CHAPTER 2

Different Lives: Inequality in Latin America

This chapter summarizes information for Latin America on many dimensions of inequality, a topic that by itself deserves a large book. The chapter highlights some of the main features of inequality in the region in order to help readers understand the level and structure of and trends related to this phenomenon and to set the stage for the following chapters of this report, in which determinants of inequality and redistributive public policies are analyzed.

The empirical counterpart of the concept of inequality is far from trivial. The most important issue is to identify the variables for which the measurement of inequality is informative with regard to social unfairness. This process involves both theoretical and empirical problems, which are discussed briefly in Section 2.1.

Most of the statistics in this chapter are drawn from a sample of household surveys for 20 countries at three points during the period 1989–2001. These statistics and other results of the current study are periodically updated with new information on the Web site <www.depeco.econo.unlp.edu.ar/cedlas/wb>. Section 2.2 introduces the sample of household surveys, presents a large set of inequality measures for the distribution of household income (adjusted for demographics), and reports results for other dimensions of the income distribution (that is, aggregate welfare, poverty, and polarization). Section 2.3 is devoted to identifying problems generated by the measurement errors typically encountered in household surveys and to assessing the impact of such errors on the ability to measure, and hence understand, inequality.

Section 2.4 places the results of Section 2.2 in an international perspective by comparing inequality in Latin America to other regions in the world. This analysis draws on recent studies that have pulled together large data sets with inequality information from many countries.

Household per capita income is derived from three main components: remuneration of assets (including labor and human capital), financial transfers, and household demographics. Section 2.5 considers inequality statistics on these variables that have been computed from the sample of household surveys and drawn from recent studies by other authors.

Section 2.6 goes beyond the distribution of income to present information on the distribution of goods and services with which people are especially concerned. Most of the section focuses on evidence of inequality in school attendance and educational mobility, although statistics on
inequality in health, political representation, crime victimization, and some basic social services (for example the provision of clean water) are also presented and discussed. Finally, Section 2.7 provides concluding remarks.

2.1. Some conceptual issues

As discussed in Chapter 1, it is safe to state that most people have preferences for social fairness and associate the concept of unfairness to some sort of inequality. Differences arise at the stage of defining the variable(s) considered most important to equalize among individuals in order to attain a fairer society. A first choice to be made is between outcomes and opportunities. Should we try to reduce disparities in outcomes (for example, income or consumption levels), or instead guarantee equality of opportunities to achieve those outcomes? Many authors have argued in favor of the second alternative.\(^1\) According to this view, inequality should not be a societal concern if it arises between people subject to the same constraints; is the consequence of individual choices regarding the effort invested in improving outcomes; or is related to other variables for which people should be accountable. Unfortunately, the concept of opportunity is difficult to define and measure, and hence in practice it is usually abandoned in favor of the analysis of inequality in outcome variables (see Box 1.1 in Chapter 1 for an example of an attempt to measure it.)

Probably the most relevant outcome variable to compare among individuals is the intertemporal living standard, that is, the “average” well-being of people over their entire lifetimes. However, conceptual and, in particular, data-related limitations restrict the comparison of living standards to time periods much shorter than a lifetime. As a result, surveys usually capture dimensions of well-being for periods no longer than one year.

Within the group of variables usually measured in a household survey, consumption is generally considered to be the preferred overall measure with which to approximate living standards.\(^2\) It has three main advantages over its main competitor, household income. First, if people can borrow and lend (as can most people at least in small amounts, for short periods of time, and in informal markets), consumption is more closely associated with individual well-being than is income.\(^3\) Second, under-reporting is usually a less severe problem in relation to consumption than income. Third, most surveys report gross income rather than after-tax income, even though the latter is a more relevant indicator of welfare and usually more reflective of consumption levels.

Consumption can be estimated from household surveys conducted in many countries. In particular, the Living Standards Measurement Surveys (LSMS) project of the World Bank makes use of questionnaires designed to measure consumption, or at least expenditures. Unfortunately, consumption surveys are not common in Latin America. The great majority of countries in the region conduct surveys without questions related to consumption or expenditure. In our sample of 20 countries, in only five were a minimum of two expenditure surveys conducted in the last decade.
For this reason, the measurement of social unfairness in Latin America has been mainly associated with the measurement of inequality in the distribution of household income. Although the current study includes information on other variables, it largely follows that tradition. The implicit assumption is that current household income, as measured in household surveys, is highly correlated to individual opportunities and intertemporal living standards. Although these correlations are surely positive and probably high, it is difficult to know how distorted the picture drawn from household survey income data is in comparison to reality.

It is important to be aware that, in focusing on household income inequality, it is possible to implicitly consider as unfair situations that are not (for example, two people may have different incomes due only to the different levels of individual effort or because they have different income profiles associated with the same mean income in intertemporal terms). It is also possible to assess as fair situations that are not (for example, an unskilled prime-age worker who will remain relatively poor the rest of her life and a college student who will be rich in the future may currently have the same income).

In addition to the analysis of household income or consumption inequality, the literature on measuring inequality increasingly reflects concern over other variables (for example, schooling, health status and services, and political representation). Two arguments are behind this concern. The first states that individual well-being depends on factors beyond consumption of goods and services, including health status, security from crime and violence, degree of freedom, and respect for human rights. One possible analytical strategy is to try to value such factors in monetary terms, add them to income or consumption, and measure inequality only in the aggregate. A less ambitious approach is to measure inequality in different variables without any attempt to aggregate the results.

A second argument states that societies have a particular concern with the distribution of certain variables, such as consumption of basic education and health services. Even if these aspects were included in the computation of total consumption, there would be normative arguments for assessing inequality separately for each variable. To inform consideration of these arguments, Section 2.6 presents statistics on the distribution of school enrollment, health status and services, political representation, safety, and coverage of some basic social services.

There is great interest in measuring inequality among individuals. However, individuals usually live in households and share a common budget. This fact implies that an individual’s well-being depends on the resources available in, the size and structure of, and norms of sharing within the household. The most commonly used indicator of individual well-being is household per capita income, that is, total household income divided by the number of persons in the household. Although widely used, this variable ignores three relevant factors: (1) consumption-related economies of scale within the household, which might, for example, allow a couple to live with less than double the budget of a person living alone; (2) differences in needs among individuals that are a function of age and gender (such differences are behind the adjustments often made for adult equivalents); and (3) unequal allocation of resources within the household.

Following the tradition in Latin America, this chapter considers inequality measures for the distribution of household per capita income among individuals, although statistics that take points (1) and (2) above into consideration are also computed. There is also considerable interest
in inequalities between groups or categories of individuals, for example, inequalities drawn along ethnic, racial, and gender lines. This subject is presented briefly in the following pages, but is treated in more depth in Chapter 3.

Summing up, the ideal objective would be to measure the degree of social unfairness in Latin American countries. Due to conceptual and data-related limitations, we have measured inequality in the distribution of household income, adjusted for demographics, and complemented these statistics with indicators of inequality in the distribution of other dimensions of well-being. Although the limitations of this approach are evident, the authors believe that the statistics provided in this chapter are useful to help characterize and understand social unfairness in the region.

### 2.2. Income inequality and beyond

Despite the many caveats associated with household surveys, they remain the most reliable and appropriate source for distributional analysis. A data set of household surveys for most Latin American countries since 1989 was prepared for this report. The sample is introduced first, followed by some basic inequality statistics and discussion of the limitations of the data. A set of tables provided in the Statistical Appendix from the household surveys and other sources forms the basis for the following discussion.

**The data**

The authors were able to assemble a data set containing 52 household surveys covering the period 1989–2001. The sample comprises approximately 3.6 millions individuals surveyed in 20 countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay, and Venezuela. The sample is fully representative of most of Latin America but only partially of the Caribbean countries, which do not regularly conduct or publish household surveys.³

For most countries, the sample contains three observations corresponding to the early 1990s, mid-1990s, and the late 1990s, 2000, or 2001. In each period, the sample represents more than 92 percent of the region’s total population. All household surveys included in the sample are nationally representative. The exceptions are Argentina and Uruguay, where surveys cover only urban residents but nonetheless represent more than 85 percent of the total population in both countries.⁶ All surveys record a basic set of demographic, education, labor, and income variables at the household and individual levels. Although differences exist among countries, the surveys are roughly comparable in terms of the type of questionnaire used and sampling techniques.

Table A.1 presents the main characteristics of each household survey. The table shows the names of the surveys, their coverage (urban or national), and the sample size (in number of individuals). For reference, the population estimates of each country are presented in column (v). Household income is reported in all surveys. Those surveys that also cover expenditures are indicated in column (vi). All surveys have specific questions related to labor income and nearly all also cover
nonlabor income (that is, capital income, property income, profits, and transfers), although they differ in terms of the detail of the questions and the possibility of separating out different sources of nonlabor income. Surveys that include questions related to nonmonetary income and the implicit rent of own housing are also marked in the table.

Most surveys were obtained through the Program for the Improvement of Surveys and the Measurement of Living Conditions in Latin America and the Caribbean (MECOVI), a joint effort of the Inter-American Development Bank (IDB), the World Bank, and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC). This program promotes improvements in the collection, organization, and analysis of household surveys in the region. Other surveys used in this chapter are part of the LSMS program; these usually yield richer data because they include questions on social services and expenditures.

This study is not the first one to analyze inequality in Latin America based on a set of household surveys. Altimir (1994) and Morley (2001) at ECLAC, Wodon and others (2000) at the World Bank, and, in particular, Székely and his co-authors (2000 and 2001) at the IDB, have gathered information from household surveys to analyze income distribution in the region. Compared to these studies, the current sample covers more countries, provides more information on some countries (mainly Argentina), and includes surveys for 2000 and 2001. This study also presents a larger set of statistics across countries and over time that are related to several dimensions of inequality (that is, in addition to household income) and to inequality in the distribution of relevant demographic and socioeconomic variables.

The authors made all possible efforts to make statistics comparable across countries and over time by using similar definitions of variables for each country and year and by applying consistent methods of processing data. However, perfect comparability is not assured, since the coverage of and questionnaires used in household surveys differ among countries and frequently also within countries over time. Three ways of alleviating comparability problems are adhered to throughout the chapter. First, when major changes in methodology or coverage occur, ways of assessing the impact on inequality statistics are provided. For instance, in Bolivia the household survey was urban in 1992 and nationally representative in 1996. Two sets of statistics are therefore presented for Bolivia in 1996: one for the whole sample and one for those urban areas also surveyed in 1992.

Second, in addition to presenting statistics for more general variables (for example, household income from all sources), more specific variables with fewer problems of comparability (for example, wages from primary jobs for male prime-age workers) are also considered. Third, the tables document the particularities of each survey that may blur comparisons with other countries and years. (Most of this information is available on the Web site of this study. Readers interested in technical details are advised to visit the site.) Although every effort has been made to clean the data and present consistent statistics, the reader interested in a specific country is advised to consult country-specific literature.

**Income inequality in the 1990s**

This section uses the data set to study income inequality across countries and over time. It first takes a look at the most analyzed distribution in Latin America: distribution of household per
capita disposable income among all individuals in the population. Population weights are used in the calculations and missing and zero-income observations are discarded. Following the practice of national statistical offices, the authors use a broad definition of the household but exclude servants and renters and their families. Both monetary and nonmonetary incomes are considered when that information is available. Although most income sources are included (that is, labor, capital, profits, property rents, and transfers), some potentially relevant items are ignored (for example, the implicit rent from own-housing, in-kind gifts, and government in-kind transfers). Estimates of some of these variables are available in only a few surveys and are of dubious quality.

The relevant concept for welfare analysis is net income rather than gross income. In household surveys in the region, some income sources are generally reported after labor and income taxes (for example, earnings of salaried workers), while some others are typically not (for example, earnings of nonsalaried professionals or capital income). In addition, cash transfers are reported in surveys but the value of government in-kind transfers (such as the provision of education and health services) is ignored. This differential treatment calls for a detailed analysis of the distributional incidence of taxes and public spending. Unfortunately, this analysis is rarely done on a regular basis since it poses numerous theoretical challenges and demands information not typically included in household surveys. This chapter follows the usual practice of computing statistics over the distribution of income reported in the surveys. (See Chapter 9 for a survey of studies of the incidence of taxes and government spending.)

Table A.2 shows one of the most tangible measures of inequality: the income shares of different income strata. People are sorted according to their household per capita income and divided into ten groups of equal size (called deciles). In all the Latin American countries, the share of total income held by the poorest 10 percent of the population has been always less than 2 percent, while the share of the richest 10 percent has been always higher than 30 percent. The first panel in Figure 2.1 shows the income shares by decile in the three largest economies of the region: Argentina, Brazil, and Mexico. In these three countries, income shares slowly increase at a rate of less than two percentage points between consecutive deciles along most of the distribution. Differences between deciles are greater in the upper quarter of the distribution, especially between deciles 9 and 10. This income gap is more than 20 percentage points in Argentina and more than 30 in Brazil.

Inequality is lower in Argentina, since the income share for each of deciles 1–9 is greater than in the other two economies and, consequently, the top decile share is smaller. The comparison between Brazil and Mexico is also clear: the income share of each of the eight poorest deciles is higher in Mexico, implying lower inequality. The second panel of Figure 2.1 replicates the analysis for three Central American countries. Nicaragua is the most unequal economy of the three, while Costa Rica appears to be substantially more equal than the rest.
FIGURE 2.1.
Household per capita income: income shares by deciles

Argentina (2001), Mexico (2000), and Brazil (2001)


Source: Authors’ calculations based on microdata from household surveys.

Column (xi) in Table A.2 reports the income ratio between the average individual in the top decile and a typical person in the bottom decile. This ratio ranges from 16 in Uruguay (in 1989) to values above 60 in several countries. In column (xii), individuals at the outer limits of these deciles are compared, that is, the poorest in the top decile are compared with the richest in the bottom decile. The income ratios are much smaller than in the previous column, a fact driven by
the presence of a few individuals with extremely large household incomes compared to even the incomes of most people in the top decile.\textsuperscript{11} It has been argued that Latin American distributions are characterized by large differences between the rich and the middle class. To show these differences more closely, column (xiii) in Table A.2 provides the income ratio between a person located at the 95\textsuperscript{th} percentile and one located at the 80\textsuperscript{th} percentile.

To illustrate the long “upper tail” of the distributions, Figure 2.2 shows a histogram of the household per capita income distribution in Mexico for 2000, ignoring the richest 1 percent of the population. Most people are concentrated in the first quarter of the income line. Including the richest 1 percent would make the graph illegible, as most of the population would be concentrated in a small segment very close to the origin.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{histogram.png}
\caption{Mexico, 2000: histogram of the household per capita income distribution, excluding the richest 1 percent}
\end{figure}

\textit{Source:} Authors’ calculations based on microdata from the ENIGH, 2000.

In the academic literature, more sophisticated measures of inequality are preferred to simple statistics on income shares and ratios. Table A.3 presents a set of commonly used indices: the Gini coefficient, the Theil index, the coefficient of variation, the Atkinson index, and the generalized entropy index with different parameters.\textsuperscript{12} All indices are designed to increase as the distribution becomes more unequal. By far, the most used one is the Gini coefficient, which in the sample ranges from 42.2 in Uruguay for 1989 to 61.2 in Brazil for 1990.\textsuperscript{13}

Although widely used, household per capita income is probably not the best available measure of individual well-being based on household income, as it ignores household economies of scale and differential needs by age. An individual’s \textit{equivalized} household income is defined as total household income divided by $\left( A + \alpha_1 K_1 + \alpha_2 K_2 \right)$, where $A$ is the number of adults, $K_1$ the number of children under 5 years old, and $K_2$ the number of children between 6 and 14.
Parameters $\alpha$ allow for different weights for adults and children, while $\theta$ regulates the degree of household economies of scale. Following Deaton and Zaidi (2002), intermediate values of the $\alpha$s ($\alpha_1=0.5$ and $\alpha_2=0.75$) and a rather high value of $\theta$ (0.9) as the benchmark case are applied.\footnote{Statistics for the distribution of equivalized household income constructed in this way are presented in Tables A.4 and A.5. Table A.6, which reproduces the Gini coefficient of that distribution for all the countries in the sample, is the basic input for Figures A.2, A.3, and A.4.}

Inequality has risen in most South American economies during the last decade (see first panel of Figure A.1). Argentina experienced by far the biggest jump (7.7 Gini points between 1992 and 2001).\footnote{Venezuela follows with an increase of nearly 4 Gini points.} The income distribution has also become more unequal in Bolivia, Chile, Ecuador, Peru, Uruguay, and possibly Paraguay (see below for a discussion of the Paraguay). Colombia has not experienced significant changes in inequality. Brazil is the only South American economy where there has been a clear reduction in inequality in the 1990s, although this change was small enough to not change Brazil’s position as the most unequal country in the region relative to all other countries for which information from the 1990s is available. (Guatemala was more unequal by some measures than Brazil at the end of the decade, but there is no information for earlier periods.) Most of these results are in accordance with those found in other studies for the period 1990–1999 (Morley 2001, Székely 2001, and Wodon and others 2000). These studies, however, overlooked the two most relevant distributional changes in the region: the large increase in inequality in Argentina and the distributional improvement in Brazil.

In Central America and the Caribbean, changes have been milder (see second panel of Figure A.1). The income distribution has remained remarkably stable in Jamaica, Nicaragua, and Panama and has become more equal in Honduras and somewhat more unequal in Costa Rica and El Salvador.\footnote{Inequality indices went down in Mexico by 2000, although not enough to confirm that the fall is really significant in statistical terms (see below for a discussion on this point). Initial analysis by the Government of Mexico of the 2002 survey finds a larger further decline in inequality, but this was not available in time to include in the analysis for this report.} The assessment of inequality patterns is quite robust with regard to the choice of inequality measures. It is interesting to note, however, that the share of the poorest deciles has increased significantly only in Brazil and Panama, while it has shrunk in most of the region’s economies. Consequently, for instance, the Atkinson index with inequality-aversion parameter 2 (see column (vi) in Tables A.3 and A.5), which gives more weight to changes affecting the poorest individuals than the Gini coefficient, generates a somewhat more pessimistic picture of distributional changes in the region.

It should be noted that less unequal countries have performed worse on average than more unequal countries. While the distribution has become more unequal in Argentina, Uruguay, and Venezuela (three low-inequality economies), it either has not changed or has become more equal in Brazil, Colombia, Mexico, and Panama (four mid- to high-inequality economies). The standard deviation for the distribution of Gini coefficients in the region fell substantially in the last decade, from 6.1 to 4.6. Although Latin America has traditionally been very homogeneous compared to other regions of the world, it has become even more so in distributional terms in the last ten years.
**Figure 2.3** illustrates this fact. In the early 1990s, countries fell into three groups: (1) those with low inequality (relative to regional standards), comprising Argentina, Costa Rica, possibly Peru, Uruguay, and Venezuela; (2) those with high inequality; and (3) Brazil, which stood out as significantly more unequal than the rest. Ten years later, the differences among groups are not so clear. A sort of convergence of inequality levels seems to have taken place. Figure A3 shows this distributional convergence for the three largest economies of the region. Although still significantly different, the income distributions of Argentina, Mexico, and Brazil have rapidly become more alike during the last decade.

**FIGURE 2.3.**

Gini coefficient: equivalized household income

**A. Early 1990s**

**B. Late 1990s or early 2000s**

*Source:* Authors’ calculations based on microdata from household surveys.

A decade of differential changes has had some impact on the inequality ranking of countries in the region. Argentina moved up the inequality ladder, closer to the mid- and high-inequality group; Bolivia and Chile also rose in the rankings; and Colombia, Costa Rica, and Honduras all
moved down. In spite of having the largest reduction in inequality in the last decade, Brazil remains at the top of the list of these countries.

As a result of the reported changes, the average Gini coefficient across countries increased almost 1 point in the period (from 50.5 to 51.4). The population-weighted average, however, shows a small decrease (from 51.9 to 51.5) because of the positive performance of Brazil and Mexico and the stability of Colombia, the three most populated countries in the region.

Table A.7 reports the Gini coefficient for the distribution of household income divided by alternative equivalent scales. In columns (vii) and (viii), distributions in urban and rural populations are separated wherever possible. In some countries inequality is higher in cities, while in others it is higher in rural areas. However, in most countries inequality differences between urban and rural areas appear to be minor. Household surveys do not usually properly capture nonlabor and nonmonetary income. Columns (ix) to (xii) report the Gini coefficient for the distribution of household per capita income, including as income sources only labor income, monetary income, labor monetary income, and labor monetary income in urban regions. These are the most homogeneous household income variables to compare across countries.

According to some, inequality only has normative significance for the distribution of variables that are beyond the control of individuals. This idea may indicate, for instance, concern about the distribution of total household income and not household income adjusted for demographics, since fertility decisions are (mostly) under the control of individuals. Without judging the validity of this argument, column (xiii) shows the Gini coefficient for the distribution of total household income. Finally, Table A.7 reports the Gini coefficient for the distribution of equivalized household income for people in certain age ranges in order to control for factors related to the lifecycle.

Most of the qualitative results related to inequality trends and cross-country comparisons do not significantly vary when any of the distributions in Table A.7 are considered instead of the household per capita or equivalized income distributions given in Tables A.3 and A.5. There are a few ranking reversals and changes in trends as different income variables are considered, but the main results remain quite robust despite these methodological changes.

**A story of income inequality in Latin America since the 1950s**

This section combines information from the data set prepared for this report with evidence from other sources for previous decades to draw a general picture of trends in income inequality in the region. Unfortunately, the view of this issue becomes increasingly blurred as one goes back in time. As recently as the 1970s, many countries did not conduct national surveys or even any household surveys. In fact, it was only after World War II that countries around the world started to conduct household surveys and to compute inequality statistics in a systematic way. Mexico and some Caribbean countries (including Barbados, Guyana, Jamaica, and Trinidad and Tobago) were the first in the region to participate in that trend in the 1950s.

Only Mexico has continued with a systematic program of surveying household incomes and expenditures. The available statistics for that country show a mild increase in income inequality in the 1950s and the first half of the 1960s (Felix 1982, Fields 1989, and Altimir 1996b). There is
some evidence that inequality also increased in some of the countries in the region where distributional statistics became available in the 1960s (such as Brazil, Costa Rica, Chile, and Uruguay).\(^{18}\)

Most countries either consolidated or introduced household surveys in the 1970s. The picture of income inequality from that decade on is therefore clearer. Some international organizations (including ECLAC, IDB, and the World Bank) shed additional light on the issue by generating periodic reports depicting the level, structure, and trends of income inequality in the region. Table A.8 indicates signs of changes in inequality trends in most Latin American countries in the last three decades. During the 1970s, inequality increased significantly only in the Southern Cone countries (that is, Argentina, Chile, and Uruguay).

In contrast, several countries in Latin America (the Bahamas, Colombia, Mexico, Panama, Peru, and Venezuela) experienced equalizing changes, while others showed stable distributions. The 1980s was a “lost decade” in distributional terms, as well as in terms of growth. Most countries suffered a significant increase in the level of income inequality. In about half, inequality continued to increase in the 1990s, although in most cases at a slower pace. As a result of the patterns described above, most countries in the region now have more unequal income distributions than they did around 1970, and very likely than they did at the end of World War II. There are some exceptions, but for the majority of Latin American countries the economic changes of the last half-century have been mainly disequalizing.

The previous evidence refers to countries in the region considered separately. Londoño and Székely (2000) compute inequality indicators for the region as a whole by calculating a Lorenz curve using the percentiles of each country. They conclude that inequality fell in the 1970s, increased in the 1980s, and increased a bit more in the first half of the 1990s. The average income ratio of top to bottom quintiles went from 22.9 in 1970 to 18.0 in 1982, back to 22.9 in 1991, and then to 24.4 in 1995. Londoño and Székely (2000) also conclude that both the level and the change of overall inequality are mainly due to differences within rather than across countries. In fact, in the last 20 years a slow convergence in per capita income has occurred among countries in the region. Consequently, the increase in regional inequality is due exclusively to disequalizing changes in the income distributions within countries.

Having described the main changes in the region as a whole, the rest of this section is devoted to presenting a broad picture of income inequality patterns by country.

Inequality has dramatically increased in Argentina during the last three decades.\(^{19}\) The Gini coefficient for the household per capita income distribution in the Greater Buenos Aires area increased from 34.5 in 1974 to 53.8 in 2002 (CEDLAS 2003). Even if observations for the recent years of economic crisis are ignored, the trend toward an increase is noticeable. None of the other Latin American countries has experienced such deep distributional changes as Argentina.\(^{20}\)

Inequality also increased in neighboring Uruguay during the 1990s, although the increase was smaller. Moreover, there were no significant distributional changes in Uruguay in the 1970s and 1980s. As a consequence of these divergent patterns, the distributions of Argentina and Uruguay, once almost identical, now are significantly different. The third country in the Southern Cone, Chile, has always had higher inequality indicators, but that country’s income distribution became
more unequal during the 1970s and 1980s. Although this “storm” seemed to end in the 1990s (Ferreira and Litchfield 1999), there are no signs of distributional recovery; in fact, inequality measures increased slightly during the last decade (see Contreras and others 2001).

Brazil has traditionally been the most unequal economy in the region. The Brazilian economy experienced a significant increase in income inequality during the 1980s (Ferreira and Litchfield 1999), but since then inequality has stabilized and even started to decline (Neri and Camargo 1999). As mentioned above, a drop in income inequality in Brazil during the last decade has been identified.

Due to the limited number and changing nature of household surveys, distributional information for Bolivia and Paraguay before the mid-1990s is scarce. Inequality appeared to increase slightly in Bolivia during the 1990s, a result that is confirmed by other studies (Morley 2001, Székely 2001). Paraguay did not have reliable national household surveys until the mid-1990s. In order to gain some insight on the evolution of inequality, the authors of the current study computed the Gini coefficient for two years, 1990 and 1995, using only data from the metropolitan area of Asunción; the finding was a sizable increase in inequality.\(^{21}\) Inequality seems to have decreased during the second half of the 1990s in Paraguay, although possibly not enough to compensate for the increase that occurred during the first half.\(^{22}\)

Income distribution in Colombia and Venezuela became more equal in the 1970s and more unequal in the 1980s. In the 1990s, there was no recovery from the distributional losses of the 1980s; inequality continued to increase in Venezuela and the pattern for Colombia was stable (see also Ocampo and others 1998, Székely 2001). In Peru, although there is no clear evidence that income distribution became more unequal in the 1970s and 1980s, data for the 1990s suggests a significant movement toward a greater concentration of income. Studies that use expenditure data have had similar results. The distribution seems to have also become somewhat more unequal in neighboring Ecuador, at least in the second half of the 1990s.

The income distribution in Mexico has changed in different directions in the last three decades. After improving in the 1970s, the distribution became substantially more unequal in the 1980s. In the 1990s, despite important economic changes and shocks, income distribution has remained remarkably stable (however, as noted above, preliminary results for 2002 indicate a reduction in inequality). The tables in this section illustrate this fact, which has also been highlighted by other authors (Morley 2001, Székely 2001).\(^{23}\)

The inequality pattern for Panama is similar. In Costa Rica, the distribution remained stable for decades at low levels of inequality (Londoño and Székely 2000). Despite a small increase in inequality during the 1990s, Costa Rica remains one of the most equal countries in the region (see also Trejos 1999). Inequality is much higher in the other Central American countries. The evidence suggests no significant inequality changes in Nicaragua, a drop in Honduras, and a small increase in El Salvador during the 1990s. Only one household survey is available for Guatemala, on the basis of which the country emerges as one of the most unequal countries of the region.

Once more widespread among Caribbean countries, household surveys are now scarce in the region. This makes monitoring the social situation and designing poverty reduction policies in
the subregion much harder. For the handful of countries where data is available, however, some trends can be discerned. During the 1970s and 1980s, inequality increased in the Bahamas and decreased in Trinidad and Tobago, according to Fields (1989) and the World Institute for Development Economics Research (WIDER) (2000). Some studies report mild inequality increases in the Dominican Republic (Hausman and Rigobón 1993). Income distribution has remained quite stable in Jamaica in the last decade, as shown in this and other studies (Chen, Datt, and Ravallion 1995, World Bank 1999). Inequality in the Caribbean seems to have always been significantly lower than in the rest of Latin America.

It is always tempting to account for inequality patterns with a simple explanation, for instance by referring to a few macro variables. Inequality decreased in the 1970s during times of relative economic prosperity and increased during the “lost decade” of the 1980s. According to this simple view, the recovery of the 1990s should have brought significant distributional improvements. However, there is no evidence that this happened. Of course, many changes that occurred in the 1990s can be blamed for the lack of distributional improvement, but their consideration would result in more complex explanations. A sign of this complexity is the multiplicity of distributional patterns across relative homogeneous countries that result from the evidence provided in this chapter. (Discussion of the inequality determinants in the region is deferred to Part II of this report.)

Are the levels of inequality in the region’s income distributions high? The answer seems to be “yes” without the need for much qualification of the question. That current inequality levels in the region are high is illustrated in three ways: (1) compared to previous decades, (2) compared to countries in other regions of the world, and (3) according to the perceptions of people throughout Latin America. This section has shown evidence for point (1), while the next section is devoted to consideration of point (2).

Regarding point (3), evidence is of course more elusive. According to a recent survey in various Latin American countries on perceptions about various economic and social issues by Latinobarómetro, nearly 90 percent of the population considers the current income distribution in their countries to be “unfair” or “very unfair” (see Figure 1.3 and Table A.9). The correlation between the level of income inequality as measured by the Gini coefficient for the equivalized household income distribution and the proportion of “very unfair” answers (or the sum of “unfair” plus “very unfair”) is positive but only marginally significant. The unconditional relationship between the change in the Gini coefficient during the 1990s and the perception of justice in the income distribution seems to be nonsignificant.

Consumption inequality

As discussed in Section 2.1, household consumption is a better measure of well-being than income. Unfortunately, only a few countries in the region conduct expenditure surveys on a regular basis, with most of them participants in the World Bank’s Living Standards Measurement Study project. Only Ecuador, Jamaica, Nicaragua, Mexico, and Peru have conducted more than one expenditure survey in the last decade. The inequality patterns that can be traced with that information do not differ significantly from the one depicted in this paper using income data (WIDER 2000). As expected, inequality levels are much lower when computed over the distribution of expenditures, as people tend to smooth their consumption from more volatile
CHAPTER 2: DIFFERENT LIVES: INEQUALITY IN LATIN AMERICA AND THE CARIBBEAN

income profiles. However, the changes over time are similar: inequality increased in Peru, probably also in Ecuador, and stayed roughly unchanged in Jamaica, Mexico, and Nicaragua.\textsuperscript{26}

**Other dimensions of the distribution**

Inequality is just one dimension of income distribution. This section briefly considers three other relevant dimensions: polarization, aggregate welfare, and poverty.

**Polarization**

The notion of polarization refers to relatively homogeneous clusters of households or individuals that identify with each other and are antagonistic toward or alienated from other clusters. A case of maximum polarization in terms of income would be one in which half the population is penniless and the other half shares total income equally among its members. A central conjecture motivates research on polarization is that differences between homogeneous groups can cause social tension. Some indices have recently been developed to measure income polarization.\textsuperscript{27} These measures depend on three factors: (1) the number of groups and their relative sizes, (2) the degree of equality within each group ("identification"), and (3) the degree of income differences among groups ("alienation"). Intuitively, higher levels of identification and alienation would increase polarization. It is worth noting that polarization can increase when inequality decreases (and vice versa). For instance, some transfers from the middle class to the poor and the rich can lead to both lower inequality and higher polarization (see Esteban and Ray 1994). Thus, the analysis of income polarization is complementary to that of income inequality.

From the sample of household surveys, the authors computed two bipolarization indices for each country and year: the Wolfson Index, which divides the distribution at the median income, and the Esteban, Gradin, and Ray 1999 (EGR) Index, which finds the optimal income cut-off point. Table A.10 shows the results for these bipolarization measures, along with the Gini coefficient, for both the distribution of household per capita income and the distribution of equivalized household income.

As with inequality measures, polarization increased in several South American countries and remained stable in Central America, the Dominican Republic, and Jamaica. Argentina, Bolivia, Uruguay, and Venezuela experienced the largest increases in polarization. Among the economies with falling bipolarization measures, there are cases in which inequality increased, for example Chile. (Note that in Tables A.2 and A.4, the share of the top decile increased significantly in Chile in the last decade, driving inequality measures up.)

Among the main losers of the distributional changes of the 1990s were people in deciles 7 to 9, that is, people that are considered according to bipolarization measures as belonging to the same “class” as the winners in the top decile. This fact weakens measured “identification” within the high-income group, and in turn drives bipolarization measures down. Between 1995 and 1999, Paraguay exhibited an opposite pattern: the share of the top decile went down, while the share of deciles 7–9 increased significantly, implying a decline in inequality but an increase in bipolarization that was driven by a tighter identification within the high-income group.\textsuperscript{28}
Theories of polarization in economics emphasize the importance of group-based differences. There is, of course, a much stronger tradition of analysis of groups in other social science disciplines. Issues of social class are discussed in Box 2.1, while differences among ethnic, racial, and gender groups are the subject of Chapter 3.

**BOX 2.1.**

**Social class**

The concept of *social class* is an analytical tool widely used in sociology and other social sciences, but mostly ignored in modern economics. The term refers to “discrete and durable categories of the population characterized by differential access to power-conferring resources and related life chances” (Portes and Hoffman 2003). In practice, social classes are usually defined in terms of income sources. Portes and Hoffman (2003) recently presented evidence on class structure and trends in Latin America, based on information from household surveys gathered by ECLAC (2000).

In that study, five groups are considered: capitalists, professionals and executives, petty entrepreneurs (or the petty bourgeoisie), formal workers, and informal workers. The first two groups comprise the “dominant” class. Empirical estimates are rough. Capitalists are operationally defined as owners of firms with more than five workers, while professionals and executives work in the public sector and in firms employing five or more workers. The petty bourgeoisie includes owners of small firms, own account professionals, and technicians. Formal workers are defined as those in the public sector or in firms with five or more workers.

Based on information from ECLAC (2000), the first panel of Table A.11 shows the relative occupational income of each social class for each country and year. Except for a few countries, there are no clear signs that the “dominant” class, defined in this very narrow way, has become richer in relative terms during the 1990s. In addition, in most countries the share of low-paid informal workers in the population has not increased significantly since the 1990s, according to the second panel of Table A.11.

Using the definitions in Portes and Hoffman (2003), the authors of the current study have applied the data set to compute the class structure in Argentina and Brazil, the two paradigmatic cases of distributional changes in Latin America used in this analysis. The main results are shown in Table A.12. Compared to Argentina, Brazil has a significantly higher share of informal workers and a lower share of petty entrepreneurs and formal workers. The second panel of Table A.12 shows average individual income for each class relative to that of petty entrepreneurs. In Argentina, capitalists, professionals, and executives gained significantly in relative terms compared to petty entrepreneurs and, in particular, to informal workers. In addition, the income gap between formal and informal workers widened during the 1990s in Argentina.

In contrast, relative incomes across classes were pretty stable in Brazil. The same conclusion applies when considering equivalized household income instead of individual income (as indicated in the third panel). The fourth panel of Table A.12 shows that the “dominant” classes receive around 20 percent of total income. These estimates, however, are very likely affected by the difficulties in including capitalists and landlords in household surveys and by the problem of under-reporting of income. Finally, the fifth panel of the Table shows Gini coefficients within classes. Inequalities within groups are lower in Argentina than in Brazil, although the gaps are narrowing.

There is a sizable degree of income overlap among social classes. Figure A.5 shows the relative income of each percentile of the within-class distributions in Argentina and Brazil. Both graphs show substantial income overlapping across classes, especially among capitalists, professionals, and petty entrepreneurs on the one hand, and between formal and informal workers on the other. Table A.13 shows cross-tabulations of the deciles, based on the distribution of individual income and the class structure. Around 75 percent of capitalists declare incomes that place them in the top two deciles of the individual income distribution.
However, it should be noted that those deciles also include around 80 percent of all professionals and executives, more than 60 percent of petty entrepreneurs, more than 15 percent of formal workers, and around 10 percent of informal workers. Of course, informal workers are more concentrated in the bottom deciles of the income distribution. It is interesting to note that informal workers are increasingly moving toward the bottom deciles in Argentina, in contrast to a more stable situation in Brazil.

Aggregate welfare

To assess the aggregate welfare of an economy, both the mean and the inequality level of the income distribution should be taken into account. It could be the case that inequality increases but everybody’s incomes go up. In that case, most people would agree that aggregate welfare in an economy has increased despite the growth in inequality. Since the performance of an economy should not be assessed only by considering inequality statistics, the opposite mistake of just looking at average statistics—which is very common in the economics field—should be avoided as well. Average income may rise but inequality may also increase in such a way that some people suffer reductions in their real incomes, which may then translate into a negative assessment of the overall performance of the economy, according to some value judgments.

Table A.14 presents welfare measures for all the countries in the sample that have more than one observation. Each column shows the value of a given aggregate welfare function for a given country and year. Values are rescaled so as to make the first observation for each country equal to 100. Four social welfare functions are considered. The first uses the average income of the population; according to this value judgment, inequality is irrelevant. In columns (ii) to (iv) and (vi) to (viii), three widely used functions that take inequality into account are considered. In the first panel, real per capita gross domestic product (GDP) from national accounts is taken as the average income measure and combined with the inequality indices shown in Table A.3, in order to obtain rough estimates of the value of aggregate welfare according to different value judgments. For various reasons, per capita income from household surveys differs from estimates in the national accounts, so in the second panel of Table A.14, the exercise is repeated using information only from household surveys.

Most Latin American economies managed to grow during the 1990s, but in many the income distribution became more unequal. This combination led to ambiguous results for aggregate welfare in some cases. In all ten economies portrayed in Figure A.3, real per capita GDP increased during the 1990s. However, in Peru and Venezuela, according to value judgments that attach more weight to the poorest individuals (Atk(2) in Figure A.4), welfare declined, while in others, such as El Salvador and Uruguay, the welfare increase was significantly smaller than growth in GDP. In Argentina, the contrast is more dramatic: despite an 11 percent increase in per capita GDP measured by national accounts between 1992 and 2001, aggregate welfare decreased according to all the value judgments implicit in the calculations that do not neglect distributional issues. The increase in inequality was large enough to offset the growth in mean income. In contrast, aggregate welfare unambiguously increased in Costa Rica and Chile despite disequalizing distributional changes. In Brazil and Panama, growth in aggregate welfare was fueled by both a growing per capita income and a more equal income distribution.
Indices of aggregate welfare for Argentina: alternative assumptions of aversion to inequality

Source: Authors’ calculations based on microdata from household surveys; see Table A.14.

The scope of these exercises is limited, as it is assumed that aggregate welfare is a function only of household income. Other factors—including freedom, security, political power, access to basic services, and health status—should also be considered as arguments for individual well-being. A comprehensive welfare study including these aspects is beyond the scope of this chapter. However, Section 5 below provides statistics on the distribution of some of the variables that, arguably, influence individual utility.

Poverty

Although inequality and poverty are different concepts, they are closely related. Changes in income-related poverty can be thought of as the result of changes in average income and inequality. For instance, a growing economy with stable levels of inequality would end up reducing the number of people whose incomes fall below an absolute poverty line. In fact, the significant fall in poverty in Latin America during the 1970s was fed by growing economies with either stable or more equal distributions. The story in the 1980s was exactly the opposite: falling incomes and more unequal distributions combined to generate a tangible increase in poverty statistics. The 1990s again showed a different combination: despite some disequalizing changes in income distribution, the strong recovery of several Latin American economies generated a reduction in the poverty indicators both for the region as a whole and in most countries (see Wodon and others 2000 and 2001, Székely 2001, and Sala-i-Martin 2002). Overall, in the last three decades the region has experienced a substantial decline in the incidence of poverty.

Table A.15 summarizes part of the large body of literature on poverty indicators in the region. It should be emphasized that poverty measures are very sensitive to the explicit and implicit assumptions made by researchers (Székely and others 2000). Thus, caution is required when comparing results obtained by different methodologies. The general trend during the 1990s was
towards a reduction in income poverty. In the mid-1990s, various authors found that there were 1.5–2 percent fewer poor people in the region than at the beginning of the decade (Wodon and others 2001, Székely and Londoño 2000). This reduction is mainly explained by the performance of Brazil, where the headcount ratio fell around 7 percentage points.

Chile was the other country that had an extraordinary performance in terms of poverty reduction (around 16 percentage points). Colombia (until the late 1990s), Costa Rica, and Panama also managed to reduce poverty thanks to stable income distributions and growth. On the other hand, in Mexico the percentage of poor people increased about 5 percentage points during the first half of the 1990s. Much of the literature fails to report the increase in poverty in Argentina, even though the official headcount ratio in Greater Buenos Aires went from 17.8 in 1992 to 25.9 in 1998 and to 35.4 in 2001. That poverty increase, also noticeable in the rest of the country, took place during a period of growing per capita income. Venezuela is the other case where, despite a growing economy, the increase in inequality pulled poverty rates up significantly.

Figure A.4, based on data from Székely (2001), shows the poverty headcount ratio of most countries in the region on the basis of a poverty line of US$2 a day (adjusted for differences in purchasing power across countries) in the late 1990s. High-income countries with relatively low inequality, such as Uruguay, Venezuela, and Argentina, have relatively low poverty levels. Chile has recently joined this group due to its growth performance, despite being a high inequality country. On the other hand, low-income countries with high inequality, such as Bolivia, El Salvador, Guatemala, Honduras, Nicaragua, and Paraguay, have very high poverty levels.

2.3. Measurement-related issues and data limitations

Although household surveys are the most appropriate source of information for distributional analysis, they have many limitations. It is important to make these limitations explicit in order to ensure that statistics are interpreted with caution and to identify areas for future improvements. While most limitations are present everywhere, some are particularly important in Latin America. 

Probably the main difference between household surveys in the region and in other less developed parts of the world is the lack of expenditure-based questionnaires in most Latin American countries. As noted in Section 2.1, expenditures are a better measure of living standards than income, especially in less developed areas. The extension of consumption-based questionnaires in the region is certainly one of the main areas in need of attention by national and international agencies.

Does use of income rather than expenditures overstate Latin America’s inequality relative to other regions?

It may be that Latin America appears to be more unequal than other regions that only report information on expenditures because of systematic differences between income and expenditure inequality. There are two reasons why, in any given country, incomes are generally more unequally distributed than consumption expenditures financed by those same incomes:
Households dislike sudden variation in their consumption patterns, and thus tend to smooth consumption patterns over time. For a given individual, consumption flows therefore behave almost like the averages of income streams over time (see Friedman 1957). The law of large numbers implies that the cross-sectional dispersion of the distribution of consumption will thus be smaller than that of the distribution of income at any point in time.

It is generally argued that income is recalled and measured with a greater level of error than is consumption (see Deaton 1997), adding to variance (and therefore inequality) in the distribution of current incomes. In particular, underreporting can be the result of several factors. These include a deliberate decision by the respondent to misreport; the absence of questions that could capture some income sources (for example, the implicit rent from housing for homeowners); or the difficulty of recalling or estimating income from certain sources (for example, earnings from informal activities, in-kind payments, home production, and capital income). This problem probably implies a downward bias on the measured living standards of both poor people, who rely on a combination of informal activities or production for their own consumption, and of rich people, who derive a larger proportion of income from nonlabor sources and are probably more prone to underreport.

Whatever the sources of difference between income and expenditure-based information, what can be said about how Latin America would compare with regions in which inequality is only measured in terms of consumption?

A new study by Elbers and others (2003) sheds some initial light on this question. The study takes advantage of a 1996 pilot household survey conducted in Brazil’s northeastern and southeastern regions. Known as the Pesquisa sobre Padrões de Vida (PPV), that survey is modeled on the World Bank’s LSMS. The PPV is a multimodule integrated survey that collects data on both household consumption and income. Fairly detailed information on consumption expenditures is also collected, making it possible to impute values of consumption streams from items such as housing and food products made at home. While generally viewed as a high-quality survey, the PPV has a small sample size and limited geographic coverage, and is therefore not widely used to study inequality at the national level.

Elbers and others (2003) employ a recently developed methodology to impute consumption from the PPV survey into Brazil’s traditional (income-based) PNAD survey. This approach allows the authors to estimate consumption-related inequality in Brazil, based on the same underlying data from the PNAD household survey. Figure 2.5 indicates that when inequality is measured in the PNAD on the basis of the Gini coefficient of imputed consumption, Brazil’s inequality is less extreme. This new Gini coefficient in Brazil as a whole is measured at around 0.45, compared with around 0.6 for household per capita income. If attention is given only to the northeastern and southeastern regions, inequality is a bit higher, at 0.46. Inequality in these two areas, measured directly with the PPV household survey data, is a bit higher still, at 0.49.

All three of these measures are, however, significantly below those observed in a number of other countries. It is interesting to note that, with the exception of Russia and Nicaragua, most of the countries with high levels of consumption inequality are in Africa, which is also a high-inequality region (and possibly also one with weaker statistical traditions and so less accurately
measured consumption). While still unequal by international standards, Brazil is less obviously an outlier. To the extent that similar concerns can be raised about the quality of income data in other Latin American countries, inequality in the whole region, relative to that in other regions, may be lower than has traditionally been assumed.

FIGURE 2.5.
Brazil's consumption inequality in international perspective

![Gini coefficients chart](chart.png)

Source: Elbers and others 2003.

**Income volatility and mobility**

A related concern arises from the fact that there is considerable income volatility within Latin America. When incomes are volatile from month to month, measured inequality tends to reflect an overestimation of underlying inequality. De Ferranti and others (2000) showed that aggregate volatility of real private consumption in Latin America was almost three times as high as in the industrial economies between 1960 and 1999. During the same period, it was slightly 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. In Brazil, for instance, the mean income of the poorest fifth of the population fell by more than 30 percent during the 1982–1983 recession, rose by more than 30 percent during the 1984–86 boom, fell by some 12 percent in 1990–1991, and then rose again by 15 percent in 1994–1995. Volatility in both Gross National Disposable Income and real private consumption is also very high—indeed higher than in the rest of Latin America—in the Caribbean countries (World Bank, 2003e).
Under the standard assumption that consumers are averse to intertemporal volatility in their consumption path (or averse to risk), this sort of roller coaster clearly reduces social welfare.

Income variations over time are caused by a number of factors. As discussed above, a large self-employed sector is usually characterized by more volatility than is the formal sector, since profits adjust to changes in demand and cost conditions directly but wages are usually more protected. The rate at which firms close tends to be much higher among small firms in the informal sector than among large firms in the formal sector (see Levenson and Maloney 1998). However, in Latin America real wages have often oscillated quite dramatically as a result of high and often unstable inflation rates combined with imperfect indexation mechanisms. In addition to wages, income may also be affected by changes in employment status. Unemployment risk is of increasing concern in Latin America, particularly for young people and women, as reviewed in de Ferranti and others (2000).

In rural areas, climatic events represent an additional source of risk, beyond those which arise from terms-of-trade and other macroeconomic shocks. A study of household strategies for coping with the downturn in agricultural production in El Salvador in 1997 (Conning, Olinto, and Trigueros 2000) found that landless workers, who tended to rely on agricultural employment prior to the crisis, were hit the hardest.

What does the evidence of large income volatility in Latin America (reviewed in more detail in de Ferranti and others 2000) imply in the context of a study of inequality? There are three basic implications:

- As the volatility of current income increases, so does the gap between inequality in current income and inequality in permanent income. This is one factor behind the large difference between income inequality and consumption inequality measures in Brazil discussed above. Consumption is a better indicator of permanent income.

- To the extent that people are risk-averse, volatility is costly in terms of social welfare. On the one hand, long-run interpersonal inequalities may be overestimated by focusing on current incomes. On the other hand, some of this measurement reflects inequality in the incomes of the same people over time, which is detrimental to individual (and thus social) welfare for reasons having to do with preferences for lower risk. Although this is less of a problem to the extent that people can smooth out patterns of consumption, it is only cost-free if capital markets (including, importantly, insurance markets) are perfect.

- Some of what appears to be intragenerational short-term mobility is simply volatility by a nicer name. Some of the evidence on mobility in Latin America is discussed in Box 2.2, but the point here is that evidence of large, short-term disruptions in wage or income distributions is likely to reflect high risk and volatility.

The absence of multiyear panel data in the region means that very little is actually known about intra-generational mobility in Latin America (however, see Graham and Pettinato 2002 for a discussion of results of a study in Peru). If and when more becomes known, it is likely that analysts will face trade-offs between welfare gains (arising from lower inequality during multiple periods when later incomes are less predictable on the basis of earlier incomes) and welfare
losses (arising from aversion to income fluctuation over time). These tradeoffs will be the same as those that result from mobility and volatility trends observed in more developed countries. Gottschalk and Spolaore (2002, p. 193), for instance, find that “When aversion to income fluctuations and (beyond-the-veil) risk are introduced, those larger costs offset the benefits stemming from reduced multi-period inequality. Consequently, Germans and Americans end up obtaining similar net benefits from mobility, although for very different reasons.” Recently, this sort of careful thinking about mobility has challenged earlier facile assertions that higher inequality in the United States than in Europe was not problematic, since mobility was also higher there.

**BOX 2.2.
Mobility in Latin America: what little is known?**

Since the idea of intragenerational short-term mobility is strongly related to volatility—or at least the two concepts are not easily separable—the literature usually focuses more on intergenerational long-term mobility. The main variables used in this kind of analysis are generally assets or choices related to education and occupation, which can be good proxies for permanent income. With these two variables, Valéria Pero (2003) studied the Brazilian case and showed that the country does not have significant educational or occupational intergenerational mobility.

In fact, Brazil has one of the lowest levels of intergenerational educational mobility in the world. According to Behrman, Gaviria, and Székely (2001), Latin American countries have lower intergenerational educational mobility than developed ones. Furthermore, comparing Brazil and the other Latin American countries, there is evidence that Brazil has an even lower level of mobility (Menezes-Filho 2001). The main reason for this phenomenon is the fact that educational performance in Brazil is associated more with family background—in particular the schooling of parents—than it is in other countries.

The educational levels of individuals and their parents are highly correlated, in the sense that sons of parents with little education also have little education. According to Barros and others (2001), the schooling of parents appears to be the most important variable in explaining educational performance in Brazil. Moreover, the schooling of mothers seems to have a stronger effect than that of fathers on educational performance. Based on the literature, Pero (2003) goes further, concluding that “The influence of parents’ schooling on educational performance is stronger for men than women, for black than nonblack, and for residents in the Northeast than in the Southeast.”

Nevertheless, Bourguignon, Ferreira, and Menéndez (2002), as well as others, point to an increase in educational mobility over time. According to this conclusion, an additional year of schooling for parents means a larger increase in schooling for older cohorts than for younger ones. A complementary analysis (Pero 2003) indicates that it is possible to find evidence that educational mobility is more noticeable among less educated individuals. Thus, indications that educational mobility is rising for young cohorts could be related to the fact that educational policy is closing the gaps related to family background in Brazil.

In keeping with points presented above, members of the younger generation should be able to achieve better positions in the labor market in comparison to their parents. In other words, an increase in occupational mobility could be expected as each generation becomes more educated. Although the data suggest this pattern—since more than half of sons in Brazil are in different occupational classes from those of their fathers—the occupational mobility rate in that country seems to be very low compared with other countries, most of which are developed (Scalon and Ribeiro 2001).
In some sense, the occupational mobility rate can be considered a good indicator of development. According to Pero (2003), mobility can result from “economic growth and its impacts on job creation and on sectoral and occupational composition and demographic aspects” and may be a consequence of “distribution of opportunities, upon which the society builds mobility channels to match people efficiently in the social structure in a fair system.”

This perspective is corroborated by analyses of different Brazilian states, since there is greater mobility in more developed areas. The literature concerned with educational and occupational mobility in Brazil indicates that during the 1970s, mobility was the result of industrialization and urbanization processes. On the other hand, this does not appear to be true with regard to the distribution of opportunities. Silva and Roditti (1988)—using a log-linear model to test the hypothesis of constant circular or relative mobility patterns over time—argue that the distribution of opportunities have not changed significantly. However, Scalon and Ribeiro (2001) assert that there is a trend toward a more even distribution of the achievement of social positions, even though Brazilian society is rigid in comparison to other countries.

In conclusion, Pero (2003) finds that occupational mobility increased in Brazil between 1973 and 1996. Pero also suggests that other channels of mobility were more important in determining position in the social structure than occupation or class inheritance. The Brazilian data also indicates that mobility currently tends to be more related to positional changes than to the creation of new positions.

Contrary to common sense, variables such as the training of teachers and infrastructure (for example, books, computers, and night courses) are not that important in explaining educational performance. The key point is that although these variables have a positive effect, they account for just a small part of the level of education as a whole.

**Issues of coverage and measurement of incomes**

A further issue concerns how comprehensive and accurate are questions related to income. All household surveys in Latin America include questions on monetary income from salaried work, but some use very simple (and therefore less reliable) questions and many do not include estimates of nonsalary and nonmonetary payments. Among those countries that focus on this issue, efforts to obtain correct estimates vary significantly. All countries make some effort to capture income from self-employment and capital income. However, the intensity of these efforts varies among countries and sometimes also within countries over time. Differential misreporting behavior among respondents and varying efforts in the survey design can distort inequality comparisons among countries. If these behaviors and efforts change over time, they can also distort the view of inequality trends.

Researchers apply three kinds of strategies to alleviate these problems. The first is to restrict the analysis to more homogeneous variables that are subject to fewer problems of misreporting. Typically, people look at the distribution of labor income or, in an even more restricted approach, at the distribution of monetary wages from salaried work in urban areas (see Section 4). Of course, the cost of doing this is ignoring a sometimes sizable part of the overall income distribution. The second strategy is to apply some grossing-up procedures. Income from a given source in the household survey is adjusted to match the corresponding value in national accounts. This adjustment usually leads to inflating capital income relatively more than the other income sources, and hence generates higher inequality estimates.

Finally, a third strategy is to estimate some incomes based on other pieces of information in a survey. For instance, the implicit rent from own-housing can be estimated using hedonic
regressions if a survey records some housing characteristics and the amount paid by renters (see Fay and others 2002). In addition, multivariate regressions can be run to estimate wages for workers who do not report or clearly misreport wages, but do report individual characteristics (for example, education and age).

Since surveys differ with regard to the severity of these problems, adjustments should be made on a case-by-case basis. This is a task that goes beyond the scope of this chapter. Researchers who have made different types of adjustments have generally found that most results for inequality trends within countries are robust. Results across countries are somewhat less robust in the face of methodological changes. Székely and Hilgert (1999) find that some inequality rankings among Latin American countries vary as a wide range of adjustments are performed to deal with the informational issues sketched here. However, even when there might be some changes, the general picture remains robust: low-inequality and high-inequality countries remain in their groups regardless of the methodology used for the analysis.

A common observation among users of household surveys is that they do not typically include “very rich” individuals; millionaires, wealthy landlords, powerful entrepreneurs, and capitalists do not usually show up in the surveys. The highest individual incomes in surveys conducted in Latin America correspond primarily to urban professionals. This fact may be the natural consequence of random sampling (that is, there are so few millionaires that it is unlikely that they would be chosen by a random sample-selection procedure to answer the survey), nonresponse, or extensive underreporting. The fact is that rich people in the surveys are “highly educated professionals obtaining labor incomes, rather than capitalist owners living on profits” (Székely and Hilgert 1999). The omission of this group surely implies underestimation of inequality of a size that is difficult to predict.

Real rather than nominal incomes should be used in any distributional analysis. If prices faced by all households were the same, the distinction would be irrelevant. However, prices usually differ by location. If two households located in different regions have the same nominal income but face different prices, they will have different living standards. Despite the fact that many authors have highlighted the importance of considering spatial variations of prices in a distributional study (for example, Deaton 1997, Ravallion and Chen 1997), price adjustments are rarely performed in countries that do not routinely collect information on local prices as part of household surveys.

Unfortunately, most Latin American countries fall into this category. Some countries have regional price information, which is useful but does not solve the problem since price dispersion may be high within a single region (especially between urban and rural areas). However, the inequality results in this study appear to be quite robust when adjustments for regional prices are made. For instance, in Argentina the Gini coefficient for the distribution of household per capita income for 2001 slightly decreases from 52.2 to 51.9 as regional prices are taken into consideration. For Chile in 2000, the Gini coefficient increases from 57.1 to 57.3 when this is done.
Is measured inequality over- or under-stated?

Is “real” inequality lower or higher than the estimates derived here from household surveys? Unfortunately, the answer is not clear. Some factors lead to an underestimation of inequality (for example, misreporting of capital incomes or the absence of very rich people in the surveys), while others result in an overestimation (for example, using monthly income instead of permanent income or consumption). More work is definitely needed in this area. However, it should be noted that the key concern here is not to know the exact level of inequality of a country in a given year, but instead to make time and cross-country comparisons. The authors implicitly assume in this analysis that factors that bias the measurement of inequality remain stable among countries and over time.

It is necessary to avoid either of the two extreme positions taken toward household surveys, that is, either to discard them or to use them without qualifications. Even with all their limitations in mind, household surveys provide valuable information for a distributional analysis and are the best available source of data with which to generate representative distributional statistics of the population. However, it is important to be aware of their drawbacks. Despite important steps taken by Latin American governments and international organizations in the last decade (for example, the MECOVI program), there is still a long way to go before a more reliable, richer, and more homogeneous set of national household surveys is available. In this regard, Latin America lags behind some other less developed regions.

Sample variability and confidence intervals

Measures of the different dimensions of a distribution are subject to sample variability problems because they are derived from surveys, not census data. If a sample consisted of only two individuals, indicators would surely widely vary over time even when the population remains completely unchanged, since two different individuals would be randomly selected each year. This problem can be alleviated but not completely eliminated through the use of larger samples. This point is illustrated here by assessing the robustness of some inequality comparisons with the help of confidence intervals estimated using bootstrapping techniques. This method provides interval estimations and dispersion measures for inequality indices in a simple and efficient way.  

Table A.16 shows the estimated Gini coefficient for the distribution of household per capita income for each country and year, its bootstrapped standard error, the coefficient of variation, and the corresponding confidence interval for a 95 percent level of significance. Given the large size of the samples in most household surveys, the Gini coefficients are estimated with high precision. This is reflected in the low values of the standard errors. Column (iii) shows that the standard error is almost always smaller than 1 percent of the estimated coefficient. However, in many cases this is enough to cast doubt over the statistical significance of the inequality changes. For instance, although the recorded Gini increased in Mexico between 1996 and 2000, the two confidence intervals overlap and make the change in the Gini coefficient insignificant, that is, consistent with when different samples are taken from a population with a stable income distribution.
2.4. Inequality in Latin America in perspective

This brief section is devoted to placing the evidence from the previous section in geographical perspective. How unequal are Latin American economies compared to the rest of the world?

In the last ten years, several studies have surveyed and computed inequality measures across countries and over time. Deininger and Squire (1996) put together a large data set of quintile shares and Gini coefficients for most countries since World War II. This panel data set—which greatly stimulated the empirical study of the links between inequality and other economic and political variables—was updated and extended in the World Income Inequality Database, a joint project of the United Nations University, WIDER, and the United Nations Development Programme (WIDER 2000). Using these and other secondary sources, Milanovic (2002), Bourguignon and Morrison (2002), and Sala-i-Martin (2002) recently computed income distributions for the world and its regions. Other authors have used microdata to compare distributions from different regions of the world. Bourguignon, Ferreira, and Leite (2002) and Székely and Hilgert (2001) have compared Latin American countries with some developed countries at the microdata level.

This empirical literature unambiguously suggests that Latin America is the region with the highest levels of inequality in the world, and that this has been true for as long as statistics have been kept. Each bar in Figure 2.6 indicates the value of the Gini coefficient for the distribution of household per capita income in countries located in four “regions” of the world. Inequality in Latin America is higher than in Asia, Eastern Europe, and the industrialized countries. Income inequality in the least unequal Latin American country (Uruguay) is higher than in the most unequal country in Eastern Europe and the industrialized countries, and not too much different from in the most unequal country in Asia. The nine most unequal countries in the sample are in Latin America. In addition, the 14 economies included in the graph are all among the 20 most unequal countries in the sample.

Figure 2.6 refers to income inequality. When inequality is measured with regard to the distribution of household expenditures, the conclusions are similar. Using information from the same source (WIDER 2000), the average Gini coefficient in the seven Latin American countries for which expenditure data from the 1990s are available (44.0) is far above the average Gini coefficient in Asia (36.6) and Eastern Europe (30.4) and slightly higher than in Africa (43.3).

FIGURE 2.6.
Gini coefficient: distribution of household per capita income, regions of the world, 1990s
Has Latin America always been more unequal than the rest of the world? The most widely cited source to answer this question has been Table 5 of Deininger and Squire (1996), which is reproduced here in Table A.17. The table, which shows nonweighted averages of Gini coefficients by region, indicates that at least since the 1960s, inequality in Latin American countries has been higher than in any other region of the world. With the exception of countries in Sub-Saharan Africa, the differences in Gini points between Latin America and other regions are large. This gap narrowed in the 1970s and became wider again in the 1980s. There was no clear pattern in the 1990s, when Latin America performed better than some regions in distributional terms (for example, Eastern Europe) and worse than others (for example, South Asia).

It is sometimes argued that inequality is related to the state of development in a country and comparisons should therefore be made that control for this factor. Londoño and Székely (2000) use regression analysis to compute the difference between actual inequality and expected inequality given the level of development of many countries in the world. The difference for Latin American countries is positive; that is, the region suffers from “excess inequality,” which Londoño and Székely (2000) find has fluctuated around 13 Gini points over time.

Although widely cited, Deininger and Squire’s table should be interpreted very cautiously. Among its problems are four issues: (1) the sample of countries used to compute the regional statistics is unbalanced, (2) income inequality statistics are mixed with expenditure inequality measures, (3) some of the figures that are averaged come from studies that use different methodologies, and (4) data from the 1990s are very scarce. Some of these problems are corrected in Table 2.1, in which Gini coefficients are computed from a common sample of countries, come from a small set of studies and hence are methodologically more consistent, and use income as the living standard variable. The general picture is not very different from Table
A.17. Inequality in Latin America has been significantly higher than in Asia, OECD countries, and Eastern Europe in the last three decades. There are no signs that this gap is narrowing. 47

TABLE 2.1.
Gini coefficients of the distribution of household per capita income: common sample countries, decadal averages by region

<table>
<thead>
<tr>
<th>Region</th>
<th>1970s</th>
<th>1980s</th>
<th>1990s</th>
<th>Overall average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Levels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>48.4</td>
<td>50.8</td>
<td>52.2</td>
<td>50.5</td>
</tr>
<tr>
<td>Asia</td>
<td>40.2</td>
<td>40.4</td>
<td>41.2</td>
<td>40.6</td>
</tr>
<tr>
<td>OECD</td>
<td>32.3</td>
<td>32.5</td>
<td>34.2</td>
<td>33.0</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>28.3</td>
<td>29.3</td>
<td>32.8</td>
<td>30.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>70s-80s</th>
<th>80s-90s</th>
<th>70s-90s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin America and the Caribbean</td>
<td>2.4</td>
<td>1.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Asia</td>
<td>0.2</td>
<td>0.8</td>
<td>1.1</td>
</tr>
<tr>
<td>OECD</td>
<td>0.2</td>
<td>1.7</td>
<td>1.9</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>1.0</td>
<td>3.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

| Difference in Gini points: LAC vs. |
|-------------------------------|-------|-------|-------|
| Asia                          | 8.3   | 10.4  | 10.9  | 9.9   |
| OECD                          | 16.1  | 18.3  | 18.0  | 17.5  |
| Eastern Europe                | 20.2  | 21.6  | 19.4  | 20.4  |


In a recent study, Bourguignon and Morrison (2002) computed world income inequality statistics since 1820, including information at the regional level. Table A.18 shows three inequality measures computed for five regions since 1950. The figures reflect nonweighted and population-weighted averages across countries or groups of countries. 48 Although for some regions the statistics go back to 1820, inequality measures for Latin America start in 1950. 49 Once again, the region emerges as very unequal compared to the rest of the world. The last panel of the table shows the difference in inequality between Latin America and the rest of the regions in terms of Gini points. There is no evidence that the gap between Latin America and the rest of the regions has narrowed in the last 50 years. The story at the level of individual countries is similar: the five Latin American countries/subregions considered in the study have been among the eight most unequal countries/subregions in the world since 1950.

As mentioned before, there are no consistent statistics for inequality before the 1950s. To calculate world distribution between 1820 and 1950, Bourguignon and Morrison (2002) assume no changes in distribution in Latin America, arguing that “the absence of strong evidence suggesting the distribution was much less unequal during the 19th century.” They also refer to Malthus’s suggestion that in 1820 inequality was much larger in Mexico than in England. In Chapter 4 of this report, it is argued that extreme inequality emerged soon after the Europeans began to colonize the Americas.

In another recent study, Milanovic (2002) computes regional distributions in which all individuals are treated equally as inhabitants of a given region (see Table A.19). 50 Latin America
again appears as a region of high inequality. However, Asia is currently the region with the highest Gini coefficient. This is mainly due to the great disparities in national incomes across countries in that region (for example, Japan, Hong Kong, and the Republic of Korea in comparison with India or Bangladesh). In the decompositions performed by Milanovic and Yitzhaki (2002) with the same data set, only 7 percent of overall inequality in Latin America is due to between-country group inequality. By contrast, the contribution of the between-country Gini coefficient is 39 percent in Africa, 72 percent in Asia, 39 percent in Eastern Europe and the former Soviet Union, and 18 percent in Western Europe, North America, and Oceania. Compared to the rest of the world, Latin America is a region comprising relatively similar countries, within which high inequality prevails.

Summing up, although there are many methodological drawbacks related to the available evidence, differences in magnitude are sufficiently large to indicate that inequality in Latin America has been greater than in the rest of the world since at least World War II, with the possible exception of Sub-Saharan Africa. Moreover, there are no signs that this gap has narrowed over time. Changes in inequality have been more or less similar on average to those found in the rest of the world in the last half century. The widespread drop in inequality in the 1970s was probably more pronounced in Latin America, but this relative gain was lost in the 1980s when inequality in the region increased more rapidly than in the rest of the world. During the 1990s, inequality increased in Latin America at about the global average rate.

It is interesting to note that the position of most Latin American countries in the ranking of global inequality has been nearly the same during the last several decades, despite changes in the economic, social, and political environment. The last five decades have witnessed economic booms and crude recessions, inward growth models and export-led growth strategies, widespread public sector interventions and extensive pro-market reforms, dictatorships and democracies, yet in none of the region’s countries did any of these scenarios change the income distribution to make it significantly more similar to distributions in other parts of the world.

This observation suggests an important point: Latin America seems to be more unequal than the rest of the world for reasons beyond the economic cycle or particular economic policies. These factors have undoubtedly played an important role in shaping income distribution, a role that should be studied and better understood. However, there seems to be underlying factors that are stronger determinants of inequality levels in the region. Several chapters in this report elaborate this point (see Part II).

Which parts of the Latin American income distributions differ most from the rest of the world? Inequality, for instance, may be higher in Latin America because of greater income concentration in the middle class and lower concentration in the bottom strata, compared to other regions. Tables 2.2 and 2.3 suggest that this is not the case. Latin American distributions are mainly characterized by a higher income share among the rich relative to countries in other regions. 51 Who are the losers from this “excess share?” The tables suggest that the eight bottom deciles in Latin America have lower income shares than they do in the rest of the world. If anything, the “losses” seem to be larger for middle-income groups. If a typical Latin American distribution had to mimic a typical income distribution in the rest of the world, the income share of the top vintile (the richest 5 percent of the population) would have to be reduced and the proceeds distributed more or less evenly across the poorest 80 percent of the population.
TABLE 2.2.
Distribution of household per capita income, 1992: deciles and vintiles

<table>
<thead>
<tr>
<th>Regions</th>
<th>Latin America</th>
<th>Africa</th>
<th>Asia</th>
<th>Eastern Europe</th>
<th>Developed countries</th>
<th>World without LA</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deciles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(i)-(vi)</td>
</tr>
<tr>
<td>1</td>
<td>1.6</td>
<td>2.1</td>
<td>2.6</td>
<td>2.2</td>
<td>2.5</td>
<td>2.4</td>
<td>-0.8</td>
</tr>
<tr>
<td>2</td>
<td>2.4</td>
<td>3.0</td>
<td>3.5</td>
<td>3.8</td>
<td>3.4</td>
<td>3.4</td>
<td>-1.0</td>
</tr>
<tr>
<td>3</td>
<td>3.0</td>
<td>3.7</td>
<td>4.8</td>
<td>5.1</td>
<td>5.3</td>
<td>4.8</td>
<td>-1.8</td>
</tr>
<tr>
<td>4</td>
<td>3.4</td>
<td>4.6</td>
<td>5.8</td>
<td>5.7</td>
<td>6.3</td>
<td>5.7</td>
<td>-2.2</td>
</tr>
<tr>
<td>5</td>
<td>5.0</td>
<td>5.5</td>
<td>6.5</td>
<td>7.5</td>
<td>7.3</td>
<td>6.7</td>
<td>-1.8</td>
</tr>
<tr>
<td>6</td>
<td>6.0</td>
<td>6.5</td>
<td>7.5</td>
<td>8.2</td>
<td>8.6</td>
<td>7.8</td>
<td>-1.7</td>
</tr>
<tr>
<td>7</td>
<td>7.6</td>
<td>8.6</td>
<td>9.0</td>
<td>10.5</td>
<td>10.5</td>
<td>9.5</td>
<td>-1.9</td>
</tr>
<tr>
<td>8</td>
<td>9.0</td>
<td>10.5</td>
<td>10.5</td>
<td>10.8</td>
<td>12.2</td>
<td>11.1</td>
<td>-2.2</td>
</tr>
<tr>
<td>9</td>
<td>14.0</td>
<td>13.3</td>
<td>12.4</td>
<td>12.8</td>
<td>14.8</td>
<td>13.5</td>
<td>0.5</td>
</tr>
<tr>
<td>10</td>
<td>48.0</td>
<td>42.2</td>
<td>37.4</td>
<td>34.7</td>
<td>29.1</td>
<td>35.1</td>
<td>12.9</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Vintiles

<table>
<thead>
<tr>
<th>Vintiles</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10.8</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td>9.7</td>
<td>8.9</td>
</tr>
</tbody>
</table>

|          | 8.9  | 10.7 |
|          | 10.3 | 24.8 |

Source: Authors’ estimates based on Bourguignon and Morrison 2002.

TABLE 2.3.
Distribution of household per capita income, 1990s: quintiles

<table>
<thead>
<tr>
<th>Sub-Saharan &amp; East Asia South Asia</th>
<th>Eastern Europe &amp; N. Africa</th>
<th>Developed countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAC (i)</td>
<td>(ii)</td>
<td>(iii)</td>
</tr>
<tr>
<td></td>
<td>(iv)</td>
<td>(v)</td>
</tr>
<tr>
<td>1 and 2</td>
<td>13.2</td>
<td>14.1</td>
</tr>
<tr>
<td>3 and 4</td>
<td>33.8</td>
<td>33.5</td>
</tr>
<tr>
<td>5</td>
<td>52.9</td>
<td>52.4</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Authors’ estimates based on Deininger and Squire 1996.

Despite its high inequality, Latin America performs better in terms of poverty levels (when measured by standardized international poverty lines) than do some other less developed regions of the world, primarily because of the region’s higher per capita income. Poverty is lower in the region than in Africa and Asia (see Table A.20). World poverty has been significantly reduced in the last decade. The Latin American record is better than that of Africa, Eastern Europe, and South Asia, but not nearly as good as East Asia’s.

2.5. Looking inside household income

Section 2.2 considered the distribution of household equivalized real income among individuals. This variable can be written as \( \left( Y^L + Y^{NL} \right) / (AE^P) \), where \( Y^L \) stands for household total labor
income, $Y_{NL}$ represents household total nonlabor income, $AE$ are the number of equivalent adults in the household, $\theta$ is a parameter for consumption economies of scale, and $P$ is the price index for the bundle consumed by the household. Differences in well-being among individuals, which are approximated by differences in equivalized household income, depend on differences in each of the factors in this equation. Since differential prices are not studied in this paper due to a lack of information and $\theta$ is assumed to be fixed, this leaves three sources of differences: labor income, nonlabor income, and family size and structure. These three components are discussed below.

**Labor income**

Labor is the main income source for most individuals. This role is magnified in household surveys, since most nonlabor sources are usually not well represented. Column (i) in Table A.21 shows that the share of labor sources in total reported income is more than 80 percent in most Latin American countries—substantially greater than what is recorded in national accounts. The table also shows the Gini coefficient for the distribution of individual labor income in columns (vii) to (ix). Most of the conclusions in Section 2 on inequality rankings and trends remain valid when the analysis is restricted to individual labor income. Wodon and others (2001) perform source decompositions of the Gini coefficient, and conclude that about three-quarters of the Gini coefficient for the distribution of per capita income can be attributed to the contribution of inequality in the labor income distribution, since that source represents a very large share of total income in household surveys.

**Education**

Individuals earn labor income from the use of their endowment of productive “labor assets,” such as physical capability, human capital, and connections. This section deals mostly with one of these assets, formal education. Although education is certainly very important as a determinant of income, its central position in the literature is also based on its observability in surveys and censuses. This contrasts with the difficulty of obtaining statistics for other relevant income determinants, such as natural ability, labor market connections, on-the-job training, and work ethics.

Table A.22 shows the average number of years of formal education for adults aged 25—65 by income quintile and by age and gender group for each country and year. There are significant differences across countries in the average years of education. Although in Argentina, Chile, and Panama that average is around ten years, in Guatemala, Honduras, and Nicaragua the corresponding figure is less than six years. These differences hold for all income quintiles, although the gap between the Southern Cone and the rest of Latin America is wider for the poorest quintile.

One remarkable phenomenon notable in Table A.22 is the substantial increase in the average years of education in all Latin American countries during the 1990s, which continued a process initiated decades ago. In most countries, education increased in all income groups, except in Argentina and Peru, where years of education among adults from the poorest households decreased. Figure 2.7 shows that the gap in years of education between the bottom quintile and the top quintile increased not only in these two countries, but also in more than half of the
countries in the sample.\textsuperscript{54} The education gap has widened in Brazil and Mexico from already large values by Latin American standards, despite a sizable increase in years of education in the bottom quintile of the income distribution.

**FIGURE 2.7.**
Difference in average years of education between top and bottom quintiles

![Graph showing the difference in average years of education between top and bottom quintiles for various countries.]

*Source: Authors’ calculations based on microdata from household surveys.*

Another remarkable fact evident in Table A.22 is the reversal of the gap in years of education between men and women. In all Latin American countries, men older than 50 have more years of education than women of the same age, but the difference is in favor of women in the 10–30 year age bracket.\textsuperscript{55} For the working age population (aged 25–65), years of education are slightly greater for women in some countries (including Argentina, Brazil, Jamaica, Panama, Trinidad and Tobago, Uruguay, and Venezuela) and somewhat higher for men in the rest of the region’s countries.

In Table A.23, people are divided according to age and household income quintile. For most countries, the gap in years of education between the top and bottom quintiles is wider for young adults than for older people, which suggests increasing educational inequality in the last few decades. For instance, in Bolivia in 1999 the gap was 7.8 years for people aged 51–60, 8.5 years for people aged 41–50, and 9.1 for individuals in their 30s. This trend is a sign of an unbalanced increase in education in Bolivia that is also present in most Latin American countries in the sample. Figure 2.7 shows that only in Chile and Mexico is the educational gap between the poor and the rich substantially lower in the cohort aged 31–40 than in the cohort aged 51–60. Table A.23 also shows that during the last decade, the gap in years of education between top and bottom quintiles for youth aged 21–30 has not shrunk in almost all of the Latin American countries. This is also the case for children aged 10–20 in most countries, with the exception of Brazil, Chile, Ecuador, Mexico, and Panama.

Recently, effort has been made to gather educational information from most countries in the world. Table A.24 summarizes data from an updated version of Barro and Lee (2000). All figures in the table correspond to adults over 25. Results for the 1990s are in general consistent
with our estimates. The Latin American average for years of schooling is almost at the level of the world mean and has also increased in the last four decades at rates similar to the world mean.

Thomas, Wang, and Fan (2002) calculated Gini coefficients over the distribution of years of education for 140 countries for the period 1960–2000. Data for Latin American countries and regional averages are reproduced in Table A.25. Educational Gini coefficients for the region are close to the world mean, higher than in the developed countries and Eastern Europe, slightly lower than in Asia, and significantly lower than in Africa. This ranking has not substantially varied in the last four decades. Table A.28 shows the results of computing educational Gini coefficients from the current sample of household surveys. The Southern Cone countries (that is, Argentina, Chile, and Uruguay), Jamaica, Panama, and Trinidad and Tobago have the lowest inequality levels.

Educational Gini coefficients fell for most of the Latin American countries during the 1990s. This result is not inconsistent with the widening gaps illustrated in Figure 2.6. In the case of Brazil, as indicated in Table A.22, between 1990 and 2001 years of education 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 (as is shown in Figure 2.4), but the ratio has decreased. This latter effect is captured by the Gini coefficient, a measure of relative rather than absolute differences among individuals.56

Table A.27 shows an alternative rough measure of education: the self-reported literacy rate by income quintile. Most countries have made substantial progress and some have achieved nearly 100 percent literacy. However, the percentage of illiterate people is still very significant among the poor, reaching more than 30 percent in several countries.

In the analysis of the labor market that follows, the adult population is classified into three educational groups according to years of education: low (less than 8 years of schooling), medium (9–13 years of schooling), and high (more than 14 years of schooling). This roughly corresponds to unskilled, semiskilled, and skilled workers.57 Table A.28 shows the shares of each educational group in the adult population. The share of adults with high levels of education has significantly increased in all the Latin American countries in the sample, especially among women.

**Hourly wages: returns to labor assets**

Investing in education usually pays in the labor market, especially in terms of higher hourly wages. Looking at the distribution of hourly wages is important for two reasons. On the one hand, most of the differences in average earnings among educational groups are due to differences in hourly wages and much less to differences in hours of work or unemployment rates. The second reason the distribution of hourly wages is relevant is because of normative issues. If people were completely free to choose hours of work and family size, the distribution of hourly wages (and some inherited assets) would become the primary concern in an equality-of-opportunity scenario of social fairness.

Table A.29 shows the Gini coefficients for the distribution of hourly wages for different groups of workers. Most of the conclusions drawn from previous tables hold here. The distribution of hourly wages has become more unequal in Argentina, Peru, Uruguay, and Venezuela, but also in
countries like Colombia and Nicaragua where household income inequality did not significantly change. In contrast, hourly earnings inequality decreased in Brazil. For the rest of the countries, changes have been small and the levels usually depend on the group for which inequality is computed.

The literature has stressed the relevance of studying wage gaps among educational groups as main determinants of inequality in hourly earnings. The “wage premium” earned by skilled workers has always been a major topic of interest for labor economists and other social scientists. Table A.30 shows wage gaps among three educational groups. For instance, in Brazil in 2001, the hourly wage in the primary job of a skilled worker was on average 6.5 times more than that of an unskilled worker. All numbers in the table are higher than 1, meaning that more educated workers on average have higher hourly earnings. The wage premium for skilled workers increased in most countries during the 1990s, even in economies in which household income inequality did not significantly change or even decreased, such as Brazil (see also Figure 2.8). In contrast, the wage gap between semi-skilled and unskilled workers (column (iii) in Table A.30) did not significantly increase in most countries and decreased in some (see Figure 2.9).

**FIGURE 2.8.**
Hourly wage gap between skilled and unskilled workers, men aged 25–55

![Graph showing hourly wage gap between skilled and unskilled workers](image)

Source: Authors’ calculations based on microdata from household surveys.

**FIGURE 2.9.**
Hourly wage gap between semi-skilled and unskilled workers, men aged 25–55
The figures in Table A.30 are unconditional means. In order to investigate further the relationship between education and hourly wages, the authors ran regressions of the logarithm of hourly wage in the primary job on educational dummies and other control variables (that is, age, age squared, regional dummies, and an urban/rural dummy) for men and for women. Table A.31 shows the results of these Mincer equations. For instance, in Argentina in 2001, a male worker between 25 and 55 years old with a primary education degree earned on average nearly 22 percent more than a similar worker without that degree. Completion of secondary school implied a wage increase of 40 percent over the earnings of a worker with only a primary school education; in other words, the marginal return of completing secondary school versus only primary school is 40 percent.

The wage premium for a college education is an additional 76 percent. In Argentina, returns on primary and secondary school education have not significantly changed in the last decade. In contrast, there was a large jump in returns on college education (from 54 to 76 percent). That jump was also noticeable for working women and for both male and female urban salaried workers. Although not of the magnitude of the changes seen in Argentina, the marginal returns to college education increased in several other Latin American countries during the 1990s, particularly for urban salaried workers, confirming the results from the unconditional means (see Figure 2.10).

**FIGURE 2.10.**
Marginal returns (in hourly wages) on college education, men aged 25–55.
Mincer equations are also informative with regard to two interesting factors: the role of unobservable variables and the gender wage gap. The error term in the Mincer regression is usually interpreted as capturing the effect on hourly wages of factors that aren’t considered in household surveys, such as natural ability, connections, and work ethics. An increase in the dispersion of this error term may reflect an increase in the returns on such unobservable factors in terms of hourly wages (Juhn, Murphy, and Pierce 1993). Table A.30 shows the standard deviation of the error term of each Mincer equation. The returns on unobservable factors have clearly increased in Argentina and Venezuela, while there were either no clear changes or reductions in the rest of the Latin American countries.

Another way of investigating the influence of factors other than education on inequality is to compute the distribution of hourly wages within each educational group. Table A.33 does this for prime-age males. Again, Argentina and Venezuela stand out from the rest of the countries due to significant increases in inequality within all educational groups. In most countries, inequality increased among skilled workers and did not increase (or even decreased) for others. Chile provides one of the clearest examples of this trend, since the distribution of hourly wages has become significantly more equal for workers with low and medium levels of education and more unequal within the skilled group.

The coefficients in the Mincer regressions are different for men and women, indicating that they are paid differently even when they have the same observable characteristics (that is, education, age, and location). To further investigate this point, the authors simulated the counterfactual wage that men would earn if they were paid like women. The last column in Table A.32 reports the ratio between the average of this simulated wage and the actual average wage for men. In all cases this ratio is less than one, reflecting the fact that women earn less than men even when controlling for observable characteristics. This result has two possible interpretations: it is either the consequence of discrimination against women or the result of men having more valuable unobservable factors than do women (for example, that they are more attached to their work). It seems that the gender wage gap has shrunk in all countries during the last decade (see also Figure 2.11). Brazil has the widest gap between men and women, while in Argentina,
Colombia, Mexico, and Peru the gap is narrower than in the rest of the region. Chapter 3 in this report focuses more on this aspect.

**FIGURE 2.11.**
Hourly wage ratio, women to men

![Graph showing hourly wage ratio, women to men](image)

*Notes:* Ratios derived controlling for worker characteristics (see text).
*Source:* Authors’ calculations based on microdata from household surveys.

**The use of labor assets: hours worked, participation, and unemployment**

Are the differences in hourly wages reinforced by differences in hours worked? Table A.34 suggests that the opposite is true. Correlations between hours worked and hourly wages are negative and significant in all countries. Also, the second panel shows that in most countries, workers with low levels of education tend to work longer hours than workers with more years of formal education. However, this gap is narrowing in most Latin American countries, with hours worked decreasing for the unskilled and increasing for the skilled during the last decade (see Figure A.6).

**BOX 2.3.**
**Some simple decompositions**

A rough but illustrative way of investigating what is behind a distribution is to perform simple decompositions. A population is divided into groups according to a given variable, and total inequality is expressed as a combination of inequality between and within groups. Table A.35 shows the results of performing decompositions of the Theil inequality index computed over the distribution of wages for working adults aged 25–55. The table suggests that even though formal education is an important factor in accounting for differences in wages in all Latin American countries, the roles of gender and age are small. This does not imply that, for instance, differences in wages between men and women are negligible, but instead that these differences are very small compared to differences in wages within each of the two gender groups.
The role of location (urban or rural) varies across countries. For instance, the wage gap between urban and rural areas accounts for 11 percent of overall wage inequality in Bolivia and just 2 percent in Venezuela. In many Latin American countries, the relevance of urban–rural differences has decreased during the last decade.

\[a\] See also Wodon and others 2000 for similar decompositions with a smaller sample.

So far, this discussion has focused on the group of workers in the labor market. However, some able-bodied people may decide not to work or may not find a job even after actively looking for one. Table A.36 contains basic statistics on employment, unemployment, and duration of unemployment by education and gender. People with a college education participate in the labor market more than other groups. In addition, the employment rate for men is much greater than for women. There does not seem to be a clear pattern of changes in the employment gap between skilled and unskilled workers. Differences in employment rates among educational groups have increased in some countries and decreased in others.

The unemployment rate for the unskilled is higher than for the skilled in more than half of the countries in the sample. Also, in most countries the difference between the unskilled and the skilled with regard to unemployment has become larger over the last decade (see Figure A.7), implying a disequalizing effect on the income distribution. Labor patterns differ among countries. While unemployment increased in South America, it either decreased or remained low in the rest of Latin America. Finally, the last panel of Table A.36 reports shorter but increasing spells of unemployment for the unskilled.

**Nonlabor income**

Income from nonlabor sources, once a primary object of interest for economists, is not at the center of inequality studies today. This is due in part to the increasing relevance of labor as a main income source, and in part because of the difficulties of getting reliable information on nonlabor income sources.

Column (ii) in Table A.21 shows the share of nonlabor income in Latin American household surveys, while column (x) presents the Gini coefficient for the distribution of that variable. Nonlabor income comprises capital income, profits, rents, and various types of transfers (that is, both private and public, including pensions). The coverage of nonlabor income sources varies greatly among surveys. While, for instance, some countries include detailed questions on income from capital and rents, some include only a general, vague question and others don’t broach the subject at all.

Capital income, land rents, and profits are highly concentrated in the richest stratum of the income distribution (see Table A.37). An increase in the share of these income sources (for example, an increase in the rate of return on capital) may imply a disequalizing change in the income distribution. Inequality trends and differences across countries can then be accounted for by differences in the share of these nonlabor sources. Unfortunately, capital income and land rents and profits are seriously underestimated in household surveys. In nearly all countries, the share of all of these income sources is 2–4 percent (see column (iii) in Table A.21).\(^6\) Given this minor role, neither the reported level nor the changes in household income inequality discussed in this chapter are driven by capital income. As mentioned in Section 2.2, the inequality that can
be measured on the basis of household surveys essentially stems from differences in labor income and demographic factors.

The previous discussion suggests that if good estimates of individual capital income and profits were available, the measured level of inequality would be a good deal higher. What about trends in inequality? According to the United Nations National Account Statistics, the Latin American countries’ average share of nonlabor sources in the GDP did not significantly change during the 1990s. Harrison (2002) shows that during the period of 1960–1997, the average labor share in Latin American countries was almost constant (or slightly decreasing in some cases).

In a recent paper, Gollin (2002) finds that the labor share, when appropriately measured to include those workers who are self-employed or employed outside the corporate sector, does not vary much across countries or time periods. On the other hand, there does seem to be some short-run volatility in shares that are possibly associated with crises (see Chapter 8). The evidence of no significant changes in the share of labor and nonlabor sources increases confidence in the reported inequality changes obtained from household surveys that mostly ignore capital income. However, it is clear that more effort and resources should be devoted to improve the measurement of capital income, rents, and profits in Latin American household surveys.

Transfers are an important component of nonlabor income. People receive private and public transfers, the latter in the form of cash subsidies and in-kind programs such as free education and health. The third panel of Table A.37 shows the distribution of cash transfers, excluding pensions. Perhaps surprisingly, the distribution is pro-rich, meaning that higher shares of total transfers go to high-income strata, probably as a consequence of the greater relevance of private transfers relative to public income support programs. This pattern, however, seems to be changing, since the share of the bottom quintiles in total cash transfers has been increasing during the last decade.

In some countries, the main item in nonlabor income is pensions. In Argentina, Brazil, Panama, and Uruguay, pensions account for more than half the value of nonlabor income (see column (v) in Table A.21). Pensions are also concentrated in the upper-income strata, although to a smaller degree than is capital income (see Table A.37).

Land is one of the most important assets in agrarian economies such as those in Latin America. Table A.38 reproduces data on the distribution of operational holdings of agricultural land assembled by the United Nations Development Programme (UNDP) (1993) and Deininger and Olinto (2002) (who in turn mainly used the decennial United Nations Food and Agriculture Organization World Census of Agriculture). The data do not include adjustments for soil quality, land improvements, or communal tenure arrangements and refer to operational rather than ownership distribution. Deininger and Olinto (2002) highlight the fact that the distribution of land is more concentrated than the distribution of income, and also that the variation across countries is higher than that of income. Again, Latin America emerges as a very unequal region compared to other regions in the world. Table A.39 reproduces the Gini coefficients for operational holdings of agricultural land in Latin American countries.
Housing is probably the main asset that most people own. Several household surveys in Latin America report whether a house is owned by the family who lives in it, although very few report the property or rental value of the dwelling. Table A.40, derived from the sample of household surveys used in this report, presents for each income quintile the share of families owning a house (that is, both the building and the lot). Housing ownership is widespread along the income distribution. In fact, in several countries the share of poor people who own a dwelling is higher than the corresponding share for the rich. However, Figure A.8 shows that in most countries in the last decade, housing ownership among the rich has grown relative to the poor. Poor families live in houses that are smaller (in terms of number of rooms) than do rich families. Since poor families also tend to be larger in size, the number of persons per room is significantly greater. Differences across income quintiles have not significantly varied over time in most Latin American countries.

Fay, Yepes, and Foster (2002) find that the distribution of housing values is more unequally distributed than income in Chile and Peru. They find that in the last decade, housing markets have increasingly excluded the poor, a conclusion that with different intensities is also evident in Argentina, Bolivia, Brazil, Colombia, Honduras, Jamaica, Mexico, and Uruguay.

**Family size and structure**

The resources available to each person depends on the number of people with whom an individual has to share total household resources. Size and composition of the household are therefore key determinants of an individual’s economic well-being. Table A.41 shows the number of children under 12 years of age by parental income quintiles and by education of the household head. The table reveals significant differences in means, with the Southern Cone nations, Jamaica, and Panama being the areas where families are of smaller size. All nations have experienced substantial reductions in the number of children per household during the last decade. In most, reductions have been generalized across the income strata. The exception is Argentina, where the number of children under 12 in the bottom quintile increased between 1992 and 2001. In most Latin American countries, the ratio of the number of children in the bottom and the top quintiles has increased in the last decade, thereby contributing to higher income inequality (see Figure 2.12).66

**FIGURE 2.12.**
Ratio of number of children under age 12 per household between bottom and top quintiles
Table A.42 shows household size by equivalized income quintiles and by education of the household head. The results are similar to those in the previous table. Countries differ with regard to average family size and the gap between poor and rich families. Most show a similar pattern of falling number of persons per household in each part of the income distribution, with the exception of Argentina and Uruguay, where poorer families have become larger.

Inequality is reinforced if marriages take place between persons with similar income potential. Table A.43 presents some simple linear correlations that suggest the existence of assortative mating in all Latin American countries (see also Chapter 6 and Fernández, Gunerm, and Knowles 2001). Men with more years of formal education tend to marry women with a similar educational background, as shown in column (i). This is one of the factors that contribute to a positive correlation of hourly wages within couples, as shown in column (ii). There is no evidence of changes in the degree of assortative mating in the last decade, according to these simple statistics. Finally, columns (iii) and (iv) show positive, though small, correlations in hours of work, both when considering and excluding people who do not work.

Concern over child labor has increased recently. Table A.44 shows the proportion of working children between 10 and 14 years of age. Unfortunately, many surveys do not report labor statistics for younger children. While child labor is negligible in some countries, it is a strong phenomenon in others. There are significant differences in child labor across income strata.

In some countries, household surveys report the race or ethnicity of individuals. Based on that information, Table A.45 presents the ratio between nonwhites and whites with regard to wages and household per capita income. In all countries for which information is available, nonwhites earn less and are poorer than whites. This is discussed in more detail in Chapter 3.
Social capital has been broadly defined as the set of informal rules embedded in social relations and society’s institutional arrangements that enable members to achieve their individual and community objectives (Coleman 1990). Social interactions, in particular repeated interactions, produce obligations and expectations among individuals that generate trust among people, in turn easing and promoting cooperation and participation. This idea has spurred a growing body of research that tries to assess the influence of social capital on a wide range of economic and political outcomes.\(^{b}\)

Measuring social capital is not an easy task. Most of the literature at the country level has relied on the World Values Surveys, which include microdata for 30 mostly developed countries in response to questions about interpersonal trust and civic engagement. Using Latinobarómetro surveys, the authors of this report constructed two measures of social capital: a measure of interpersonal trust and a measure of institutional trust.\(^{c}\) Averaging out results for the period 1996–2001, they found that interpersonal and institutional trust increase with age and subjective income and decrease with education and perception of income inequality (see Table A.46).\(^{d}\)

\(^{a}\) This box was primarily written by Matías Busso.

\(^{b}\) The literature has found that higher levels of social capital are associated with higher economic growth (Knack and Keefer 1997), increased judicial efficiency, lower government corruption (La Porta and others 1997), and improved local government efficiency (Putman 1993).

\(^{c}\) The question used to construct the measure of interpersonal trust is: “Can you trust most people?” If the person answers affirmatively, then trust is given a value of 1; otherwise it is given a value of zero. The variable institutional trust was constructed as a simple average of eight questions. Latinobarómetro asks “How much can you trust the following organizations? Government, congress, the judiciary, the church, the military, police, political parties, and TV.” To construct the index of institutional trust, the authors arbitrarily assign a value of 1 if respondents say “a lot,” 0.66 if they say “something,” 0.33 if the answer is “a little,” and 0 if it is “not at all.”

\(^{d}\) The results of multivariate regression analysis, controlling for country-fixed effects, confirm the unconditional results shown in Table A.46.

### 2.6. Inequality beyond income

Most of the empirical studies that aim to measure the fairness of social arrangements focus on the distribution of individual welfare. However, in the real world people seem to care also—and probably especially—about the distribution of particular goods and services. It is likely that more people would support programs that seek to guarantee equality in basic education and health care than programs aimed at reducing income or total consumption inequality. This specific egalitarianism is further supported by normative arguments based on the idea of equality of opportunity (see Tobin 1970 and Roemer 1996, among others). This section provides statistics on inequality distribution for some of the variables for which people show particular concern: school enrollment, basic health status and services, political representation, safety from crime, and some basic social services (for example the provision of clean water). Having a basic level of these variables is often seen as a right, and hence inequality is viewed as particularly disturbing to the extent that it impinges on the realization of this right.

**School enrollment**

Guaranteeing equality of access to formal education is one of the goals of most societies. The authors have used the sample of household surveys to calculate school enrollment statistics by income strata in order to compute inequality measures of school attendance and to investigate the
issue of educational mobility that links the education of children and youth to that of their parents.

Table A.47 shows school enrollment rates by equivalized income quintiles. The table indicates, for example, that among Brazilian children aged 6–12 in the bottom quintile, 70 percent attended school in 1990 and 93 percent in 2001. For the top quintile, 96 and 99 percent attended school in 1990 and 2001, respectively. These numbers reflect three important phenomena: (1) attendance rates increase along with household income, (2) enrollment rates have increased over time for all quintiles, and (3) the gap in attendance rates between poor and rich children has significantly narrowed during the last decade.

Are these results applicable to other age brackets and countries? The first result is quite general: in all countries, schooling rates increase along with income. The differences between poor and rich are smaller for children of primary school age and larger for youth of college age. Differences are also very large for children under five years of age. The second result is also quite general: enrollment rates have increased over time among all income distribution points in nearly all countries. On average, increases have been greater in pre-primary school, followed by high school, college, and finally primary school, where several countries are close to achieving nearly universal schooling.

The third result—the shrinking gap in enrollment rates between the poor and the rich—is quite general for children under 12 (see Figure 2.13). However, the gap has widened in some countries for youth aged 13–17 and has become larger in most countries for youth aged 18–23. Differences in college attendance between the poor and the rich have increased throughout the region over the last decade.

**FIGURE 2.13.**
Difference between top quintile and bottom quintiles by school enrollment rates
The level of inequality in the distribution of conditional probabilities of attending school can be viewed as a measure of inequities in access to education. The authors estimated these conditional probabilities from logit models of the attendance decision, using parental equivalized income, age, gender, location, and parental education as independent variables. The Gini coefficients for the distribution of these conditional probabilities for different age groups are reported in Table A.48 for each country and year. The higher the Gini coefficient, the higher the differences in the probability of attending school among children of the same age, after controlling for the independent variables. These differences can be due to parental income, but also to parental education, location, and gender, all of which are implicitly considered here to be unacceptable sources of differences in access to education.

Inequality in the probability of being enrolled in school is low for kids aged 9–12 (see column (i) of Table A.48). Countries that have nearly achieved full enrollment naturally have a Gini coefficient close to 0. Chile, and especially Brazil, have experienced large decreases in this measure. Column (ii) shows the Gini coefficient for the distribution of conditional probabilities of attending secondary school for youth aged 15–17 who finished primary school. Gini coefficients have been falling over the last decade in many countries. One notable exception is Brazil, where good results in primary school are not replicated at the high school level. Table A.48 also shows substantial differences in the Gini coefficients across countries, from a negligible 4.5 in Argentina to 26.2 in Brazil. Column (iii) shows similar statistics for high school graduates aged 19–21.
Inequities are in general higher in college than in high school, even when the analysis is restricted to those youth who completed the previous educational level. In two-thirds of the countries, dispersion in the distribution of probabilities of attending college for those who finished high school increased during the period considered. The last column in Table A.48 (also shown in Figure A.9) summarizes inequalities for all educational levels. The Gini coefficient for the distribution of conditional probabilities of attending college for all youth aged 19–21 significantly fell in half of the Latin American countries in the survey, and increased or did not significantly change in the rest.

**Educational mobility**

The analysis of schooling decisions is closely related to the topic of educational mobility. The concept is simple: if family background explains a child’s opportunities, then social mobility is low. As we have seen in previous sections, during the 1990s many Latin American countries experienced an increase in income inequality. High inequality is often seen as less worrisome when it is combined with high social mobility than when it occurs in a context of low social mobility.

Ideally, mobility for opportunities or for living standards would be computed. However, surveys in Latin American countries do not have long panels to allow this step. This section therefore follows the methodology developed in Andersen (2001) to provide estimates of educational mobility, that is, the degree to which parental education and income determine a child’s education. The dependent variable is the schooling gap, defined as the difference between (1) years of education that children would have completed had they entered school at a normal age and advanced one grade each year, and (2) actual years of education. In other words, the schooling gap measures years of missing education. The Educational Mobility Index (EMI) is defined as 1 minus the proportion of the variance of the school gap that is explained by family background. In an economy with low mobility, family background would be important and thus the index would be small (for technical details see Andersen 2001).

Table A.49 shows the EMI for teenagers (aged 13–19) and young adults (aged 20–25) in all Latin American countries in the sample. Educational mobility is relatively high in the Southern Cone and the Caribbean. There have not been substantial improvements in mobility in the region as a whole (see Figure A.10). In many countries, the EMI has not significantly changed over the last decade, while in others it has decreased for both age groups. Only in Brazil and Panama are there unambiguous signs of higher mobility.

**Health**

Inequality in health is causing growing concern in both the public policy arena and the academic literature. This concern has translated into a better understanding and measurement of disparities in health status and services indicators. The Demographic and Health Surveys (DHS) program 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 (see <http://www.worldbank.org/poverty/healthdata>). Table A.50, developed with information from that program, presents statistics for different health status measures and health service indicators for each Latin American country in the sample and for the average of other regions in the developing
world. These are presented by quintile of socioeconomic status, defined in terms of the ownership of assets in the household rather than as income or consumption.

Along with the statistics for each quintile, each panel of the table shows the concentration index (CI), a measure of the extent to which a particular variable is distributed unequally across the income strata (see Lambert 1993). “Bads,” like child mortality, are usually more common among poor households. In this case, the CI is negative. The higher the CI in absolute value, the more concentrated the “bads” are in the poor households. In contrast, “goods,” such as immunization, are more frequent in the richer percentiles. In this case, the CI is positive. The higher the CI, the more concentrated the “goods” are in the most affluent households. In sum, if a region has values of CI close to zero, health inequalities are assessed to be relatively low.

Panel A of Table A.50 provides statistics on two measures of health status: under-five mortality and underweight children. As expected, inequalities in health exist to the disadvantage of the poor. Latin America stands out as a region of relatively good average health status measures, but also as a region of high inequality (see also Wagstaff 2001). The concentration index for the region is, in absolute terms, larger than the world mean for both under-five mortality and underweight children. Some countries, such as Bolivia, Brazil, the Dominican Republic, and Peru have very high levels of inequality.

Under-five mortality among Peruvians in the top quintile is lower than in the countries in East Asia included in the DHS program (that is, Indonesia, the Philippines, and Vietnam). In contrast, under-five mortality in the bottom quintile is higher in Peru. Health inequality measures for prevalence of diarrhea (see panel B) are also relatively high in Latin America, with Peru and Brazil again standing out as particularly unequal countries. In contrast to the inequality statistics on health status, inequality in services such as immunization, basic antenatal care, and attended delivery in Latin America do not seem higher than in other developing regions of the world. At any rate, the disparities are worrisome. In Peru, while a medically trained person attends nearly all deliveries of babies in the top quintile, that proportion is only 14 percent for babies in the bottom quintile.

Wagstaff and Watanabe (2000) computed measures of inequality for stunting, underweight, and wasting, working with a sample of 20 countries and ranking individuals by equivalized consumption. Latin American countries in the sample systematically appeared at the top of the inequality rankings. The most negative concentration index for stunting and underweight was in Peru and for wasting in Nicaragua. Using consumption as a welfare indicator, Wagstaff (2000) reports that inequality in under-five mortality is particularly high in Brazil compared to other countries in the world.

A related topic that is also attracting increased attention in public debate and from policymakers across Latin America is the extent and distribution of physical and mental disabilities. Because of conceptual issues, sampling frames, and reporting difficulties, the true extent of disability is seldom easy to infer from standard household surveys. Nonetheless, progress has recently been made with regard to both the measurement and understanding of disabilities in Latin America—and of the relationship of these aspects with distribution and poverty (see Box 2.5).
Disability and distribution

The linkage between poverty and disability is strong, with evidence suggesting that causality goes in both directions. Poverty can cause disability through malnutrition, poor health care, and dangerous living conditions. Disability can cause poverty by preventing the full participation of disabled people in the economic and social activities in their communities, especially if the proper support systems and accommodations are not available. As many as 15–20 percent of the poor in developing countries have disabilities.

One problem in studying the link between income, poverty, and disability is the difficulty in obtaining high quality data, especially data that can be used to make comparisons across countries. The rate of disability found in household surveys and censuses varies dramatically. This variation results from differing measures of disability, different data collection techniques, and different reactions to survey questions by respondents. For example, the rate of disability in Paraguay was measured as 1 percent, but in Uruguay and Brazil it was measured as 16 percent (see Table A.51). It is unlikely that a common definition and comparable quality data would have yielded such disparate rates of disability across reasonably similar, neighboring countries. In fact, a 1991 census in Brazil measured the rate of disability at 0.9 percent. The higher rate measured in 2001 was not the result of an explosion of disability in Brazil, but of the use of better measurement techniques.

What is disability? Disability refers to a long or short-term reduction in a person’s activity resulting from an acute or chronic condition. Table A.52 shows the breakdown of the disabled population by type of disability, in countries with available data. But disability goes beyond the description of a particular medical condition.

Disability is multi-faceted, complex, and difficult to define. In fact, it is best understood as the interaction between a condition and a host of personal, social, and environmental factors. The International Classification of Functioning, Disability, and Health (ICF) developed by the World Health Organization (WHO) explicitly recognizes that any evaluation of a person’s functioning and disability must incorporate the physical and cultural context in which they live, and so also includes a list of environmental factors.

In 2001, following the ICF methodology, the Brazilian census broadened the scope of questioning, including questions on degrees of impairment (including mental, physical or motor, sight, and hearing aspects). Some preliminary findings include:

- More women than men are disabled, mainly because women live longer and disability is more common among the elderly. Fifty-four percent of disabled people in Brazil are women.

- Disability rates vary across racial groups. More than 17.5 percent of blacks have a disability, compared to 13.8 percent of whites.

- Disability is linked to poverty. The poorest areas in Brazil present higher shares of disabled people: in the ten states with the highest rates of disability, eight are located in the Northeast, one in the Center-West and one in the North. Moreover, 40.1 percent of disabled people earn less than minimum wage, compared to 29.6 percent of non-disabled people.

- Disability is negatively correlated with education, and thus with permanent incomes. The incidence of disability falls from 22 percent among those with no formal education, to 20 percent among those with 1–3 years of schooling, to 16 percent among those with 4–10 years of schooling, and to 15 percent among those with more than ten years of schooling.
A deeper analysis of data and broader data collection methods across the region are necessary in order to explore further the relationship between disability and the distributions of education and income. Greater understanding should pave the way to better policies that can help break the links between poverty and disability.

\[a\] See Elwan 1999.

**Political representation**

Disparities in income and wealth interact with disparities in representation and political influence. More influential groups tend to have higher economic rents, while wealthier individuals tend to have more political influence. Statistics on inequality in political influence are naturally very hard to obtain. In recent papers, Samuels and Snyder emphasize legislative malapportionment as a measure of inequality in representation (see for instance Samuels and Snyder 2001). Malapportionment is a discrepancy between the share of legislative seats and the share of population within electoral districts, and implies a failure to uphold the “one person, one vote” rule.

Table A.53 shows measures of malapportionment in both chambers of congress or parliament in several Latin American countries. A score of \(x\) percent means that \(x\) percent of seats are allocated to districts that would not receive those seats in cases of perfect apportionment. The table suggests that malapportionment is significantly higher in Latin America than in the rest of the world.\(^{71}\) Note, however, that although malapportionment is linked to inequality in political representation, it does not necessarily imply a bias against the poor. There is clearly a need for more empirical work in this field. Issues of power and political representation are discussed in more depth in Chapters 4 and 5.

**Safety from crime**

Safety from crime is one of the top concerns of the Latin American population. The available evidence suggests that the region has the highest rates of homicide and crime victimization in the world (see for instance Shrader 2001). The probabilities of being victim of a crime are not uniform along the income distribution. Although rich people are a more valuable target to criminals, they also have better means with which to protect themselves against crime.

Recent studies have tried to assess whether crime has a higher impact on poor people than on rich people. Since national victimization surveys are rarely available, researchers use a variety of other sources. Gaviria and Pagés (1999) use Latinobarómetro surveys from 1996 to 1998 to compute crime victimization across quintiles of a socioeconomic index based on the ownership of durable goods and household characteristics. Table A.54 reproduces these results, generally indicating that victimization moderately increases with wealth in all countries.\(^{72}\)

Di Tella, Galiani, and Schargrodsky (2002) use a survey specially designed for victimization analysis and conclude that in Buenos Aires, “although high-income households used to suffer a significantly higher home victimization rate than low-income households, the difference has now turned nonsignificant. For street robberies, both groups show similar augments in victimization.” Fiszbein, Giovagnoli, and Adúriz (2002) use a national household survey in Argentina and find that the rate of households that reported being a victim of crime or violence in the previous six
months is not significantly different along the income distribution. Crime is also a large problem in some countries in the Caribbean, such as Haiti and Jamaica (see, for instance, World Bank, 2003f).

**Basic services**

Tables A.46 and A.48 report statistics by income strata on access to some basic services, including water, hygienic restrooms, and electricity. The size of the gaps between the poor and the rich in terms of these services vary widely across Latin America. Figure 2.14 is informative with regard to these gaps, which tend to be larger for hygienic restrooms than for electricity and water, where coverage is more widespread. At any rate, in several countries the difference in the fraction of households with direct access to water or with electricity in the house is more than 30 percentage points between the top and bottom quintiles. Figure 2.14 shows that the gaps in the access to water, hygienic restrooms, and especially electricity have significantly narrowed in most countries in the last decade. Information on access to a telephone is also included, although arguably it is not a basic social service. Access to a telephone has dramatically increased in the region, especially for the wealthiest households.

**FIGURE 2.14.**

Difference between top quintile and bottom quintiles by coverage of water, electricity, hygienic restrooms, and telephone

*Note:* Water refers to the availability of a source of water in the house or lot. The variable restroom is equal to 1 when the household has a restroom with a toilet connected to the sewage system or to a septic tank. The variable electricity includes all sources of electricity, while telephone includes fixed and cellular phones.

*Source:* Authors’ calculations based on microdata from household surveys.
2.7. Conclusions

This chapter has presented and analyzed statistics on different dimensions of inequality in Latin America, setting the stage for the following chapters of this report. As discussed above, a data set of household surveys from 20 Latin American countries was assembled and used to compute statistics on the distribution of a wide set of variables. Results drawn from various authors complete the picture of inequality presented in the preceding pages.

The authors emphasize the need for improvements in data collection. The measurement of living standards in the region has some shortcomings that blur the picture of inequality and hamper the possibilities of conducting comparative analysis. Governments and international organizations should move toward standardization of questionnaires across countries (without losing valuable idiosyncratic components), improvement in capturing nonlabor and nonmonetary income, generalization of consumption surveys, and introduction of long panel surveys. Data availability is currently particularly poor in the Caribbean, where recent household surveys were completed in only 3 out of 15 countries.

The existing data, however, are useful to provide at least preliminary answers to relevant questions on inequality levels, trends, and structure. The tables provided in the Statistical Appendix provide useful information on the distribution of household income, as well as on labor, educational, and demographic variables by country and year.

Income inequality has increased in Latin America since World War II. During the 1990s, the trends were not uniform across countries. On average, inequality has increased in South America and remained stable in Central America, the Dominican Republic, and Jamaica. Two paradigmatic cases of changes in inequality are the neighbors Argentina and Brazil. Argentina, once a very low-inequality country by Latin American standards, has experienced dramatic disequalizing changes in recent decades. In contrast, inequality has fallen significantly in Brazil, the most unequal country in the region. The evidence presented in this chapter suggests a movement toward convergence in the country-by-country inequality levels for the whole region. Latin American economies, already quite homogeneous in terms of inequality, are becoming even more uniform.

The available evidence suggests that Latin America is and has been the most unequal region in the world. Differences in inequality with respect to the rest of the world have not significantly changed in the last 50 years. The assessment of Latin America as a high-inequality region is not restricted to income. The same conclusion arises when considering the distribution of consumption, land holdings, health status, and some measures of political representation.

This chapter has also analyzed other dimensions of distribution beyond inequality. Fueled by growth in GDP, poverty measures fell and aggregate welfare increased in most Latin American countries during the 1990s. However, increases in inequality have reduced the positive effects of growth: in several Latin American countries, the assessment of the performance of the economy is less optimistic when distributional issues are considered.

Although there are many contributing factors, household income inequality computed from household surveys is in particular the result of an unequal distribution of education, combined
with high wage premia for skilled workers and decreasing fertility rates due to improvements in income and education. The intensity of these three factors seems to have increased in most Latin American countries during the 1990s.

Finally, this chapter examined the information on nonincome measures of inequality, including health status, crime victimization, political influence, and access to basic services. In some cases, notably health status, the region is highly unequal by international standards. This may also be true of political influence, but cross-country information is weaker in this area. Basic services are typically unequally distributed, but less so than with regard to income, while the weak information on crime victimization that exists suggests that this aspect may be at least relatively equally distributed.

Notes


2 See Deaton 1997 and Deaton and Zaidi 2002 for arguments supporting the use of consumption as the best welfare indicator.

3 In fact, according to the life-cycle theory, with full access to capital markets current consumption should be closely associated to intertemporal living standards.

4 See Buhmann, Rainwater, Schmaus, and Smeeding 1988 and Deaton 1997 for discussions on these points.

5 Only the Dominican Republic, Jamaica, and Trinidad and Tobago are included in the sample. The quality and frequency of household surveys in the Caribbean are significantly lower than in the mainland Latin American countries. For instance, although household surveys in Guyana and Saint Lucia are available, the authors were not able to compute consistent household income statistics for these countries.

6 For reference purposes, the authors have worked with some surveys that cover only urban areas in Bolivia, Colombia, and Paraguay in the early 1990s.


8 Whenever a trade-off arises, the author has generally decided to preserve comparability within a country over time rather than across countries.

9 For some countries, income definitions have varied over time. Although statistics for alternative definitions have not been computed for the sake of brevity, and in most cases the tables provide a single line for each country and year. For instance, although the survey in El Salvador for 2000 includes non-monetary income, in the tables statistics are given without those incomes in order to preserve comparability with previous surveys in that country. Alternative results for El Salvador, as well as for the Dominican Republic, Honduras, Paraguay, Peru, Uruguay, and Venezuela are available upon request. The main results reported in the paper do not vary in any of these cases because alternative income definitions are considered. During 2001, Argentina was in a deep recession. For reference, Tables A.2 and A.3 also include statistics for 1998, when the economy was still growing. The surveys excluded some areas of Bolivia in 1992, Colombia in 1992, and Peru in 1991. For reference, all the statistics for Bolivia in 1996, Colombia in 1996, and Peru in 1994 were computed using, alternatively, the whole national survey
or only the observations from the areas covered in the early 1990s. The label *regional* in Peru refers to all regions covered in the 1991 survey (which excluded Costa Rural, Selva Urbana, and Selva Rural).

Data for Nicaragua includes non-monetary income, while data for Costa Rica and El Salvador do not. However, ignoring non-monetary payments from the Nicaraguan survey does not significantly alter the results of the inequality comparison among these three countries (see also Table A.7).

The richest individual in the household survey of Mexico in 2000 has an income 18 times greater than the median individual in the top decile. That gap (18 times) separates the median individual in the top decile from a person in the poorest second decile of the overall income distribution. This is an example of the long “upper tail” of the distributions.


The Gini coefficient ranges from 0 (complete equality) to 100 (all national income concentrated in the hands of one individual). It is also common to present that coefficient in terms of the [0,1] interval, instead of the [0,100] interval.

There is room for debate as to the appropriate value of these measures. For a case for a lower value of $q$, see Lanjouw and Ravallion (1995). The best practice is to test the robustness of any conclusions against different assumptions, but space did not allow presentation of the results.

Even ignoring the most recent economic crisis, the inequality increase is very large (around 5 Gini points between 1992 and 1998).

The survey in Venezuela for 1989 is not strictly comparable with 1995 and 1998, since it does not include non-labor income and non-monetary payments. However, ignoring these incomes in 1995 and 1998 does not significantly modify the results. For instance, the Gini coefficient for the distribution of household per capita income in 1995 goes from 46.9 with all income sources to 46.7 with only labor monetary income.

The survey frame changed significantly in the Dominican Republic between 1995 and 1997, making the results of the comparisons difficult to interpret.


See Altimir 1986 and Gasparini, Marchionni, and Sosa Escudero 2001, among others, for documentation of similar inequality trends in Argentina.

This pattern is hardly attributable to informational problems, such as the urban coverage of the household survey. More than 85 percent of Argentineans live in cities and significant migratory movements have not occurred in the last three decades.

This result is in line with those reported by ECLAC 1996, Morley and Vos 1997, and Robles 1999.


The Gini coefficient actually fell around 1 point, which is just within the limit to be considered a non-significant change from a statistical point of view (at a 95 percent confidence level).
24 Latinobarómetro is an annual survey of public opinion that started in 1995. Data is gathered in 17 Latin American countries.


26 See Chen and others 1995, World Bank Development Indicators 1998–2000, and various World Bank Poverty Reports on these countries.


28 The next step in the research agenda would be to consider measures of polarization with more than two groups.

29 These include one proposed by Sen (equal to the mean times 1 minus the Gini coefficient) and two proposed by Atkinson (CES functions with two alternative parameters of inequality aversion). See Lambert (1993) for technical details.

30 The sources for GDP figures are World Bank 2001 and World Development Indicators (WDI-CD-ROM).

31 See Gasparini and Sosa Escudero 2001 for a more complete justification of this kind of study.

32 Note that in Panama the share of the bottom deciles increased, leading to a fall in inequality indices with greater weights in that part of the distribution (for example, the Atkinson Index with a parameter equal to 2).

33 The estimates range from 37 percent (Székely and Londoño 2000) to 53 percent (Sala-i-Martin 2002).

34 This study not attempt to compute poverty statistics with our sample of household surveys because the World Bank has recently issued a report on poverty in Latin America and the Caribbean (Wodon and others 2001) and frequently produces Poverty Reports in several countries in the region.

35 For reviews on the usual limitations of household surveys for distributitional analysis, see Deaton 1997, Gottschalk and Smeeding 2000, and Atkinson, Brandolini, and Smeeding 2002.

36 See Chapter 2 and Table A1 in the Statistical Appendix for more details on the PNAD survey.

37 For example, Gasparini and Sosa Escudero (2001) found that the measured increasing trend in income inequality in Argentina is robust when the three types of adjustments mentioned above are made.

38 The implementation of the bootstrap method here follows Sosa Escudero and Gasparini 2000. For more theoretical references on the subject, see Biewen 2002, Davidson and Duclos 2000, and Mills and Zandvakili 1997.

39 Results for other variables and indices are available from the author upon request.

40 Tabatabai (1996) at the International Labor Organization also made an independent effort to put together distributitional statistics for many countries in the world.

41 Secondary datasets have some problems that were recently reviewed by Atkinson and Brandolini (2001) and Atkinson, Brandolini, and Smeeding (2002).

42 Deininger and Squire (1996), for instance, highlight the “familiar fact that inequality in Latin America is considerably higher than in the rest of the world.”
The Gini coefficients are taken from the UNU/WIDER-UNDP World Income Inequality Database. All countries with at least one observation in the period 1991–1999 with the quality rating “reliable data” are included. When several observations are available for a given country, the most recent data point has been used.

Africa is not included in this graph, since there are not enough observations on income inequality in that region.

The data set includes observations for Bolivia, Ecuador, Guyana, Jamaica, Mexico, Nicaragua, and Peru. This set of countries does not have an average Gini coefficient for the household per capita income distribution that is significantly different from the overall mean for Latin America (that is, it is just 0.4 Gini points higher).

For instance, in the sample Brazil has 15 observations from 1960 but observations end in 1989. Being a country with very high inequality, omitting Brazil in the 1990s reduces the regional value for that decade and biases the results for the decadal changes.

The exception is the gap with Eastern Europe, a region that suffered strong distributional transformations in the 1990s.

For instance, for the case of Latin America, Bourguignon and Morrison (2002) consider five “countries” (Brazil, Mexico, Argentina/Chile, Colombia/Venezuela/Peru, and a group of 37 smaller countries).

Most statistics are obtained from Maddison 1992, Deininger and Squire 1996, and Altimir 1996.

Notice that this is not international inequality within a region obtained by averaging (with or without weights) national levels of inequality.

This fact is also highlighted in IDB 1998.

Two exceptions are Colombia and Nicaragua, where the Gini coefficient for the distribution of individual labor income significantly increased in the 1990s, while the Gini coefficient for household income remained unchanged.

Educational systems differ across countries and sometimes also over time within countries. See the Web site of this study for details on the construction of educational variables. The variable years of education is recorded in most surveys. For those in which it is not, we have estimated it from the maximum educational degree attained by people and their age. Years of education are truncated at a maximum of 17.

This fact would have been even more noticeable if years of education had not been truncated at 17.

Bolivia and Guatemala are the two clearest exceptions to this pattern.

The Gini coefficient, as most of the inequality indices, is scale-invariant (see Lambert 1993).

In addition, this roughly corresponds to (1) completion of primary education or less, (2) completion or non-completion of secondary education, and (3) at least some higher education.

See Wodon and others 2000 and Duryea and Pagés 2002 for estimates of returns on years of education in several Latin American countries.

Nicaragua and Peru experienced changes in the returns on skilled labor similar to those in Argentina.

The only exception is Mexico in 1996; nonetheless, the coefficient is not significantly different from 1.
Only Chile has a share higher than 10 percent, which may be the consequence of a better survey design. This higher share does not seem to account for the high inequality level in Chile, which is still one of the highest in Latin America when the analysis is restricted to the distribution of labor income (see Table A.7).

Bernanke and Gurkaynak (2002) replicate and update Gollin’s (2002) calculations for a larger sample of countries. They find that labor shares in Latin America are higher than those computed directly in the UN National Account Statistics. Moreover, the heterogeneity among Latin American countries seems to be lower.

The need for more reliable information on capital income has been emphasized again as recent studies have cited the distribution of non-labor assets as a key determinant in income distribution, income mobility, and growth. See Birdsall and Londoño 1997, Deininger and Squire 1998, and Deininger and Olinco 2002.

The only exception to this pattern is Chile.

Cardoso and Helwege (1992) report that the largest 7 percent of land holdings in Latin America account for 77 percent of the land. See also Thiesenhusen 1995 for more evidence.

The absolute difference in the number of children has also increased in many countries (see Table 5.20).

In some countries, statistics refer to schooling only for children 5 years of age or older, since no information is recorded for younger children. See the Web site of this study for details.

Of course, it could be the case that the gap in attendance rates narrows down, but the gap in the quality of education becomes larger.

This analysis follows Gasparini 2002.

“Stunting” is used to describe a condition in which children fail to gain sufficient height given their age. The term “wasting” refers to a situation in which children have failed to achieve sufficient weight given their height.

Samuels and Snyder 2001 show that this result holds when controlling for institutional variables.

The question in Latinobarómetro used for the study is: “Have you or any member of your family been assaulted, robbed, or victimized in any way during the past 12 months?”

Water refers to the availability of a source of water in the house or on the building lot. The variable restroom is equal to 1 when the household has a restroom with a toilet connected to a sewage system or septic tank. The variable electricity includes all sources of electricity. Some definitions and classifications differ among surveys, so comparisons should be made carefully. See the Web site of this study for more details on the definitions for specific countries.

The variable “telephone” includes fixed and cellular phones.