluación de la Secretaría de Desarrollo Social, SEDESOL, Mexico

<http://www.sedesol.gob.mx/subsecretarias/prospectiva/>

UNESCO, Chile

<http://lece.unesco.cl/publicaciones/>

Universidad Católica Boliviana

<http://www.ucd.edu.bo/>

Universidad Iberoamericana, Mexico City

<http://www.uia.mx>

University of Sao Paulo Fundação Instituto de Pesquisas Econômicas

http://www.laurinet.org/miembros/sao_paulo-fipe.htm Universidad Torcuato di Tella,

Argentina

<http://www.utdt.edu>

Universidad de los Andes, Colombia

<http://economia.uniandes.edu.co/~economia/>

World Institute for Economic Research

<http://www.wider.unu.edu/>

Annex 2: Future Research on Inequality

In order to identify the key knowledge gaps about inequality in LAC, in aspects such as measurement, diagnostics and identification of effective policy interventions, we contacted the Chapter Heads of NIP. The purpose was to inquire about what we could do with existing data and the needs for future research in Latin America. We are grateful for feedback from Costa Rica, Ecuador, El Salvador, Peru and Venezuela.

In summary, the main topics of interest are:

- Impact of fiscal policy on income distribution
- Intergenerational mobility
- Intra-household allocation
- Labour participation
- Determinants of inequality and poverty
- Inequality in health access
- Determinants of school quality
- Unequal access to public services

Data requirements:

To study these topics, we clearly need new data to study dynamics, impact of social programmes, targeted programmes, etc. This requires:

- Better income and family consumption information
- Panel data
- Family information
- Information on public services, health access, education