

# Latin America at the Turn of a New Century

The great economic, social and institutional changes engendered by development often progress slowly and haltingly. Consequently, advances in the development process are best measured over a long period of time. Using the start of a new century as its milestone, this edition of the *Economic and Social Progress Report* assesses Latin America's evolving development process in its various dimensions from just such a long-term perspective.

Although Latin America and the Caribbean as a region can be ranked at a medium level of development, it includes countries with incomes ranging from the average in developed countries to the median level in Africa. Its economic and social diversity notwithstanding, Latin America has some clearly defined features. Its pace of economic growth has been modest in comparison to world patterns, both in recent years and over several decades. Economic activity has been unstable and the fruits of growth have been distributed unequally among the population, giving Latin America the unfortunate distinction of having the worst distribution of income of any region in the world.

In terms of human development, Latin America presents a picture of sharp contrasts. In recent decades, the region has made outstanding progress in health, as seen in lower infant mortality and a significant increase in life expectancy. Illiteracy has declined significantly, a consequence of widespread access to primary education. Nevertheless, progress in education beyond the early grades has been quite poor, and as a result only a privileged few finish high school, much less college.

The conditions under which people relate to one another as a society represent an equally para-

doxical picture. While the region now stands in the forefront of the developing world in terms of civil liberties and democratic rights, some Latin American countries have the highest crime rates in the world. In many parts of the region, the symptoms of social and institutional breakdown are plain to see.

Faced with such problems on a daily basis, the people of Latin America are worried, perplexed and even pessimistic. Public opinion surveys show most Latin Americans believing that their countries are in bad shape economically, that earlier generations lived better, that poverty has increased significantly, and that income is distributed unfairly. Latin Americans overwhelmingly say that crime and corruption have increased a great deal and that most public institutions do not deserve their trust.

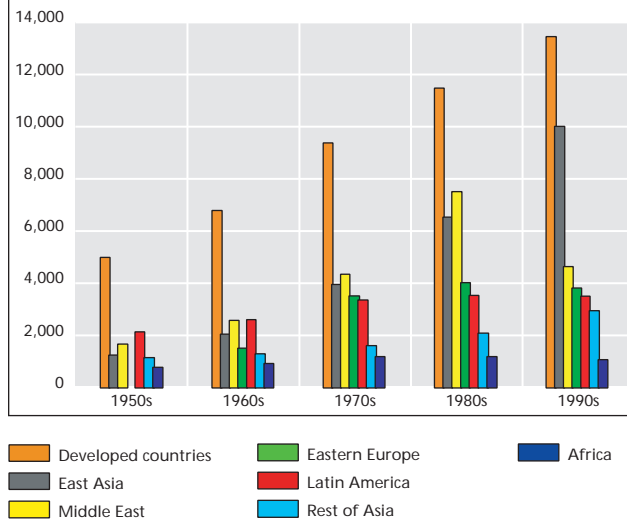
These concerns point toward entrenched problems that go beyond any of the difficulties countries might have endured in recent years. This introductory chapter offers a broader perspective. It shows how economic, human and social development indicators worldwide are closely connected to three groups of deep structural factors: demography, geography and institutions. These three relatively forgotten areas of development hold the key to better understanding Latin American societies today as well as the challenges awaiting them in the new century.

## The State of Development

### *Per Capita Income*

Latin America does not stand out in recent decades for its economic performance. The countries of the

**Figure 1.1** Per Capita GDP  
(In 1987 PPP dollars)



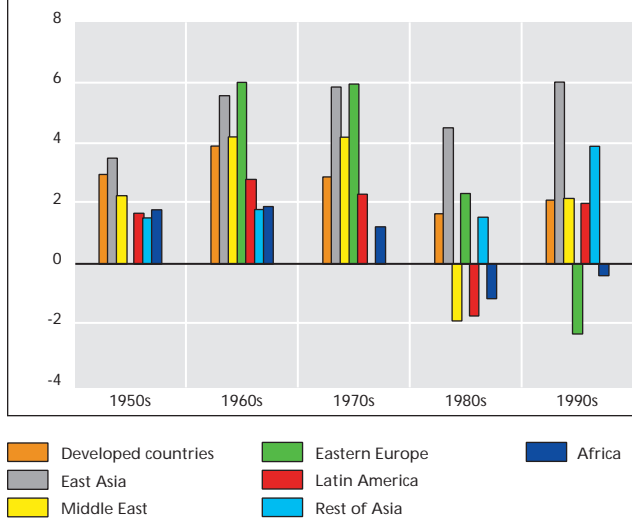
Source: Penn World Tables (1998).

region have an average per capita income level estimated at \$3,500 at 1987 parity prices (approximately \$3,100 in current 1999 dollars).<sup>1</sup> This figure is not even 30 percent of the per capita income of developed countries, and is lower than that of East Asia, the Middle East, and Eastern Europe.<sup>2</sup> As the 20th century draws to a close, Latin America leads only the rest of Asia and Africa in per capita income (Figure 1.1).

This was not the situation a half century ago. In the 1950s, per capita income in Latin America was higher than all other regions of the developing world, and roughly 50 percent of that of the developed countries. Although the region experienced significant growth over the two decades that followed, however, this was still no “Latin American miracle.” Economies elsewhere in the world were even more dynamic. While growth in Latin America was between 2 and 3 percent a year—rates that were certainly acceptable—growth in East Asia was over 5 percent for two decades. In the Middle East, growth averaged 4 percent, and in Eastern Europe it was close to 6 percent. And in the 1980s, while growth in Latin America plummeted to -1.7 percent a year, the economies of East Asia and the rest of Asia and Eastern Europe continued to record positive growth (Figure 1.2).

Statistics available for periods prior to 1950 are fragmentary, but it is known that the six largest Latin American economies maintained approximately

**Figure 1.2** Growth Rate of Per Capita GDP  
(In percent)



Source: IDB calculations based on Penn World Tables (1998).

the same distance from the United States in terms of growth during the first half of the 20th century. Looking back even further, there is solid evidence that Latin America became an underdeveloped region in comparison to the United States in the 19th century (Figure 1.3).<sup>3</sup> Consequently, it is not just in recent times that growth in the region has been unremarkable—Latin America in fact has never shown outstanding economic performance over a prolonged period of time during at least the past two centuries.<sup>4</sup>

Latin Americans appear to be all too aware of this ongoing economic problem. A series of four annual surveys covering 17 Latin American countries offers overwhelming evidence of dissatisfaction with

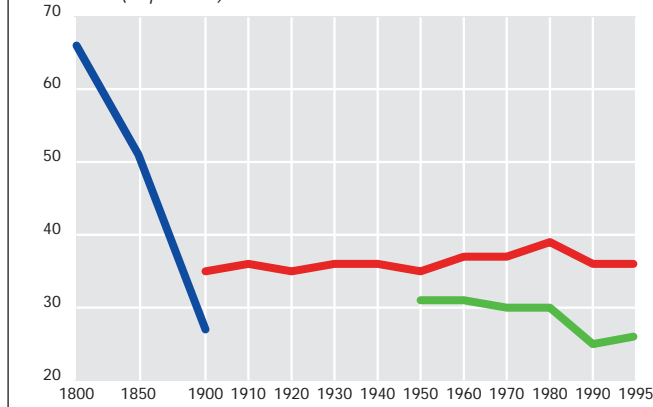
<sup>1</sup> Parity purchasing power prices correct not only for price changes due to inflation, but also for differences in the buying power of incomes in each country due to differences in relative prices. These adjustments improve the comparability of figures, but as with all economic estimates, they are not exempt from criticism. See Astorga and FitzGerald (1998).

<sup>2</sup> The classification of countries in this report comes from the World Bank. See Appendix 1.1 for details.

<sup>3</sup> Average income of the six Latin American economies was only one-third lower than that of the United States in 1800. By 1900, the ratio was close to 4:1. See Coatsworth (1998).

<sup>4</sup> See Astorga and FitzGerald (1998) and Coatsworth (1998). According to Maddison's statistics, the best relative performance of Latin America occurred during the first half of the 20th century, when annual per capita growth was 1.7 percent, the same as that of the “new western economies” (Australia, Canada, New Zealand and the United States) and greater than that of any other great regions of the world. See Maddison (1997, Table G.3).

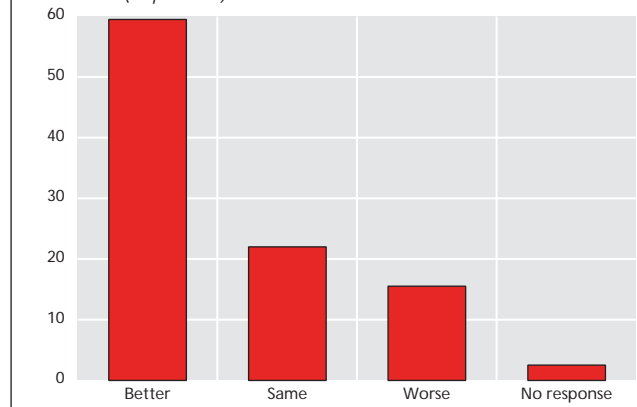
**Figure 1.3** Per Capita GDP Relative to the United States  
(In percent)



— Argentina, Brazil, Chile, Cuba, Mexico, Peru  
— Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela  
— Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Peru, Venezuela

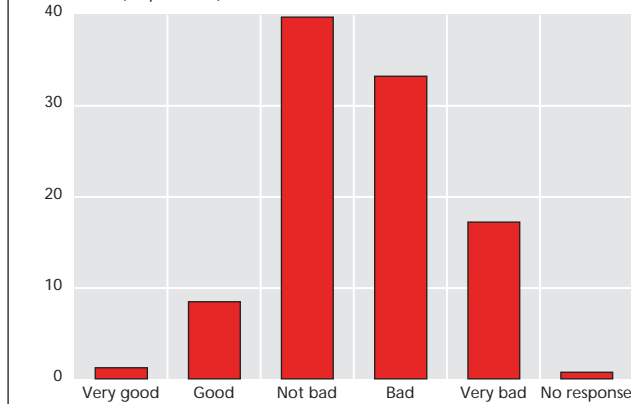
Source: Astorga and FitzGerald (1998) and Coatsworth (1998).

**Figure 1.5** Survey: Would You Say that Your Parents Lived...  
(In percent)



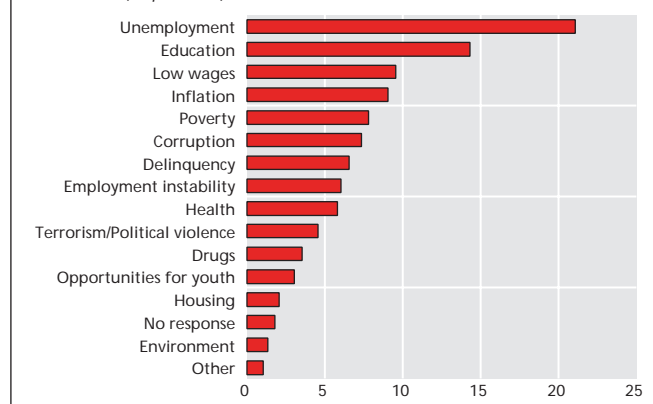
Source: Latinobarómetro, various years.

**Figure 1.4** Survey: How Would You Characterize the Current Economic Situation?  
(In percent)



Source: Latinobarómetro, various years.

**Figure 1.6** Survey: What Is the Most Important Problem in Your Country?  
(In percent)



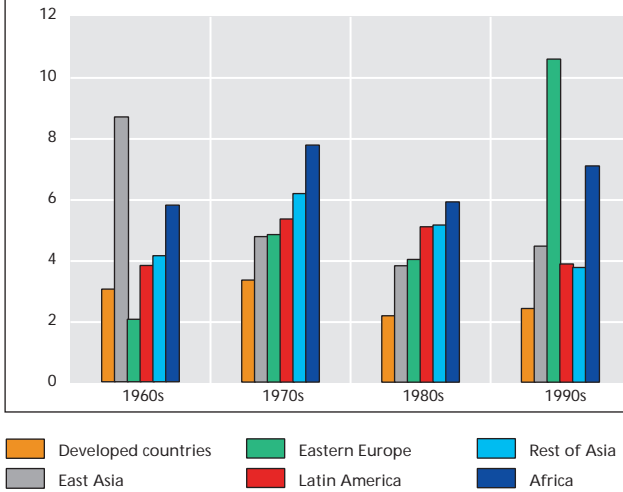
Source: Latinobarómetro, various years.

the state of economic development. Only around 10 percent of those surveyed characterize the current economic situation as good or very good, while almost 40 percent say it is fair, and practically half the population consider it bad or very bad (Figure 1.4). When asked to consider the long term, some 60 percent of Latin Americans believe their standard of living has declined from that of their parents, and only 15 percent believe that it has improved (Figure 1.5).

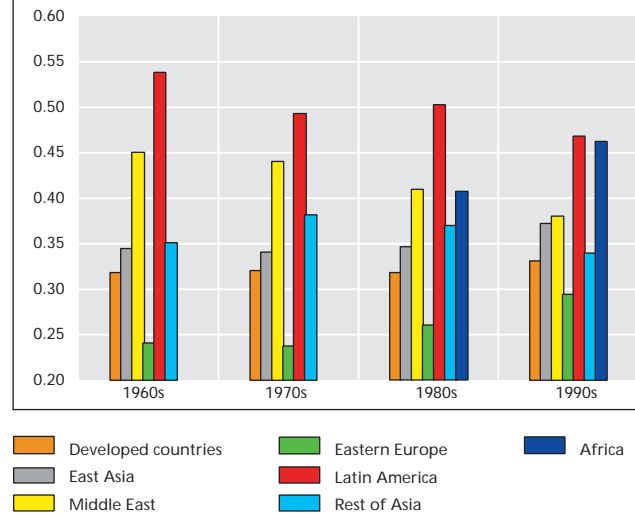
At first glance, these opinions seem to be too harsh, at least when compared with progress in per capita income, which has been positive in all respects.

Nevertheless, the subjective judgment that these surveys reflect may incorporate a broader vision of the economic situation than what is narrowly captured by current or recent per capita income levels or growth rates. Latin Americans show a great deal of concern over unemployment, inflation and job insecurity, all of which speak to a chronic problem with Latin American economies: volatility (Figure 1.6).

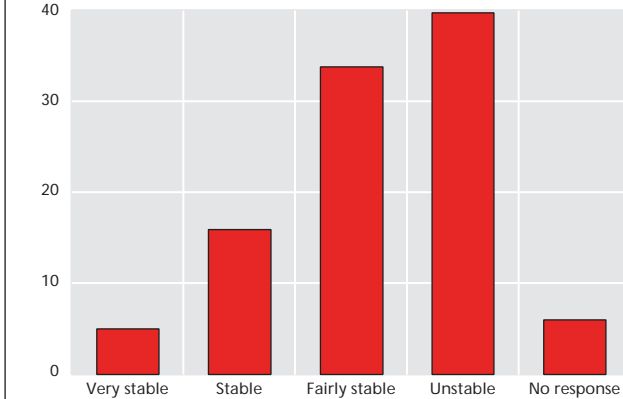
Given the recent exchange rate and financial turbulence in several countries of the region, the term “volatility” seems to suggest events of external origin, or sudden shifts in stock exchange prices. For the

**Figure 1.7 GDP Volatility***(In percent)*

Source: IDB calculations based on World Bank (1998).

**Figure 1.9 Gini Coefficient**

Source: Penn World Tables (1998).

**Figure 1.8 Survey: How Stable Is the Economic Situation?***(In percent)*

Source: Latinobarómetro, various years.

average Latin American, such events are basically just news items in the press, not personal matters. Job instability and real incomes, however, hit much closer to home. Figure 1.7 shows Latin America's history of GDP volatility, an effective measure of everyday instability. Although Latin America has not been the most unstable region over four decades, it has nonetheless registered persistent instability that is much higher than that in developed countries. The growth rate in any Latin American country in any year typically fluctuates 4 points in one direction or another. It is not surprising, then, that for all four survey years, four of ten Latin Americans characterized the eco-

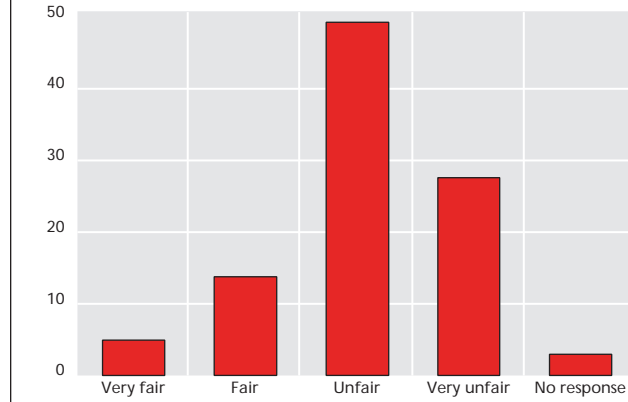
nomical situation as unstable, and only two of ten thought it was rather stable or very stable (Figure 1.8). Naturally, in those countries that are more subject to sudden economic tremors, these survey figures are even more extreme.

### *Income Distribution*

Latin America's income levels are not only modest, slow growing and unstable, but they are also very poorly distributed among the population. The region has consistently had higher indices of income concentration than any other region in the world (Figure 1.9). In Latin American countries, a fourth of national income goes to only 5 percent of the population, and 40 percent goes to the richest 10 percent. By contrast, in Southeast Asian countries, the richest 5 percent receive 16 percent of income on average, and in developed countries the figure is 13 percent.<sup>5</sup> The perceptions of Latin Americans on this aspect of economic development are as overwhelming as on the previous issues. Only two of ten people think distribution is just or very just, while the remaining eight say it is unjust or very unjust. (Figure 1.10).

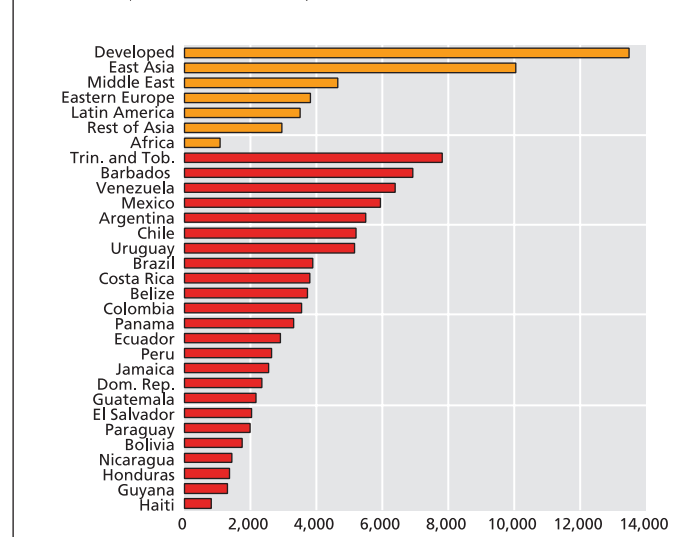
<sup>5</sup> A detailed account of income concentration in Latin America can be found in the 1998-1999 issue of this IDB report.

**Figure 1.10** Survey: How Fair is Income Distribution?  
(In percent)



Source: *Latinobarómetro*, various years.

**Figure 1.11** Per Capita GDP in the 1990s  
(In 1987 PPP dollars)



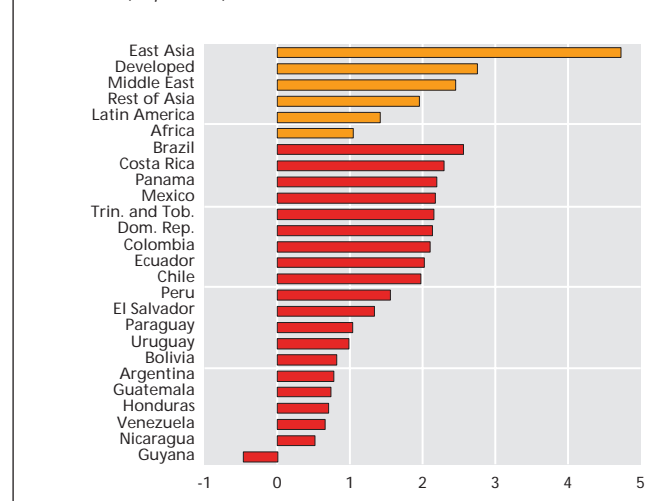
Source: *Penn World Tables* (1998).

### A Heterogeneous Region

In short, Latin America has had serious deficiencies in terms of medium- and long-term development. It has fallen behind other regions of the world, both developed and developing; its growth has been unstable; and the economic fruits have been poorly distributed. This conclusion should not obscure the fact, however, that within the region there are notable differences in economic performance. The highest-income countries in Latin America—including Trinidad and Tobago, Barbados and Venezuela—have incomes that are approximately half those of developed countries, when measured in terms of their purchasing power parity (PPP). The poorest countries in the region, which include Haiti, Guyana, Honduras and Nicaragua, have income levels that are a tenth or less of those of developed countries and are not far from the average for Africa, which is the poorest region in the world. The countries closest to the Latin American average are Brazil, Costa Rica, Belize, Colombia, Panama, Ecuador, Peru and Jamaica (Figure 1.11).

Differences between countries in economic growth are also considerable. Brazil has achieved the greatest economic growth since the 1950s, with an average annual per capita growth rate of 2.5 percent. Seven other countries had average growth rates of between 2 and 2.5 percent, while in seven others it was only between 0.5 and 1 percent. Only Guyana registers average negative growth for the entire pe-

**Figure 1.12** Growth Rate of Per Capita GDP, 1950-98  
(In percent)

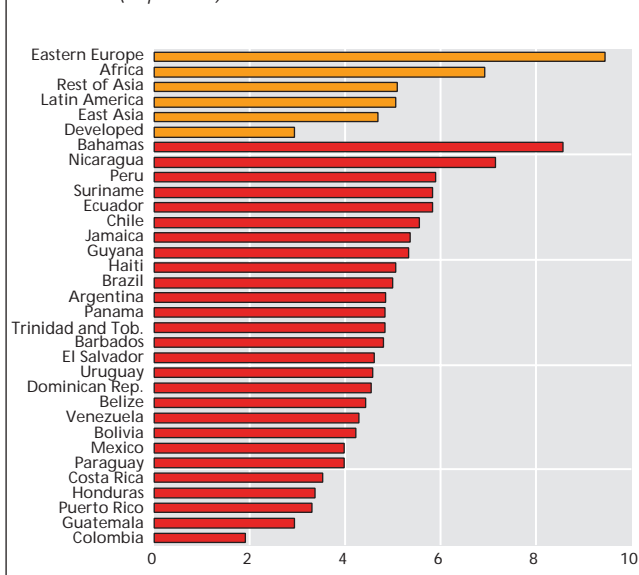


Source: *IDB calculations based on Penn World Tables* (1998).

riod. Despite this significant diversity, however, in no Latin American country did per capita income grow as fast as the average for the developed countries or the East Asian economies (Figure 1.12).

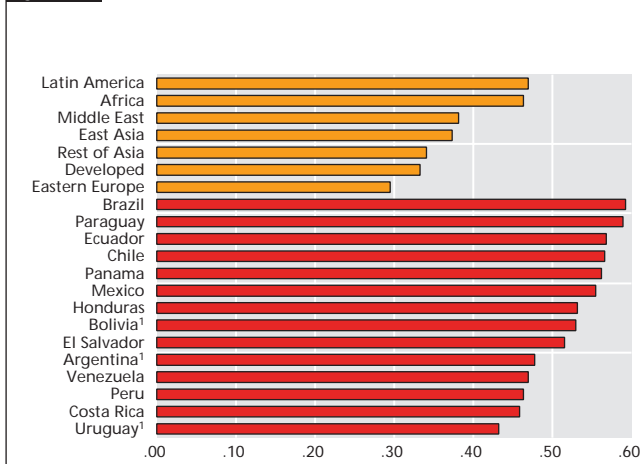
In terms of volatility, countries such as Colombia, Guatemala, Honduras and Costa Rica have traditionally enjoyed stability comparable to that of the developed countries, while others, such as the Bahamas, Nicaragua, Peru, Suriname and Ecuador

**Figure 1.13 GDP Volatility, 1960-98**  
(In percent)



Source: IDB calculations based on World Bank (1998).

**Figure 1.14 Gini Coefficient in the 1990s**



<sup>1</sup> Urban data only.

Source: IDB calculations based on household surveys and Deininger and Squire (1996).

have been very volatile (Figure 1.13). It is important to note that these calculations take into account levels of volatility over four decades, which may not correspond to recent events or to what has happened in other subperiods. For example, Peru stands out as a country with relatively high volatility, despite its notable advances towards stability in the last decade. At the other extreme, Colombia, traditionally the most stable country in all of Latin America, would not be particularly impressive if only its growth performance during the 1990s were considered.

Although income distribution also varies across countries—from Uruguay and Costa Rica, where distribution is best, to Brazil and Paraguay, where income concentration is very high—all the Latin American countries for which there are comparable statistics have income concentration indices that are above the world average and comparable to, or higher than, those of Africa. Thus, poor income distribution is the most characteristic feature of the Latin American countries (Figure 1.14).

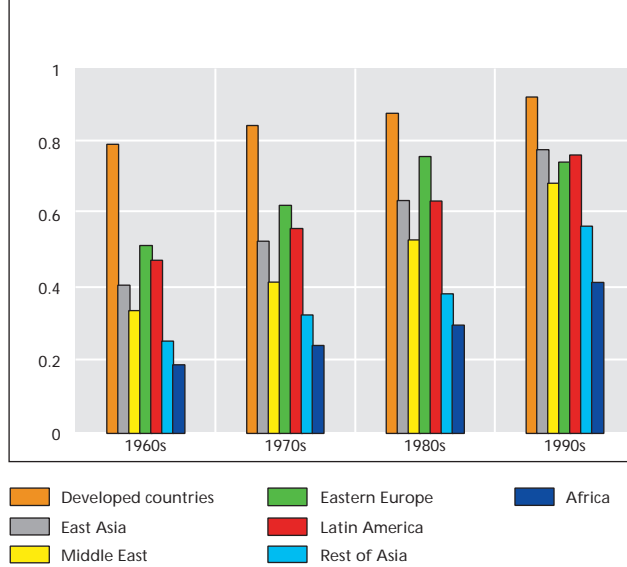
## Human Development

The human development indicator most commonly used is the United Nations Human Development Index (HDI). The HDI is based on the concept developed by Amartya Sen (1985 and 1992), according to which development means essentially enhancing the abilities of individuals to develop in the various realms of their personal lives and social interaction. The HDI seeks to capture both the economic and social aspects of development, and it is calculated as a combination of the following four indices (all on a scale from 0 to 1):

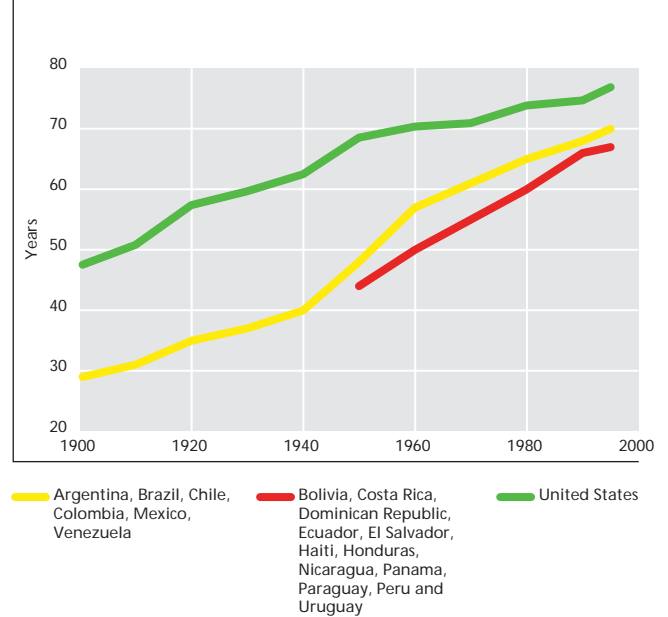
- Life expectancy at birth (where the minimum and maximum values used to define the scale are 25 and 85 years and are weighted as one-third of the HDI);
- The literacy rate of people over 15 (weighted as two-ninths);
- The combined rate of school enrollment in primary, secondary and post-secondary education (weighted as one-ninth); and
- GDP per capita in constant 1987 parity dollars (with a minimum and maximum of \$100 and \$4,000, respectively, and weighted as one-third).<sup>6</sup>

The HDI for Latin America is surpassed only by the developed countries and is quite similar to that of the countries of East Asia and Eastern Europe. On the range of 0 to 1 over which this index moves, the 33 countries of Latin America included in the index

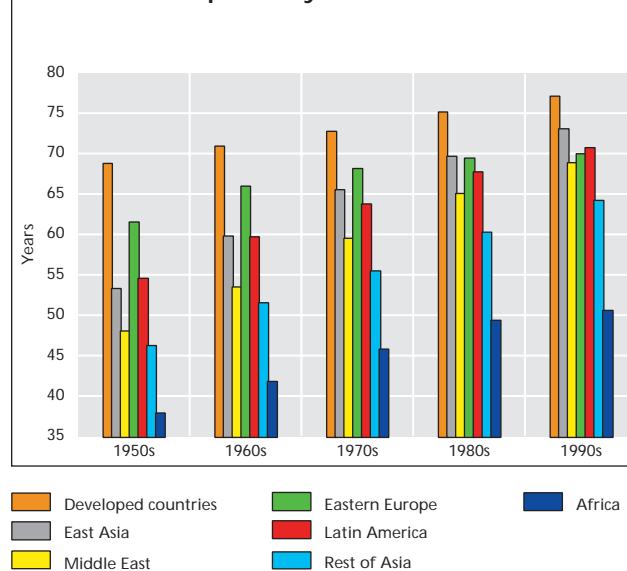
<sup>6</sup> The income index is a nonlinear transformation of GDP amounts based on the so-called Atkinson index, according to which incomes above the world average are discounted at a gradually increasing rate. In practice, the discount rate used in the calculation is so high that it does not make any appreciable difference at any income level over \$4,000 (1987 PPP).

**Figure 1.15 Human Development Index (HDI)**

Source: UNDP (1998).

**Figure 1.17 Life Expectancy at Birth**

Source: Astorga and FitzGerald (1998).

**Figure 1.16 Life Expectancy**

Source: UNDP (1998).

reach an average level of 0.76, whereas the rate for developed countries as a group is 0.92. This relative gap has been narrowing over time. In the 1960s, Latin America had a human development level of 0.47, while in developed countries it was 0.79. The distance was reduced in succeeding decades, even while per capita income in the region dropped during the 1980s.

Hence, contrary to Latin America's economic development, the region has made rapid progress over

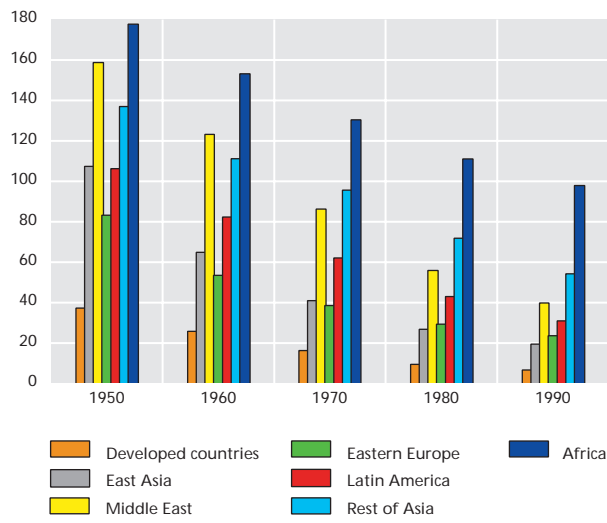
the past four decades in the most basic areas of human development as measured by the HDI. However, this was true not only for Latin America. The countries of East Asia and the Middle East made even greater progress, and the rest of Asia and Africa also showed significant gains (Figure 1.15).

### *Progress in Health*

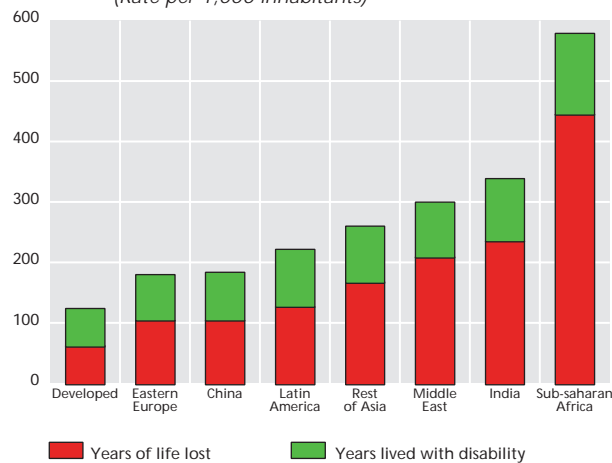
Health conditions throughout the developing world have advanced enormously since the mid-20th century, reducing the gap with the industrial countries. While average life expectancy in developed countries has risen by eight years since the 1950s and now stands at 77, it rose 20 years in Asia and the Middle East. The pace of progress in Latin America was less remarkable, although still significant: life expectancy rose from an average of 55 years in the 1950s to approximately 71 in the 1990s (Figure 1.16).

More fragmentary pre-1950 statistics on life expectancy indicate that the process of improving health conditions gathered momentum around 1940. After that point, the life expectancy gap with the United States, which had been constant since the beginning of the century, began to narrow (Figure 1.17).

Increases in life expectancy throughout the developing world largely reflect the notable decline

**Figure 1.18a Infant Mortality***(Per 1,000 births)*

Source: UNDP (1998).

**Figure 1.18b Disability Adjusted Life Years by Region, 1990***(Rate per 1,000 inhabitants)*

Source: Murray and López (1996).

in infant mortality. In the 1950s, the average infant mortality rate in developing countries was 135 for every 1,000 live births. After a continual process of reduction in all regions, this average declined to 54 per 1,000 in the 1990s. Latin America has succeeded in reducing infant mortality from 106 to 31 for every 1,000 live births, which represents remarkable progress. However, it is surpassed in both absolute and relative terms by the East Asian and Middle Eastern countries (Figure 1.18a).

Mortality and life expectancy figures reflect probabilities of mortality that are assumed to be closely

connected to overall health conditions. However, a more direct measurement of health conditions are disability adjusted life years (DALYs), which measure loss of productive life due both to mortality and the disease burden of the population.<sup>7</sup>

In developed countries, for every 1,000 persons, 120 person-years are lost due to death and illness. Approximately half are years lost because of premature death, and the other half due to a temporary or permanent handicap or disability. In sub-Saharan Africa, it is estimated that 580 person-years per 1,000 people are lost from premature death and illness. With an average of approximately 220 person-years lost, Latin America stands at a relatively favorable position on this scale, although it is surpassed by East European countries and China (Figure 1.18b). In Latin America, premature deaths explain 57 percent of the burden of loss of productive life, a percentage similar to that of Eastern Europe and China and lower than that of other regions.

Hence, in health as in economics, despite the enormous progress in recent decades, there is no Latin American miracle. However, because both types of progress are closely related, it is worth asking whether they have moved at a similar pace. More precisely, given Latin America's level of economic development over time, can its basic health indicators be said to fit worldwide patterns? With regard to life expectancy, the answer is that Latin America has gone from being below world patterns in the 1950s to being slightly above them since the 1970s (on a scale that is not statistically significant, as can be seen in Table 1.1).<sup>8</sup> Progress in infant mortality indicators has been even more remarkable. In the 1950s, infant mortality in the region was more than 40 percent above the worldwide pattern. The infant mortality gap declined but continued to be significant (in statistical terms) until the 1970s. Since then it has declined to an insignificant level.

<sup>7</sup> The information for this indicator is only available by regions, which do not exactly correspond to those in previous indicators. See Murray and López (1996).

<sup>8</sup> These conclusions are based on regressions of the life expectancy logarithm as a function of the per capita income logarithm and dummy variables for Latin America and Africa. The latter was included because of the adverse health conditions in that region, which tend to distort international comparisons. For a detailed analysis of Africa's health problems, see Bloom and Sachs (1998).

**Table 1.1** Social Development Indicators:  
Is Latin America Above or Below World Patterns?

Development indicator	Over- or under-performance									
	1950s		1960s		1970s		1980s		1990s	
Life expectancy (0-1) <sup>1</sup>	-0.056	(-1.86)	-0.007	(-0.22)	0.019	(0.07)	0.028	(1.51)	0.034	(1.65)
Infant mortality (log) <sup>1</sup>	0.406*	(4.13)*	0.334*	(3.00)*	0.327*	(2.81)*	0.169	(1.48)	0.087	(0.81)
Literacy rate (0-1)	na		0.212*	(3.81)*	0.131*	(2.55)*	0.194*	(4.83)*	0.151*	(4.36)*
Primary enrollment	na		0.121*	(2.11)*	0.132*	(2.91)*	0.118*	(2.37)*	0.091*	(2.21)*
Secondary enrollment (0-1)	na		-0.056	(-1.80)	-0.038	(-1.02)	-0.026	(-0.69)	-0.059	(-1.53)
Average years of education	na		-0.542	(-1.45)	-0.276	(-0.69)	-0.013	(-0.03)	-0.056	(-0.14)
Democracy index (0-1)	na		-0.092	(-0.97)	-0.094	(-1.05)	0.068	(0.77)	0.148	(1.79)

<sup>1</sup> Regressions including dummy variable for the African countries.

Note: Coefficients and t-statistics for the Latin American dummies in cross-section regressions for development indexes controlling for (PPP adjusted) income.

\* Significant at 5 percent or more.

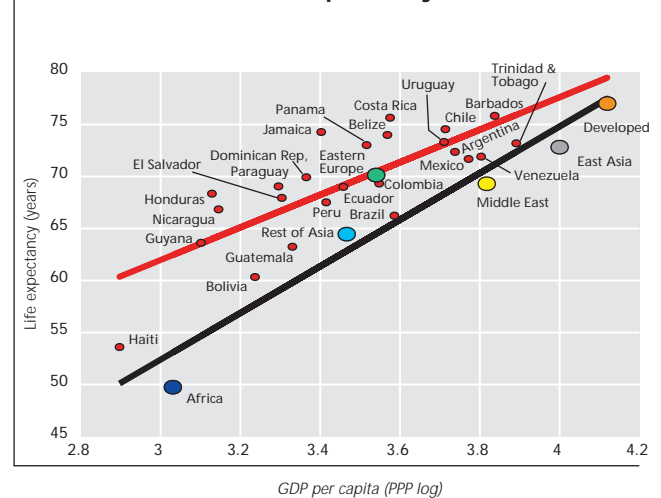
The countries with the best health indicators in Latin America include Argentina, Barbados, Belize, Chile, Costa Rica, Jamaica, Panama, Trinidad and Tobago, and Uruguay. All of them have life expectancy at least equal to that of the Southeast Asian countries, and in some instances quite close to the average of developed countries. The countries with short life expectancy include Guyana, Bolivia and Haiti, which are below the average for the rest of the Asian countries, although all of them are above the average for Africa (Figure 1.19). The countries that stand out for their high or low infant mortality are generally the same as those for life expectancy (Figure 1.20).

### Slow Progress in Education

Progress in education around the world has been substantial, although improvements have come less rapidly than in health. This is partly because education statistics such as the illiteracy rate or years of schooling of the adult population are the accumulation of results over several decades, whereas health statistics such as life expectancy and infant mortality reflect health conditions at a particular moment. Even so, education statistics for Latin America reveal a much slower pace of progress than in other regions of the world, and reflect serious deficiencies in quality as well.

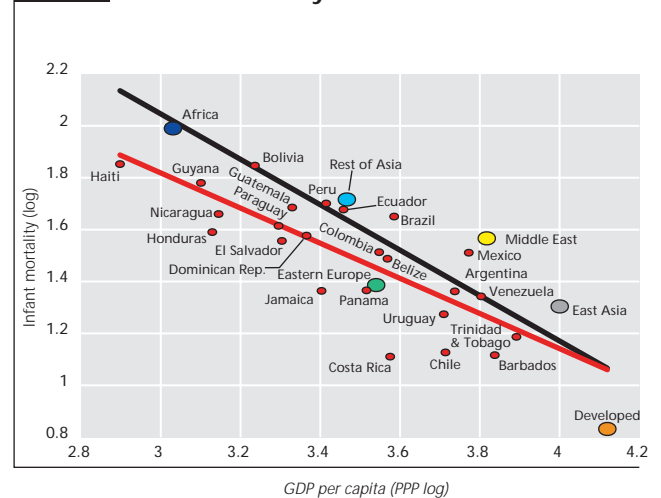
In Latin America, the literacy rate of those over 15 years of age rose from 72 to 87 percent between the 1960s and the 1990s. Although literacy was already high (80 percent) in the developed countries

**Figure 1.19** GDP and Life Expectancy

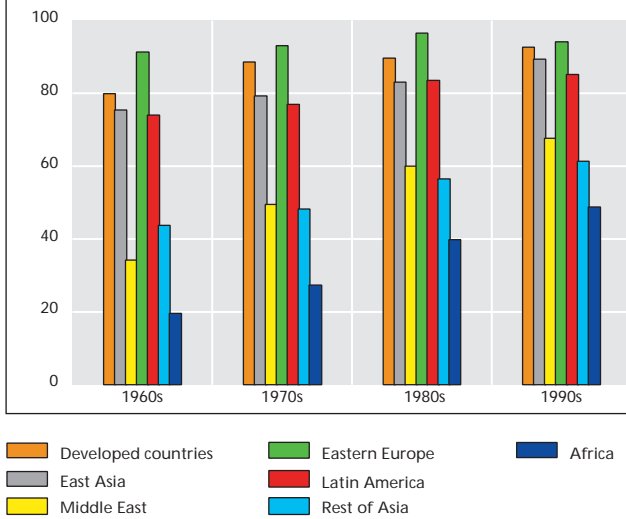


Source: UNDP (1998) and Penn World Tables (1998).

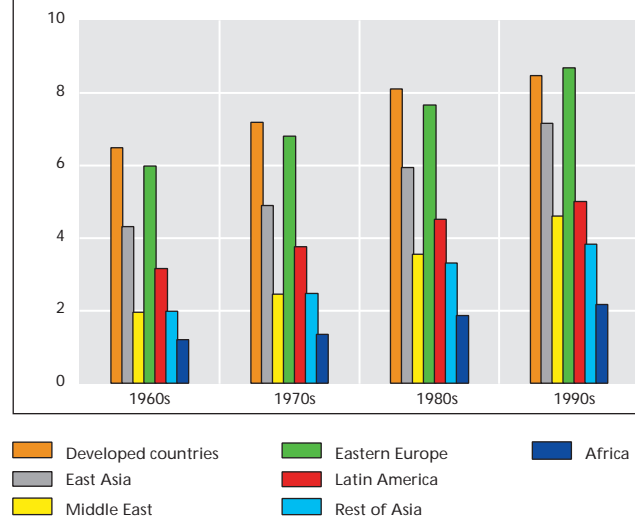
**Figure 1.20** Infant Mortality and Income Levels



Source: UNDP (1998) and Penn World Tables (1998).

**Figure 1.21** Literacy Rate*(In percent)*

Source: Barro and Lee (1994).

**Figure 1.22** Average Years of Education of Persons over 25 Years of Age

Source: Barro and Lee (1996).

in the 1960s, it improved more rapidly than in Latin America, reaching 93 percent in the 1990s. With the exception of Eastern Europe, where literacy was over 90 percent in the 1960s, all developing regions advanced more rapidly than Latin America (Figure 1.21).<sup>9</sup>

The slow pace of educational progress is even more striking in the number of years of education of the adult population. Latin Americans over 25 in the 1960s had only 3.2 years of education. This average reached 5 years in the 1990s. Meanwhile, Southeast Asian countries went from 4.3 to 7.2 years, Middle Eastern countries from 2 to 4.6 years, and the Eastern European countries from 6 to 8.7 years (Figure 1.22). Only in Africa did the number of years of education of the adult population rise more slowly than in Latin America.

Latin America's educational progress has been particularly slow in comparison with that of the East Asian countries. As paradoxical as it might seem, this is not due to significant differences in the percentage of people who are uneducated, or to the proportion of those who have been to the university. In fact, in Latin America this latter proportion is slightly higher than in East Asian countries.<sup>10</sup> Rather, Latin America lags behind East Asia primarily because of the very small proportion of its people who complete all or part of secondary school. Even though there is broad

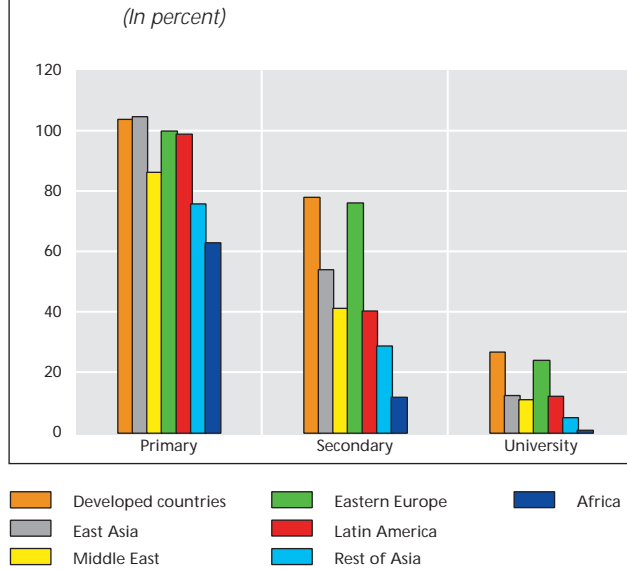
access to primary education in Latin America, the vast majority of students leave the system without finishing primary school, much less reaching secondary education.<sup>11</sup>

The literacy rate and average education of adults reflect the educational outcomes of many generations, so they are rather poor measures of the educational process, which can be very much affected by population structures. Two indicators less affected by this limitation are rates of schooling and average years of education by cohorts. Both confirm the weaknesses of educational systems in Latin America. Figure 1.23 shows that in Latin America, rates of primary education are close to 100 percent, not greatly different from developed countries, East Asia or Eastern Europe. Hence, the problem is not one of initial access to

<sup>9</sup> These comparisons between regions of the world are based on statistics processed by Barro and Lee (1994) that have the merit of using the same methodology for 183 countries. However, their figures are not entirely compatible with the estimates based directly on household surveys in Latin American countries used elsewhere in this Report.

<sup>10</sup> In Latin America, 8.6 percent of the labor force has had higher education, as opposed to 8.2 percent in East Asia. See IDB (Chapter 2, 1998/99).

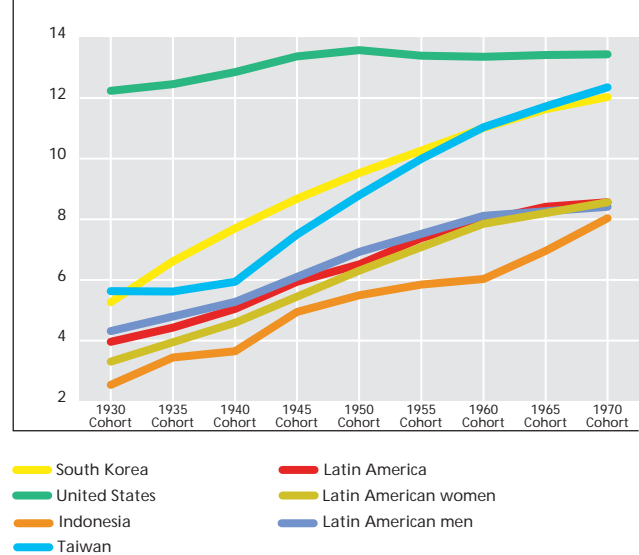
<sup>11</sup> The proportions of individuals with (complete and incomplete) secondary education in Latin America and East Asia are 16.9 percent and 28 percent, respectively; for (complete and incomplete) primary education, the figures are 50.8 and 43.8 percent, respectively. See IDB (1998/99, Chapter 2).

**Figure 1.23 Enrollment Rates in the 1990s**

Source: Barro and Lee (1996).

education. Nor are Latin America's schooling rates at higher levels of education especially low. They are lower than those of developed countries and Western Europe, but, again, similar to those of East Asia and Eastern European. The greatest deficiencies are found in secondary education, where Latin America is far below the developed countries, Eastern Europe and East Asia, leading only the rest of Asia and Africa.

Trends in educational levels attained by the various cohorts also reflect Latin America's limited educational progress, although in this instance the group of countries considered is smaller. Using national household surveys, Figure 1.24 shows that while each new cohort of Latin Americans has received more education than the previous one, progress has slowed over recent generations. For example, men born around 1960 received 7.7 years of education, whereas those who had been born around 1930 had only 4.7 years of education. Women advanced even more rapidly, from 3.7 years of education for those born around 1930 to 7.8 years some 30 years later. However, the pace of educational progress slowed notably after the generation born in the 1960s (who had to go through the education system between 1966 and the mid-1980s). Those born around 1970 received eight years of education, with a gain of only 0.4 years for males and 0.9 for females.

**Figure 1.24 Average Years of Education, by Age Cohort**

Source: Behrman, Duryea and Székely (1999a).

The pace at which education advanced from some cohorts to others in Latin America was much slower than in South Korea or Taiwan, two representative East Asian countries. People born in those countries around 1930 attained only five years of education, while those born around 1970 completed 12 years.

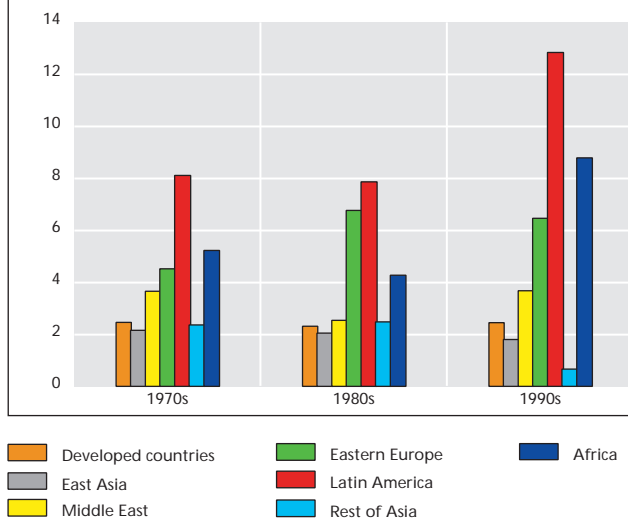
Latin America's slow educational progress has meant that its educational gap vis-à-vis the United States, which narrowed significantly up to the generation born in 1960, has changed very little since then.

In sum, Latin Americans have good reason to think that education is one of the most serious problems faced by the region today. Although the region's problems with education are less apparent when based on comparisons with a broad sample of countries, and not solely with developed countries or selected Southeast Asian countries, the central conclusions do not change. Latin America's problem lies neither in its rates of illiteracy nor primary schooling (including incomplete primary education), where the region in fact is significantly ahead of worldwide patterns. The problem lies in the fact that broad access to the most basic educational levels does not translate into children completing primary school, let alone moving ahead to secondary education. Consequently, average levels of schooling remain below world standards (Table 1.1).



**Figure 1.27** Homicides

(Median per 100,000 inhabitants)



Source: UNDP (1998).

Latin America is paradoxical in its social development. The region has the highest murder rates in the world and shows any number of symptoms that reflect a lack of respect for life and property. Yet the region has moved to the forefront of the developing world in terms of civil liberties and respect for democratic rights.

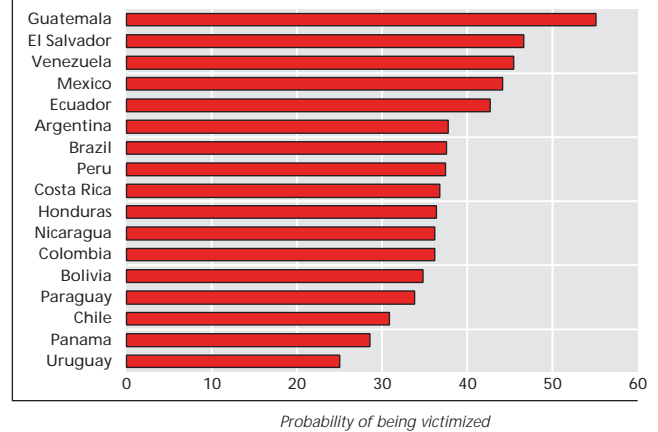
### *Respect for Life and Property*

Crime has increased at an alarming rate in Latin America in recent decades. Even though the region had the highest murder rates in the world dating to the 1970s, the typical country during that period had 8 murders a year per 100,000 inhabitants, a figure that did not change notably in the 1980s.<sup>13</sup> In the 1990s, however, the median murder rate approached 13 per 100,000 persons—four times the rate in other groups of countries, except for Africa. With some notable exceptions like Chile and Costa Rica, murder rates in the region have increased dramatically—as much as five times over or more in the worst cases. Although crime has risen in developed and developing countries throughout the world, Latin America and Africa are the only two regions that have registered such a striking increase in murder rates (Figure 1.27).

Because crime reports are the main source of official statistical information for reporting crime rates, these indicators are often seriously flawed. For

**Figure 1.28** Survey: Victimization Rates

(In percent)

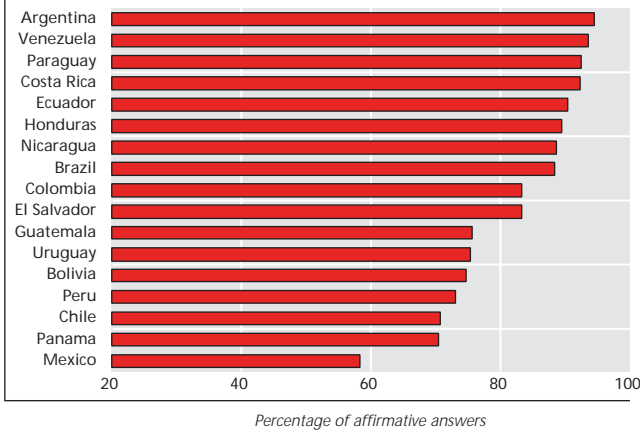
Source: Gaviria and Pagés (1999) based on *Latinobarómetro*, various years.

murder rates, these deficiencies make international comparisons less precise; for most other crimes, they render them useless, since the inclination to report crimes is greater where justice is more effective and where laws are broadly respected. There is, however, one source of information that is more reliable—opinion surveys in which interviewees are asked whether they or their family members have recently been victims of a crime. Such surveys conducted in 18 Latin American countries in 1996 and 1998 suggest that crime is widespread in the region. At least one out of every four persons in any country and in any year says that some family member has been a victim of some crime. Only in Uruguay and Panama are victimization rates below 30 percent; most other countries are around 40 percent, and in one case data indicate that crime affects more than 50 percent of citizens (Figure 1.28).

The perception of most people in all Latin American countries is that crime has been rising year by year. At least 9 of 10 people in five countries say that “crime has risen a great deal” (the reference periods are 1996 and 1997). Even in countries where opinion is not so negative, such as Mexico, at least 5 of 10 people believe crime has been rising (Figure 1.29).

<sup>13</sup> Figures for groups of countries are for median rates, not for averages of countries, as in previous tables. This is to avoid the bias introduced by extreme cases.

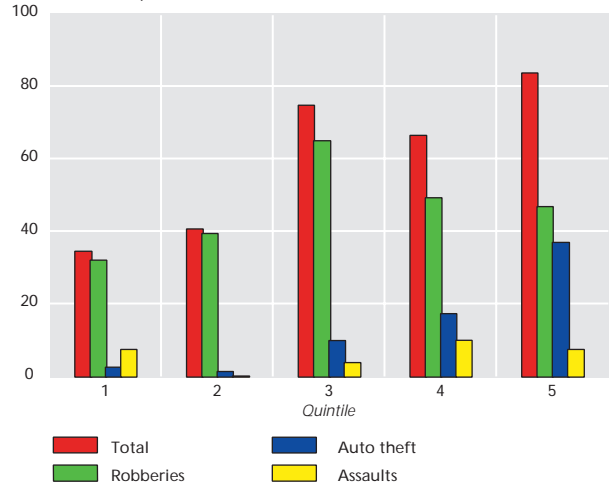
**Figure 1.29** Survey: Has Crime Increased Substantially?  
(For the years 1996-97)



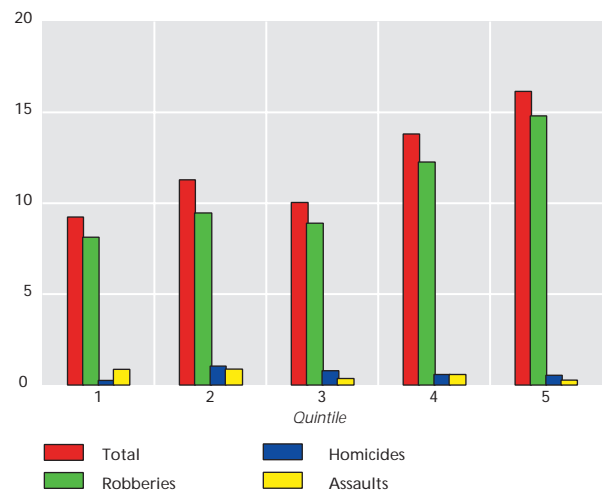
Source: *Latinobarómetro*, various years.

The seriousness or nature of the crimes cannot be established for the same number of countries to which the figures refer. Nevertheless, more detailed statistics from official sources, available for Colombia, El Salvador and Peru, provide a clearer picture of the incidence of crime and the people affected by it. Property crimes unquestionably represent the bulk of crimes in these countries, and possibly the most common form of crime of which Latin Americans are victims in all countries. Property crimes more frequently affect upper-income individuals. In Colombia, the likelihood of being a victim of theft is around 15 percent for people in the highest income quintile and less than 10 percent for people in the lower three quintiles. The wealthy are also the most vulnerable to auto theft. In El Salvador, the most critical case, the likelihood that a person from the highest income level (or someone in his or her family) will be the victim of auto theft is around 40 percent. In the next quintile it is around 20 percent. By contrast, robbery of other kinds of property affects a larger proportion of the middle strata—the probability is over 60 percent in the middle quintile—and assaults more often and more severely affect the lower strata. In Peru, the rate of personal injuries in the two lowest strata is approximately twice what it is in the highest level, and in Colombia, families in the second and third poorest quintiles are most likely to be affected by murder (Figure 1.30a, b and c).

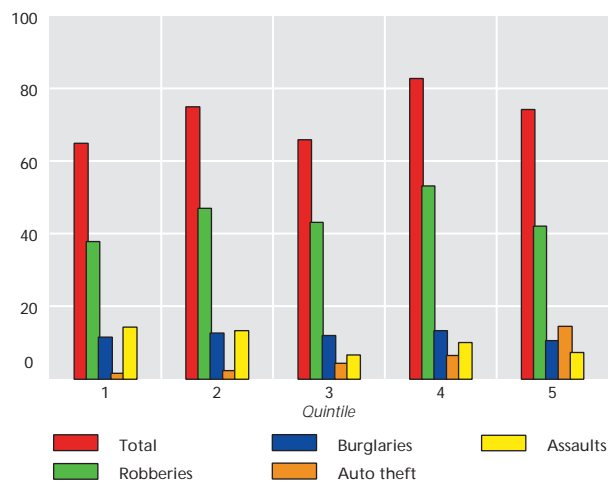
**Figure 1.30a** Crime per Income Quintile: El Salvador  
(In percent)



**Figure 1.30b** Colombia



**Figure 1.30c** Peru



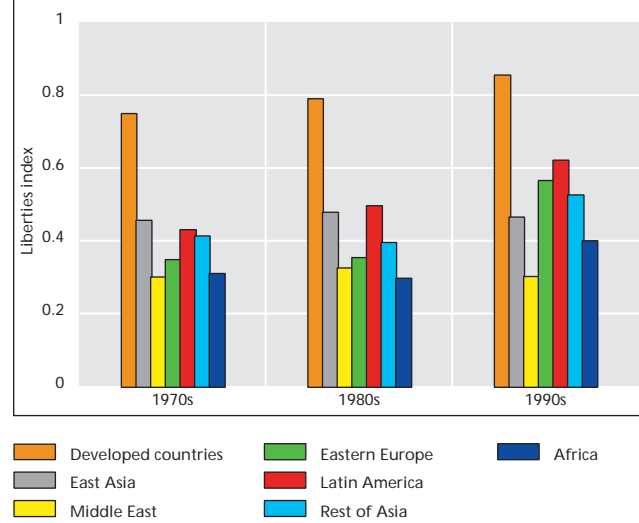
Source: *Gaviria and Pagés* (1999).

### *Civil Liberties and Democracy*

In stark contrast with what has happened in terms of crime and violence, Latin America has made remarkable progress in recent decades in the areas of civil and political freedom. In the 1970s, the region did not stand out in terms of social development in comparison with other developing regions, and it was far below the developed countries. In the 1990s, however, Latin America's social development is closer to that of the developed world, with the region boasting higher indicators for civil and political freedom than any other developing region (Figure 1.31). Latin America's recent progress toward democracy is even more remarkable from a long-term perspective. Indicators dating to the 1800s show that no other region has attained such great progress over a similar period of time (two decades). After the setbacks to democracy in the region between the mid-1960s and the late 1970s, subsequent progress has been sustained and deep, and is reflected in almost all countries of the region (Figure 1.32).

Indicators for civil and democratic freedoms must be considered with caution, since they are subjective in nature and may be affected by significant measurement errors. However, these deficiencies are lessened when various complementary sources and indicators are combined, and when information is drawn from a number of years. Figure 1.31 is an index of liberties developed by combining political rights, civil liberties and democracy for available years in each decade. These complementary indicators come from two sources recognized as having the greatest coverage in these areas,<sup>14</sup> and were chosen based on a wide range of questions to experts. Questions used for the political rights indicator evaluate the ability and autonomy enjoyed by individuals and social groups (especially if they are minorities) to participate freely in the political process through which rulers and representatives in legislative bodies are chosen; to set up political organizations; and to engage in opposition to the party in power. In the area of civil liberties, the indicators gauge the ability of individuals to make personal decisions (regarding work, religion, residency, marriage, freedom, and so forth); to express their opinions, dissent publicly, and create and develop (civil, labor, professional) organizations; to benefit freely from their economic effort and their

**Figure 1.31** Democratic Freedom and Civil Liberties



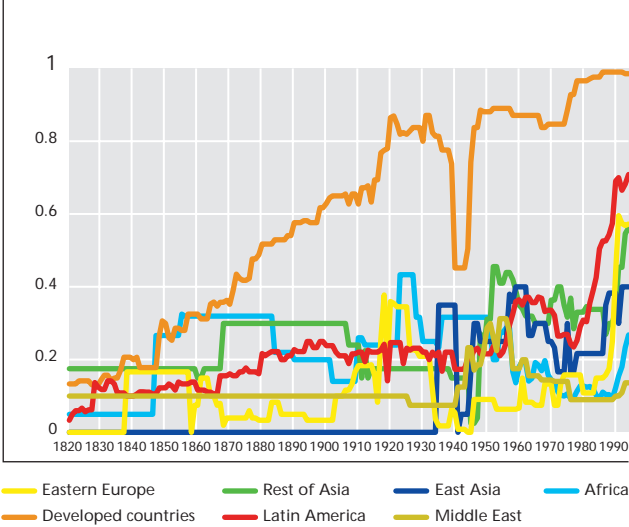
Source: Jagers and Gurr (1995) and Freedom House (1999).

legal property; and to have access to justice and be protected from arbitrary treatment or political persecution or terrorism. The democracy indicator (which appears separately in the long-term series in Figure 1.32) uses more general categories that measure the competitiveness and regulation of political participation, the competitiveness and openness with which the executive is chosen, and the systems of checks and balances limiting the power of the executive.

Latin American countries vary enormously in civil and political freedoms. By these indicators, some countries, including Barbados, Costa Rica, Uruguay, and Trinidad and Tobago, rank close to the highest possible levels, (with figures above 0.9 in the combined index that ranges from 0 to 1). The lowest levels, between 0.3 and 0.6, are found in countries whose political systems have recently undergone transitions, and which in all instances are progressing toward freer systems. In keeping with worldwide trends, Latin American countries with higher income levels display greater advances in civil and political freedoms. But as Figure 1.33 makes clear, in most countries of the region, that advance is considerably above the world level, and in

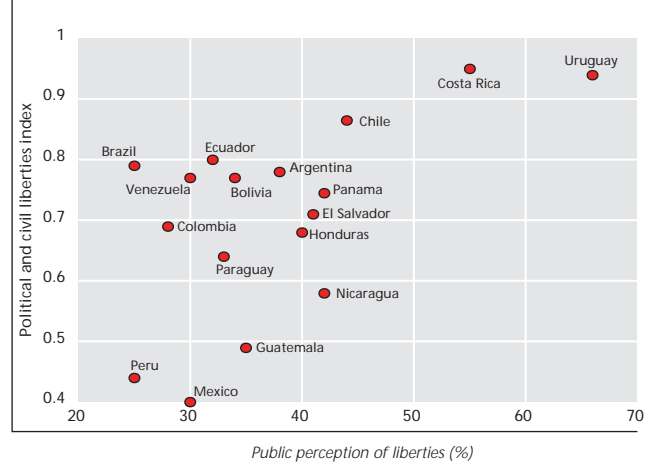
<sup>14</sup> The first two indicators come from the Comparative Survey of Freedom carried out since the 1970s by Freedom House, while the third is from Polity III, an ambitious and respected project that gathers and constructs political indicators worldwide, with coverage starting in 1800. See Jagers and Gurr (1995).

**Figure 1.32 Democracy Index**



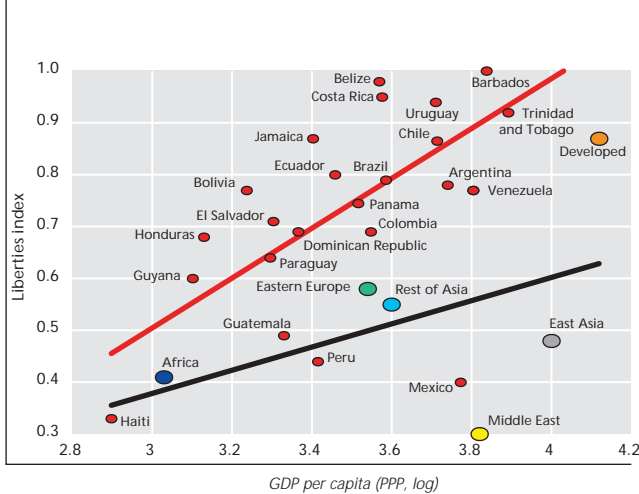
Source: Jagers and Gurr (1995) and Freedom House (1999).  
 Note: Index increases as democracy increases.

**Figure 1.34 Political and Civil Liberties Index vs. Public Opinion**



Source: Jagers and Gurr (1995), Freedom House (1999) and Latinobarómetro, various years.

**Figure 1.33 Democratic and Civil Liberties**



Source: Jagers and Gurr (1995), Freedom House (1999) and Penn World Tables (1998).

some cases even above the average level in developed countries, despite differences in income level. This confirms how much democratic progress has been made in the region.

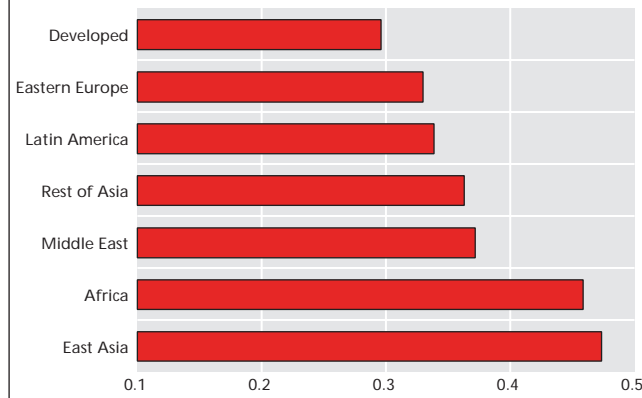
It is important to note that the ratings by international experts and analysts upon which these indicators of civil and political liberties are based may differ from public opinion. This is an important point, because the basis and functioning of liberties and democracy may vary from country to country, from culture to culture, and over time. Figure 1.34 compares the index of freedoms discussed thus far with an indicator of the perception of freedoms taken from public

opinion surveys. This indicator averages the opinion of citizens on how satisfied they are with democracy, whether elections are clean, the chances for the political group they favor, and equal treatment of citizens before the law. Although both indicators correlate well, in some instances the indicators worked out by experts may diverge notably from public opinion—a difference in perception that, it is well to note, is often more critical than what the experts themselves report (as can be proven from the scales of the two indicators in the figure).

### Lopsided or Typical Development?

The various dimensions of development in Latin America have therefore advanced unevenly in recent decades. Do these imbalances indicate that development in Latin America is somehow abnormal and possibly unsustainable? The answer is no. Development in Latin America is no more unbalanced than in other developing regions, and not even much more than it is in the industrial countries. Figure 1.35 presents an indicator of imbalances in development for each country based on heterogeneity among seven indicators: life expectancy, infant mortality, illiteracy in adults, the combined rate of schooling for all three educational levels, the educational level of the working-age population, murder, and civil liberties. Higher levels of this indicator represent greater imbalances in development

**Figure 1.35** Disequilibrium in the Development Process  
(Averages of standard deviations of development indexes)



Source: IDB calculations based on selected development indicators.

(on a scale of from 0 to 1). Curiously, East Asia has the most lopsided patterns of development, which indicates that in these countries the various dimensions of economic, human and social progress have not gone hand in hand. Latin America's development pattern is as balanced as that of Eastern Europe (after the fall of communism), and only somewhat less balanced than that of the developed countries.

### Structural Factors that Affect Development

So as Latin America moves into the 21st century, its economic performance is modest and profoundly unequal and unstable. Yet the region has seen remarkable improvement in life expectancy and infant mortality, achieved broad coverage in the early years of schooling, and progressed rapidly in the area of freedom and civil liberties. On the other side of the scale, Latin America shows alarming rates of crime and violence and has low average education levels, that have increased little in recent decades.

The aims of this report are to discuss the structural reasons for these gains and setbacks and to analyze the long-range economic, social and institutional policy options that can help to hasten development in the next few decades. Because of its medium-to-long-range perspective, the study does not directly examine the more conjectural factors that might explain fluctuations of economic growth in some years as opposed to others, nor does it look at macroeconomic policies that help explain medium-range

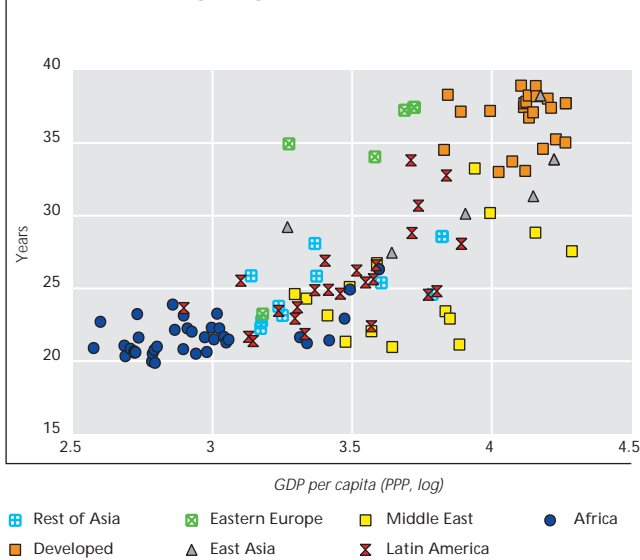
growth trends. These matters have received a great deal of attention from different analysts, including previous editions of this report.<sup>15</sup>

Our interest is focused instead on the deeper structural factors that may help to explain the enormous differences in the levels of economic, social and human development that separate Latin America from other regions, and Latin American countries from one another. Eclipsed by purely economic topics, three groups of structural factors—demographics, geography and institutions—have not received the attention they deserve in recent years in analyses of Latin America's development. But as will be seen, development is not just economics.

This report first highlights the influence on development of demographic factors, particularly the age structure of the population and its changes over time. Although demographic conditions are not a constant and are both a cause and an effect of the development process, they constitute a structural determinant insofar as they change slowly and their effects last for many decades. Demographic issues have received considerable attention during certain periods in Latin America, but the discussion traditionally has centered more on the implications of demographic growth and birth control. This report looks more at ways that demographic conditions can be addressed by policies in order to promote economic and social development.

The second group of structural factors that influence development involve geography—both natural conditions and those resulting from human activity. There has been a tendency to ignore geography in economic and social studies of Latin America because it is incorrectly associated with a fatalistic vision of development or with connotations of racism against peoples of the developing world. But the focus of this study is simply on how economic outcomes can be influenced by such factors as the productivity of land, the effect of climate on health conditions, and access to markets. Just like demography, geography is not a constant over time. Even though natural conditions such as location, climate or access to the sea may not change greatly, their influence on development

<sup>15</sup> The 1996 and 1997 editions discussed how stabilization policies and structural reforms have affected development and growth trends in Latin America since the mid-1980s.

**Figure 1.36** Average Age and Economic Development

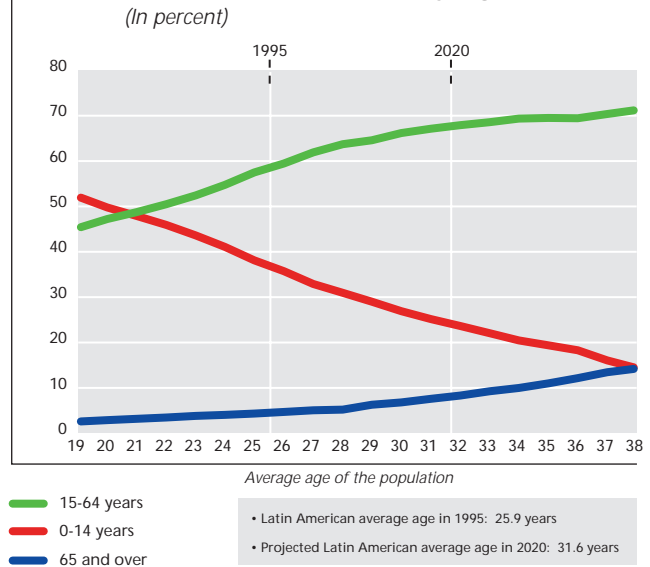
Source: IDB calculations based on UN (1998).

outcomes can change radically, depending on where populations locate and what economic activities they undertake, investments in infrastructure and public services, and changes in costs and modes of transportation, among other factors. Like demography, these factors do not change abruptly, so conditions at any given moment can leave a persistent imprint over time.

The third group of structural factors is institutions. Although institutions in Latin America have received greater attention than demography or geography, most recent analyses and policy recommendations have focused on the effects of institutions on different dimensions of development and on which types of institutions are conducive to economic and social development. This report looks more at the reasons why institutions are the way they are and the factors that keep them from getting better.

Particularly little attention has been paid to the political aspects of institutions. In various circles, including multilateral lending agencies, study of political structures and practices is forbidden territory, even though problems with them may be the most serious constraint to improving institutions and to adopting economic and social policies favorable to development.

The remainder of this chapter seeks to answer this question: What features of demography, geography and institutions set the countries with the lowest levels of development apart from those that are most developed? The answer will provide the tools

**Figure 1.37** Population Breakdown by Age Group

Source: Behrman, Duryea and Székely (1999b).

with which the chapters that follow examine how the three groups of structural factors affect the development process or interact with it over time, and define which policies can best channel those factors toward promoting development.

### Effects of Demography

There is a strong association between levels of economic development and the average age of populations (Figure 1.36). The average age in the poorest countries of the world, most of them in Africa, is between 20 and 25 years old, while the average age in the developed countries hovers between 32 and 40. The Latin American countries, which stand mostly in between these extremes in terms of income levels, have average population ages that range from 21.6 years old in Nicaragua to 34 years in Uruguay. The close relationship between average age and per capita income is evident not only in these cross-section comparisons across countries, but also across time by countries.<sup>16</sup> This is enormously important because it suggests that demography can cause changes in levels of

<sup>16</sup> More specifically, the Technical Appendix shows that the coefficient of a panel regression with fixed effects is consistent with that of a panel regression with random effects, which suggests that the relationship observed across time by countries and across countries at a given moment are both due to the influence of demography on development.

## Box 1.1

## The Influence of Demography on Development

The academic discussion regarding demographic effects on development has traditionally been dominated by the vision of Thomas Malthus. At the end of the 18th century, he hypothesized that demographic growth trends can occasionally be moderated if a shortage of resources does not keep up with expansion of the population. The debate has raged ever since as to whether demographic growth is a favorable or unfavorable factor for the sustainable expansion of supply, not only of food but also of all types of goods. This controversy is still not settled, since the relationship between economic and population growth is mediated by numerous factors (Cassen, 1994).

This discussion has distracted economists and other social scientists from studying the much more important connection between demographics and development, which only recently has gained attention. The most important relationship is not the size or the rate of growth of the population but its composition. Economic theories on the life cycle allow us to understand why. The consumption needs of children and the elderly surpass their productive capacity, while the opposite occurs for people of intermediate ages. Therefore, the capacity to save and invest in physical and human capital for any society depends on the composition of its population. Con-

sequently, growth will be higher in societies that have an age composition that favors intermediate ages, and less in societies that are very young or very old. The composition of the population will also impact the fiscal capacity of the government through its effects on the size and composition of public spending and in many other economic and social variables, as shall be seen in Chapter 2 of this report.

The favorable effect that a low dependency rate can have on growth has been pointed out for many decades (Coale and Hoover, 1958). However, empirical studies and policy discussions have centered on the issue of population growth rather than on the mechanisms through which the composition of the population affects growth and development, or on the policies that can affect these mechanisms. Only recently have some studies begun to emphasize the importance of age composition of the population (ADB, 1997; Kelley and Schmidt, 1998).

In other words, by focusing on demographic expansion and population control, we have neglected other dimensions of demography that are not only more important for development, but which are more favorable for public policy intervention.

development over time (without ruling out the opposite relationship). The reason for this claim is that changes in average ages of populations are the results of the births and deaths taking place over many previous decades (perhaps the result of development during those time periods). Therefore, a simultaneous increase in average age and in economic or social development levels suggests an influence of demography on development.

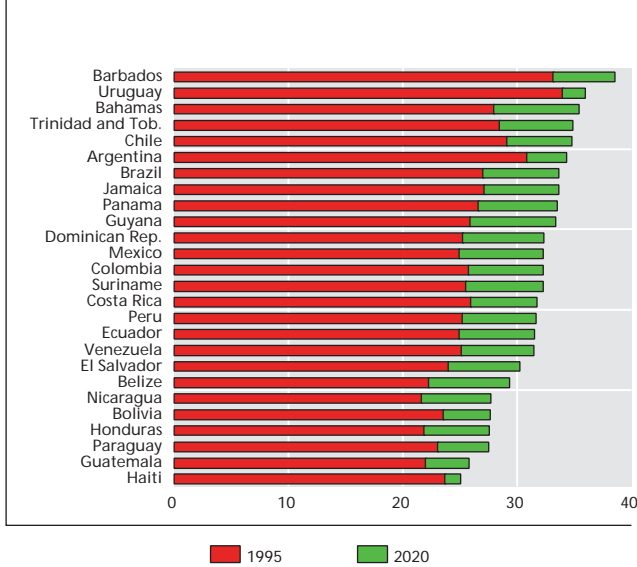
Even though the theoretical basis for this association is well-known and accepted, the economic channels through which the process takes place and the manner in which it can stimulate development have received little attention in empirical studies and discussions on social and economic policies (see Box 1.1). The central argument is that different age groups behave differently, reflecting a person's place in the life cycle. Children and older people are less economically productive than those of intermediate ages, and they also have greater health care and educational needs. Hence, age composition will affect the capacity of a population to generate per capita income, as well as a society's saving rate and its ability to ad-

equately cover educational and health needs. Through these channels, age composition thus influences not only current income levels but also a society's ability to generate future income.

In countries with a very low average age, around half the population is under 14 years old, while a tiny proportion of the population is over 64. In countries with the highest average age, the child population represents less than 20 percent of the total and the elderly begin to have a relative weight as important as that of children (Figure 1.37). The position occupied by each country between these two extremes depends on its stage in the demographic transition. The pace of that transition can vary a great deal, depending essentially on when and how quickly mortality and fertility have dropped, as will be discussed in detail in the next chapter.

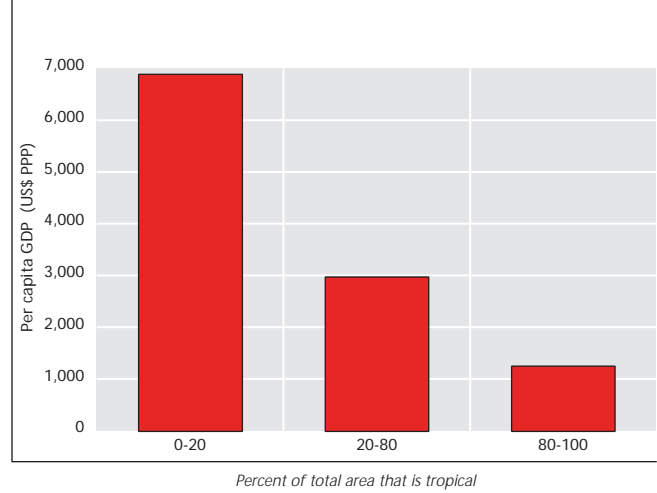
In Latin America, the average age of the population will go from 25.9 years in 1995 to 31.6 years in 2020. Some countries will have modest changes, such as Haiti, where the average age will rise by only 1.3 years. But others—such as in Guyana, the Bahamas, Mexico, the Dominican Republic and Belize—will see

**Figure 1.38 Average Age of the Population**



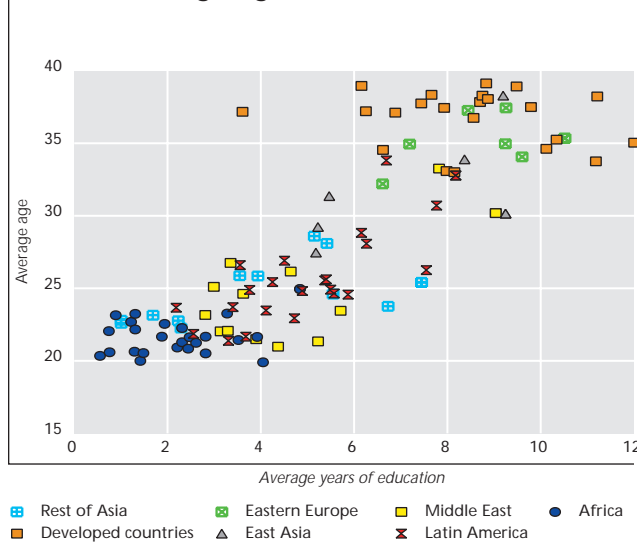
Source: IDB calculations based on UN (1998).

**Figure 1.40 Tropical Areas and Per Capita GDP**



Source: IDB calculations based on Penn World Tables (1998) and Gallup, Sachs and Mellinger (1999).

**Figure 1.39 Average Age and Level of Education**



Source: Barro and Lee (1996) and IDB calculations based on UN (1998).

changes of seven years or more, significant enough to seriously affect conditions for development (Figure 1.38). However, such a change is no guarantee of faster economic and social development. It is true that insofar as the number of dependent persons per worker falls, average income will rise simply for accounting reasons. But those countries with higher average ages do not have higher per capita incomes for that reason alone. Rather, they have to have taken advantage of this demographic change to improve conditions for

development. Most countries with high average ages have achieved higher average educational levels for their work force than have very young countries, thereby enabling them to generate more income per worker (Figure 1.39). Within demographically mature countries, however, there is great diversity of educational achievement—much greater, in fact, than among young countries, which suggests that improving development conditions through the demographic transition is an opportunity that may or may not be seized. As we will see in the next chapter, that will depend to a great extent on the policies adopted during the early stages of the transition in such areas as education, labor and social security.

*Effects of Tropical and Isolated Conditions*

Geography can have a strong influence on development because it affects productivity, access to markets, and the advantages of economies of scale or agglomeration. It is hard not to notice that, in general, the more developed countries share geographical conditions quite different from those of poor countries. Per capita income of countries located in the temperate zones is five times greater than that of tropical countries (Figure 1.40). Practically all the 37 least economically and socially developed countries in the world, with per capita incomes of less than \$1,400 at 1987 parity, are located within a range of 20 degrees

## Box 1.2

## Why Does Geography Matter?

A series of empirical studies has shown conclusively that income levels and growth rates of countries are associated with different geographical conditions, both natural ones and those resulting from human activity.<sup>1</sup> The influence of geography operates through health conditions, productivity of land, availability of natural resources, transportation costs, and economies resulting from scale and from market size.

Health conditions are more adverse in the tropics, where modest changes of seasons and hot and humid climates make it difficult to control the propagation vectors of certain illnesses. Malaria today affects 500 million people in tropical areas, lowering the rate of economic growth in affected countries by 1 percentage point.

Tropical lands generally provide lesser yields for seasonal crops because processes of photosynthesis are slower, evaporation is quicker, rainfall varies more, and pest control is more difficult. These disadvantages have tended to be reinforced by technological developments intended for temperate areas that are difficult to adapt to tropical regions.

A generous endowment of nonrenewable natural resources is an asset that can easily be turned into a revenue source. Nevertheless, empirical studies show that abundant nonrenewable natural resources do not favor growth, possibly because they tend to generate very concentrated and capital-intensive property structures. These structures often do not encourage creation of productive employment or investment in human capital, leading to conflicts over distribution that hinder institutional development.

Transportation costs are the main reason why regions with access to the sea or large navigable rivers have better chances for development. High transportation costs discourage industrialization and hinder investment and competition. Being far from large centers of world trade has a similar effect, isolating countries from major world currents of trade and technology.

The spatial distribution of the population can correct or reinforce geographic effects. Higher population densities in coastal regions generate agglomeration benefits due to the proximity between producers, the greater supply and diversity of human capital, and learning, specialization and complementarity externalities. While all this translates into higher growth when there is higher density in coastal regions, the concentration of populations in isolated regions may be a source of greater difficulties.

These findings show geographic effects to be a tangible and influential development factor, yet geography traditionally has occupied a modest role in policy discussions on economic and social development. More recently, these findings have begun to generate healthy academic debate and controversy, like any field of empirical investigation in economics (Collier and Gunning, 1999; Sender, 1999).

<sup>1</sup> ADB (1997); Bloom and Sachs (1998); Gallup (1998); Gallup, Sachs and Mellinger (1999).

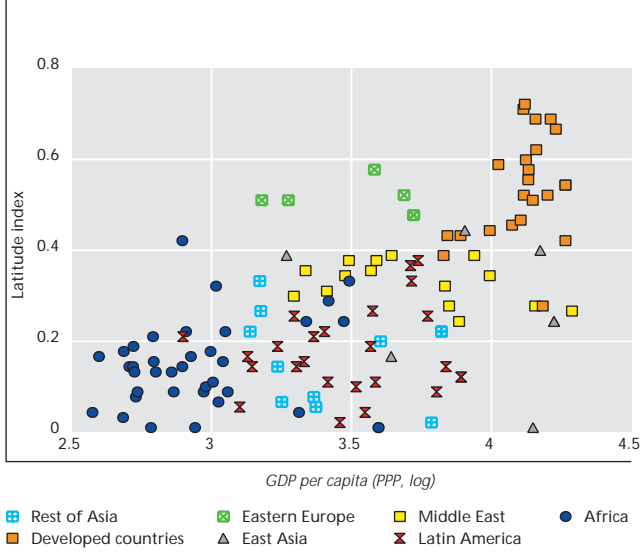
from the equator. Although there are exceptions, and even though being far from the tropics does not necessarily mean greater development, the odds would appear to be against tropical countries (Figure 1.41). The reasons, which have only recently begun to be studied, have to do with the quality of tropical lands, the difficulties of adapting agricultural technologies to tropical regions, and the adverse health conditions in hot and humid areas (see Box 1.2).

Location vis-à-vis the equator is not the only geographical factor that affects development. Having access to means of communication and being close to large world markets are also crucial factors. Countries whose populations are located no further than 100 kilometers from the ocean have average per capita incomes close to \$8,000 (1987 parity), while those where 20 percent or less of the population is near the

sea have incomes of only some \$1,500 (Figure 1.42). Transportation problems raise costs, reduce possibilities of trade and specialization, and isolate countries from information and technological developments. Being located far from the major centers of world consumption is another constraint, one which may well have been reinforced over time. For the most part, developed countries are quite close to one another, while the poorest and slowest-growing countries in sub-Saharan Africa are far from the centers of development (Figure 1.43).

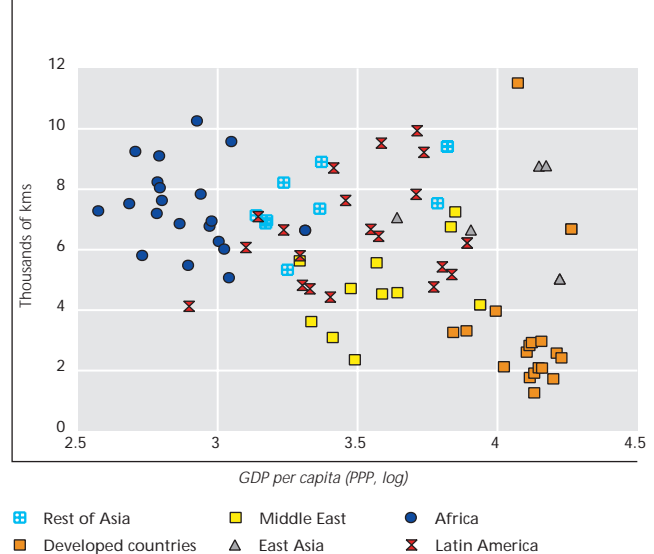
Many other geographical variables, both natural and man-made, can influence economic and social development, often paradoxically. While greater reserves of exploitable natural resources such as oil or minerals constitute a potential source of revenue, they can also constrain development of other factors of

**Figure 1.41 Latitude and Economic Development**



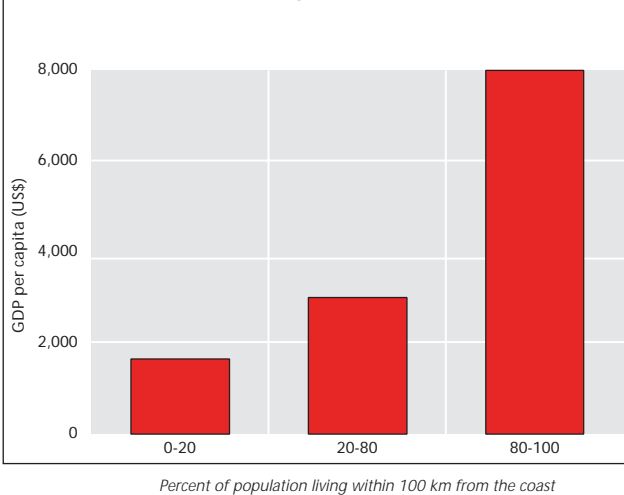
Source: Gallup, Sachs and Mellinger (1999) and Penn World Tables (1998).

**Figure 1.43 Distance to Main Markets**



Source: Gallup, Sachs and Mellinger (1999) and Penn World Tables (1998).

**Figure 1.42 Coastal Density and Per Capita GDP**



Source: Gallup, Sachs and Mellinger (1999) and Penn World Tables (1998).

production. Greater population density and urbanization may reduce transportation costs and increase the size of markets, facilitating specialization and economies of scale. But they can also cause diseases to spread more rapidly and increase costs related to overcrowding and environmental damage.

All of this is not to say that geography cannot be controlled, or that its effects will get you one way or another. To take one example, investments in infrastructure or technological advances in transportation can not only lower transportation costs, but also

moderate the impact of diseases, improve housing conditions, and boost people's productivity.

Many effects of geography are not adequately reflected in international comparisons because of the heterogeneity of geographical conditions within countries, and because these effects can cut different ways, for better or for worse, depending on how they interact with one another and with such factors as infrastructure. Chapter 3 of this report uses information broken down by states, municipalities, and even families for various Latin American countries in order to analyze in greater detail the impact of geography on development and to assess the potential for investing in infrastructure and basic services directed at taming geographic conditions. It also discusses the serious consequences of natural disasters in Latin America because of a combination of geographical and institutional factors.

For several decades, geography took a back seat in economic analyses because of the presumption that it implied either unacceptable fatalism or racial or cultural prejudice against poor countries. While neither of these two critiques applies to modern approaches to the effect of geography on development, it is true that geography and race are not independent variables. For historic reasons in Latin America, indigenous populations are located in mountainous regions, and black populations in parts of the Caribbean and other tropical parts near coasts where

## Box 1.3

## The Importance of Institutions in Development

The most important institutions for development are those that ensure that people and their enterprises can benefit from their productive efforts, which in turn makes them more willing to invest in education, technology and physical capital. That process entails protection of property rights, respect for the law and for contractual commitments, and the absence of corruption.

The subjective indicators of the quality of institutions such as those summarized in the text have been used in various studies to test the importance of these institutional factors. Hall and Jones (1999) have proven that differences in the levels of human capital and productivity between countries of all regions in the world are closely associated with indicators of institutional quality that reflect whether economic effort can be focused on productive activities. Many studies have proven that the quality of institutions affects the growth rates and investment ratios of economies around the world. Knack and Keefer (1995, 1997a and 1997b) have found that economic growth and investment are sensitive to the degree of respect for the law, corruption and the risk of expropriation and repudiation of contracts. Utilizing surveys of business people from around the world, Brunetti, Kisunko and Weder (1997) find that investment and economic growth are sensitive to the credibility of the rules—understood as the predictability of laws and court decisions, the perception of political stability, respect for life and property, and absence of corruption. Mauro (1995) has likewise proved the harmful effect of corruption on investment and growth. In

his ambitious studies of the determinants of growth, Barro (1997) has verified the importance of respect for the law, while Goldsmith (1997) has found that property rights are decisive for growth. Several authors have come to similar conclusions based not on subjective indicators, as in the studies just mentioned, but directly on measurable variables that are likely to be affected by the same kinds of institutional factors (Leblang, 1996; Clague et al., 1997).

The most recent studies have sought to establish with precision the channels through which institutions affect economic and social performance. Since statistical associations do not prove causality, researchers have sought to establish the channels through which institutions can affect development, and if these channels are statistically verifiable. The results are positive and quite robust: institutions cause growth and levels of economic and social development, measured in terms of income, health and education statistics (Chong and Calderón, 1999; Kaufmann, Kraay and Zoido-Lobaton, 1999a). Other studies have established that the channels of this influence operate through the amount and quality of social public spending (Mauro, 1998), financial and capital market development (Levine, 1997; La Porta et al., 1998), and amounts of foreign investment (Wei, 1997).

In short, an avalanche of studies from very diverse angles has established that institutions are essential for economic and social development, and that there are strong channels of causality of institutions upon development.

slavery existed. This association between race and geographical conditions may help explain differences of economic performance between racial groups that can still be seen today in Latin American countries. However, although the origins of this connection may be tied to geographical conditions, the association has largely been reproduced over time by institutional factors, as we will see in Chapter 3. The systems of *encomienda* and slavery established to exploit indigenous and black labor, respectively, conditioned the subsequent development of institutions, the effects of which can still be observed today.

#### *Effects of Public Institutions*

Institutions represent the formal and informal rules and practices by which individuals relate with one another in order to attain economic and social objec-

tives. It stands to reason, then, that institutional quality and development are largely synonymous. The relevant question is not whether development requires effective institutions, but which institutions can best serve the various dimensions of economic and social development. This question does not allow for a precise answer, in part because the quality of institutions is not easily measurable and is subject to subjective biases. However, the international evidence summarized in Box 1.3 makes clear that economic and social development is closely connected to the quality of public institutions.

It is important to note that public institutions are only a subsample of the broader scope of formal and informal institutions that exist in any society. Recent research has emphasized the importance of this social capital, understood as trust in others, willingness to follow societal norms, and the disposition of

people to freely cooperate without compensation.<sup>17</sup> This report recognizes the important role that social capital—or more generally speaking, culture, of which social capital is one dimension—can play in the most diverse aspects of development. But the focus will be on public institutions for both practical and political reasons. The practical reason is that there is a broader base of accepted indicators to measure the quality of public institutions across countries than there is to measure social capital. The political reason is that public policies can be more effective in modifying government institutions than in manipulating social capital, whose determinants are more difficult to verify and control.

Figures 1.44a-c show the close relationship between overall governability and several indicators of economic and social development. The countries with the highest levels of per capita income and the best outcomes in health and education have public institutions of outstanding quality. The indicator used to measure governability is a combination of four indices that reflect essential aspects of the quality of government and have been constructed using information from many international rating sources that have emerged in recent years.<sup>18</sup> The indices are the rule of law, control of corruption, quality of the regulatory framework, and the effectiveness of public administration. Figures 1.45a-d show the strong connection of each of these indicators to per capita income.

The rule of law and control of corruption indicators reflect the respect that citizens and the state have for the institutions that govern relationships between them. The rule of law measures the extent to which individuals respect and have confidence in laws, and hence their capacity to function in an environment where rules are known, stable and accepted. Indicators of the rule of law are the predictability of the judicial system, respect for contracts, and the use of criminal methods for solving conflicts. Control of corruption

<sup>17</sup> See Coleman (1990) and Putnam (1993). Knack and Keefer (1997b) discuss diverse measures of social capital and their relationship to economic performance in 29 countries.

<sup>18</sup> The indices for Figures 1.45a-d have been estimated by Kaufmann, Kraay and Zoido-Lobaton (1999a and 1999b) by means of an econometric method of nonobserved components that allows information from the different sources to be combined to obtain estimates for a broad sample of countries. The compound index that summarizes these indicators is the result of an estimate using the main components method. The works cited also present two indicators of democracy and political stability and of violence, which are not included in our compound index.

Figure 1.44a GDP and Institutional Quality

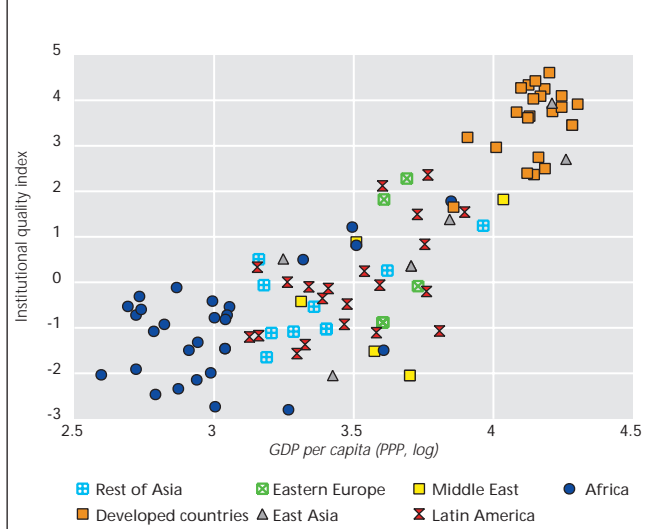


Figure 1.44b Life Expectancy and Institutional Quality

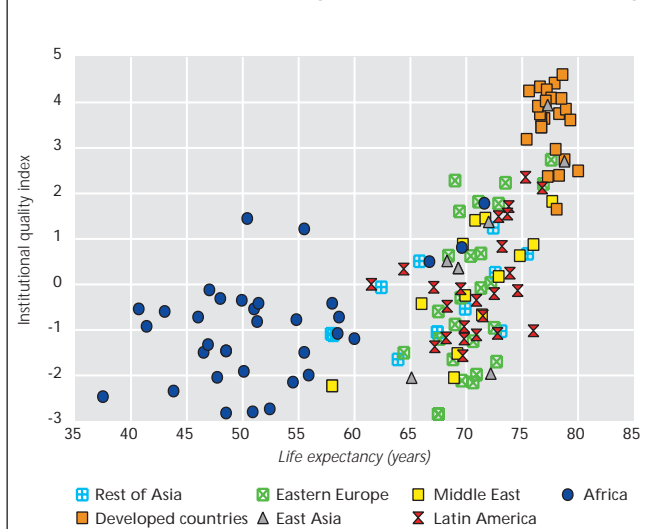
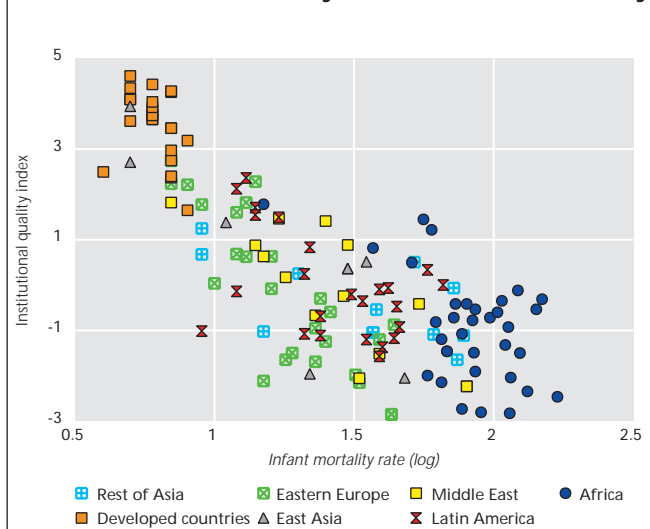


Figure 1.44c Infant Mortality and Institutional Quality



Source: Penn World Tables (1998), UNDP (1998) and Kaufmann, Kraay and Zoido-Lobaton (1999a).

Figure 1.45a GDP and the Rule of Law

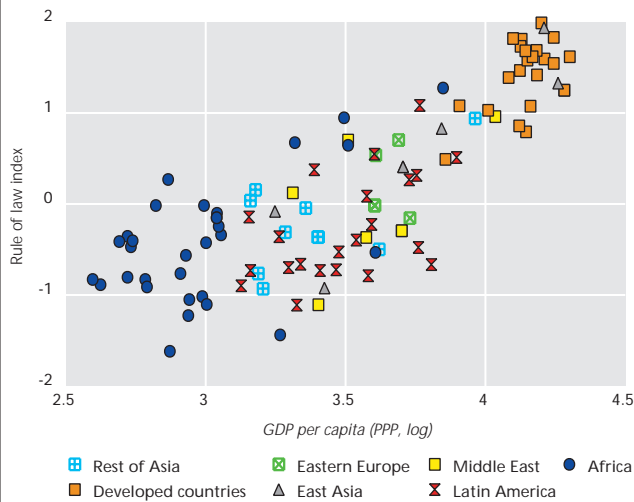


Figure 1.45c GDP and the Regulatory Burden

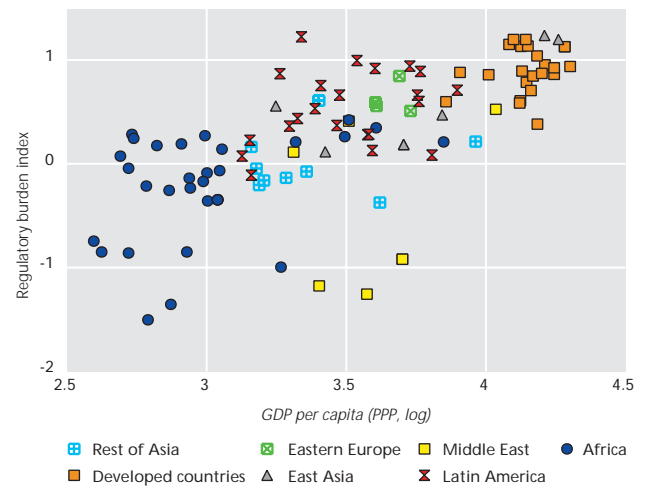


Figure 1.45b GDP and Corruption

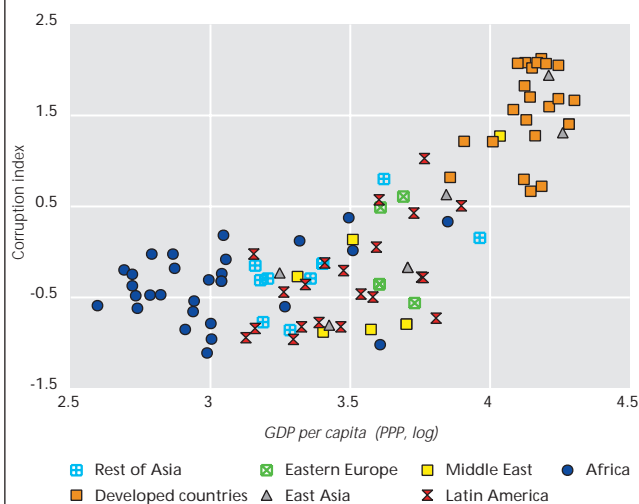
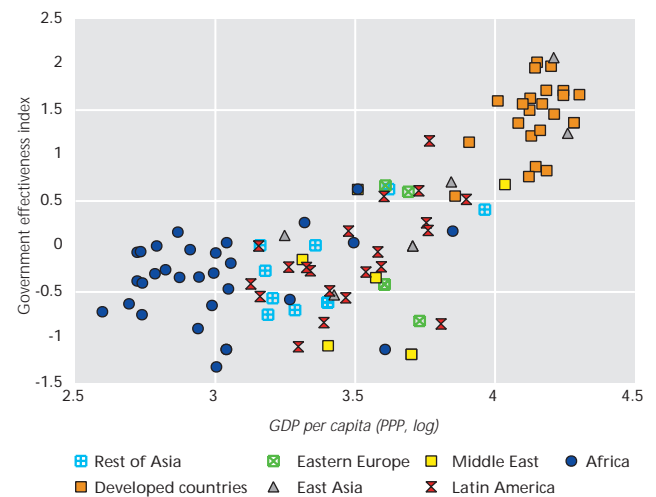


Figure 1.45d GDP and Government Effectiveness



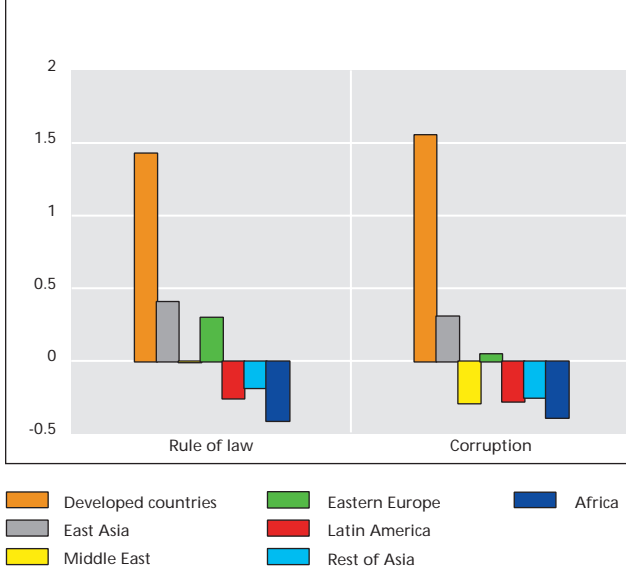
Source: Penn World Tables (1998) and Kaufmann, Kraay and Zoido-Lobaton (1999a).

means preventing the use of public power for private gain. Corruption implies failure to observe the laws governing the relationship between individuals, and between them and the state. It is measured with indicators that determine the frequency of irregular practices for private gain in public administration.

In terms of the rule of law and control of corruption, Latin America ranks lower than any other region except Africa (Figure 1.46). Note that the scales of the indices can be compared with one another and that the zero value represents the world mean.

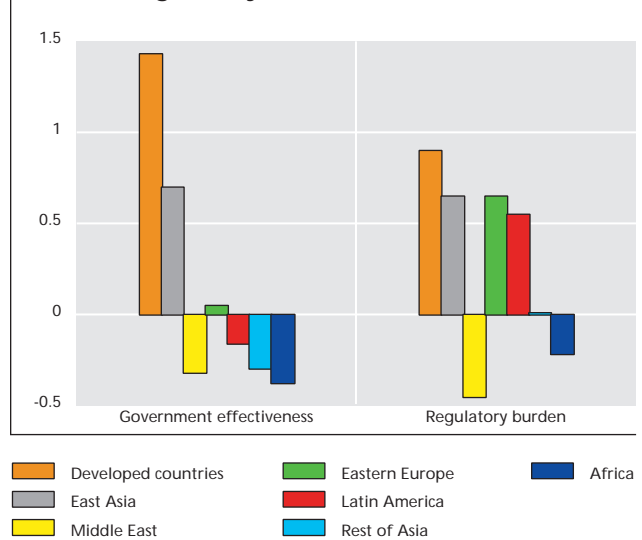
Indicators of the quality of the regulatory framework and the effectiveness of public administration reflect a country's ability to formulate adequate policies and put them into practice. The quality of the regulatory framework refers to the legal environment in which markets operate and the degree of government interference in economic decisions. In this regard, Latin America today presents indices far above the world average and relatively high in comparison with various groups of countries, although somewhat lower than the average for developed countries, South-

Figure 1.46 Rule of Law and Corruption



Source: Kaufmann, Kraay and Zoido-Lobaton (1999a).

Figure 1.47 Government Effectiveness and Regulatory Burden



Source: Kaufmann, Kraay and Zoido-Lobaton (1999a).

east Asia and Eastern Europe (Figure 1.47). That is not the case, however, with regard to the effectiveness of public administration, which reflects combined perceptions of the quality of the supply of public services, efficiency of the bureaucracy, competence of public employees, political independence of the civil service, and the credibility enjoyed by government policy commitments. In this area of governability, Latin America stands below the world average, and is far behind Southeast Asia and the developed countries (Figure 1.47).

### How Important Are Demography, Geography and Institutions?

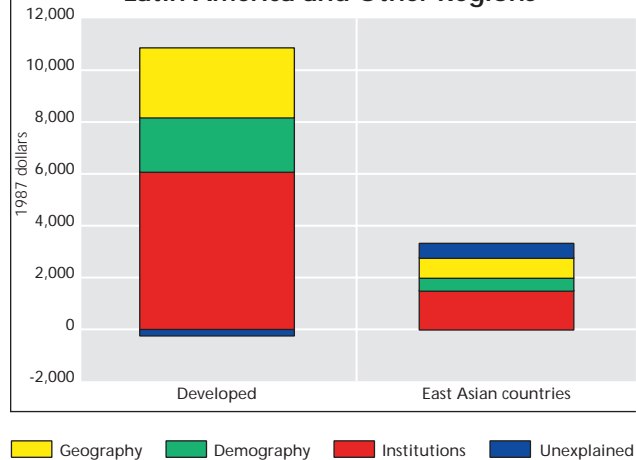
It is surprising that these three groups of factors, which have received such little attention in the recent design of development policies, are found to be so closely associated with differences in levels of development both within Latin America and between Latin America and other regions. In fact, at least from a statistical standpoint, the three can to a great degree explain the gaps in economic and social development. Before presenting some statistical results, it is necessary to note that their purpose is merely illustrative and that, as we will discuss further on, these results must be taken with certain caution for various reasons. They fail, for example, to recognize the influence that a diverse num-

ber of factors such as history, culture, leadership or innovation can have on development, since it is not possible to separate these factors in exercises of an empirical nature. Having said that, the statistical results that follow are useful because they offer a sense of proportion of the relative importance of the three groups of structural factors that are the focus of this study.

The difference in per capita income between developed countries and Latin American countries, which stands at \$10,600 (at 1987 parity prices), is related to a great extent to differences in demography, geography and institutions (Figure 1.48). Latin American populations are younger and sustain even greater rates of demographic dependence, so their ability to generate per capita income is \$2,000 lower than that of the developed countries. And because of their tropical and otherwise less advantageous geographical location, their more limited access to transportation, and their greater distance from the centers of world trade, Latin American countries have per capita income \$2,200 lower than that of developed countries. Finally, around \$6,000 of the income difference is due to the fact that Latin American countries have less effective, predictable and transparent public institutions than developed countries. The differences in per capita income vis-à-vis East Asian countries can also be explained to a large extent by these structural factors.

These calculations come from econometric estimates for a broad sample of countries from all re-

**Figure 1.48** Breakdown of Differences in Per Capita Income between Latin America and Other Regions



Source: IDB calculations.

regions of the world, the methodology and results of which are presented in the Technical Appendix to this chapter. The methods attempt to measure the effect that these structural factors have on development by isolating in the best manner possible the effect in the opposite direction, which may be important, as we will discuss further on.

The three groups of structural factors considered take into account not only the differences of average income between Latin America and other groups of countries, but between individual countries in the world or the region. Indeed, 87 percent of the variance in per capita income levels of all the economies of the world is associated with the demographic, geographical, and institutional variables considered. Within the Latin American region itself, even though many countries are in many respects more homogeneous, these factors explain 55 percent of the differences in their levels of development.

With similar exercises it can also be established that demography, geography and institutions explain other development outcomes in areas such as health or education. The Technical Appendix presents regression results for infant mortality and secondary schooling rates, on the basis of which the differences in these indicators between Latin America and other regions can be satisfactorily explained. For infant mortality, geographical conditions explain 6 percent of the average difference between Latin America and

developed countries and 15 percent of the difference between Latin America and the East Asian countries. Practically all the remaining differences are due to the quality of institutions (Table 1.2). For secondary schooling, the comparison between Latin America and the developed countries indicates that demography explains 22 percent of the difference, geography 33 percent, and institutions the remainder.<sup>19</sup> Although a great deal of the impact of demography, geography and institutions on health and education may take place through income, as can be seen in the econometric estimates in the Technical Appendix, the effects do not seem to be limited solely to this channel. Indeed, the relative importance of each of these factors in explaining differences in health or education between Latin America and other regions is very different from the importance of these factors in explaining income differences. The results clearly suggest that the quality of public institutions plays a more important role in health outcomes than in levels of income or education, while geography has a less important effect on health than on income or education.

Notwithstanding the statistical significance of these econometric results, they should be interpreted as merely illustrative and necessarily imprecise estimates of the effects of geography, demography and institutions; that is, they do not constitute definitive proof of causality. It must be kept in mind, first, that the influence of these structural factors is mediated by more specific conditions of the countries that cannot be reflected in variables as general as those utilized. This is especially true for the characteristics of geography and for the quality of institutions, which can only be expressed in quantitative indicators by accepting some degree of reductionism.

Second, it must be remembered that causality between structural factors and development outcomes moves in both directions. The econometric methods employed seek to capture the channels of causality that go from structural factors toward the different areas of economic and social development. Nevertheless, as indicated by Panel a in Figure 1.49, and as we will discuss in greater detail in the following chapters, these channels of causality are numerous and complex, and

<sup>19</sup> Comparisons with East Asia are not significant and hence have been omitted from the table.

**Table 1.2** What Explains Latin America's Development Gaps?  
Decomposition of Differences between Latin America and Other Regions  
(In percent)

Components	With respect to developed countries			With respect to East Asia	
	Income per capita	Infant mortality	Secondary education enrollment	Income per capita	Infant mortality
Demography	19.7	-	22.5	16.7	-
Geography	25.1	6.2	33.4	22.1	15.5
Institutions	57.4	96.7	53.0	42.5	95.9
Total explained	102.2	102.8	108.9	81.2	111.5
Not explained/ excess(-)	-2.2	-2.8	-8.9	18.8	-11.5
Total percent difference	100.0	100.0	100.0	100.0	100.0
Memo:					
Absolute differences (Unit of measure)	10,629 (1987 US\$)	-25.1 (per 1,000 live births)	49.6 (%)	2,886 (1987 US\$)	8.9 (per 1,000 live births)

Source: IDB calculations using regression results presented in the Technical Appendix.

in many instances difficult to measure. Although this report focuses on the direction of causality, it does not seek to ignore that there are strong feedback mechanisms of development outcomes affecting the three groups of structural factors, some of which are represented in panel b of Figure 1.49.

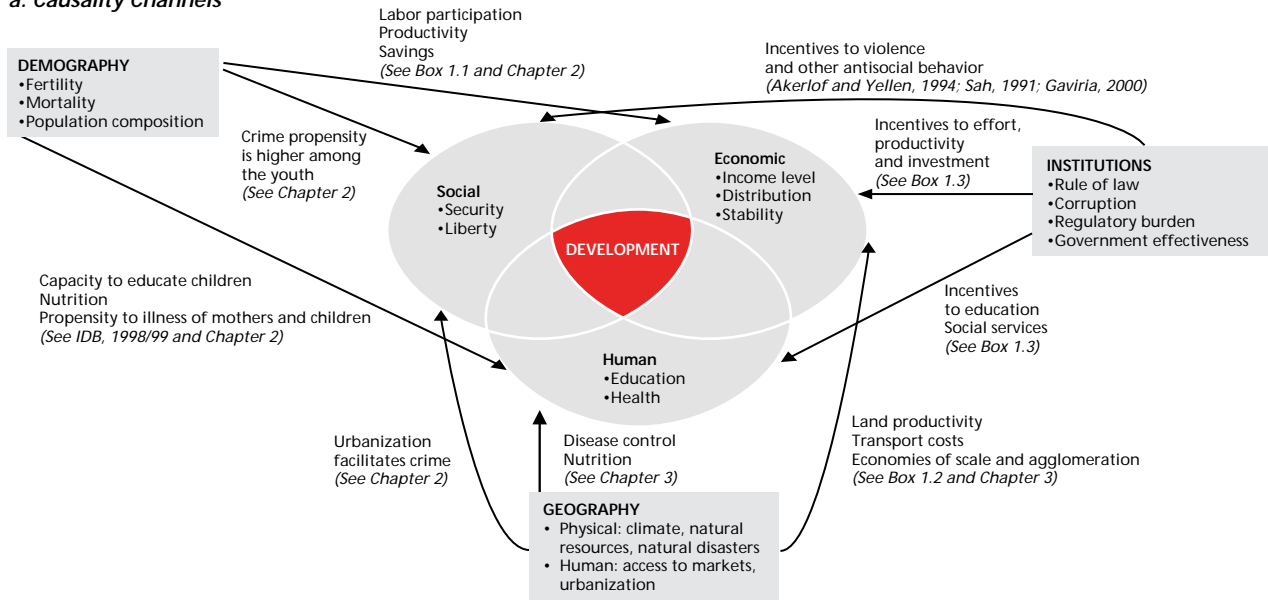
Third, it must be recognized that these groups of factors are less neatly separated than may appear at first sight due to the various channels of interaction between them. As was pointed out above, the institutions that countries have adopted in the course of their history have not been independent of their location and climatic conditions. Likewise, demographic development varies between countries, depending, for example, on urbanization patterns, which are largely the result of geographical factors. In the opposite direction, countries with poorer geographical conditions tend to have a higher population concentration than those with more favorable conditions. Similarly, the effectiveness of government in providing certain basic social services may have influenced demographic conditions through its effect on mortality. Or the presence of corrupt and parasitical institutions may accelerate migration toward the centers of power, changing urbanization patterns. These interactions, which are supported by a wide range of research (and are represented in panel c of Figure 1.49), make it diffi-

cult to separately quantify the importance of each of the three groups of factors considered.

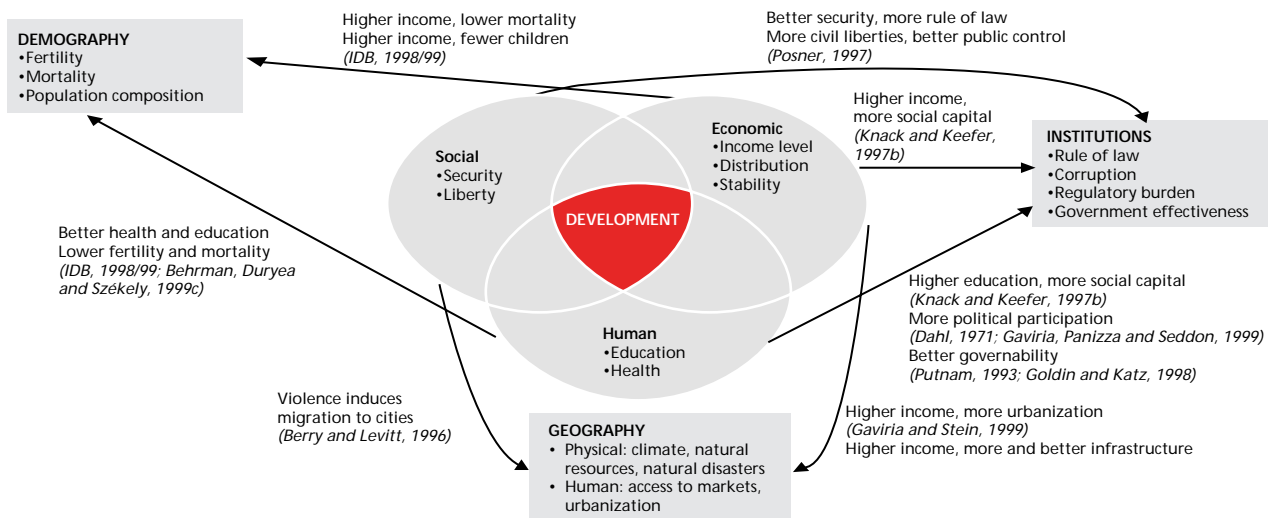
It should be kept in mind that the influence of these different structural factors on development outcomes depends greatly on policies, which are not incorporated into these analytical frameworks. Two countries with similar geographies may achieve very different outcomes in health and productivity, depending, for example, on their policies on public spending and investment in basic services and infrastructure. They may also achieve very different productivity outcomes depending on the quality of their macroeconomic and structural policies (which are partly, but not totally, the result of the quality of government institutions). Likewise, there is no assurance that the mere aging of a population will lead it to attain the levels of schooling or per capita income of other more mature countries, since that will depend on education, labor and financial policies, along with many other factors. Finally, not only is the quality of institutions modifiable through policy actions, but how it impacts the various dimensions of development can vary from one society to another, depending on a country's resource endowment and other geographical factors, demographic stage, and more specific features of its social and political institutions.

**Figure 1.49** Structural Determinants of Development

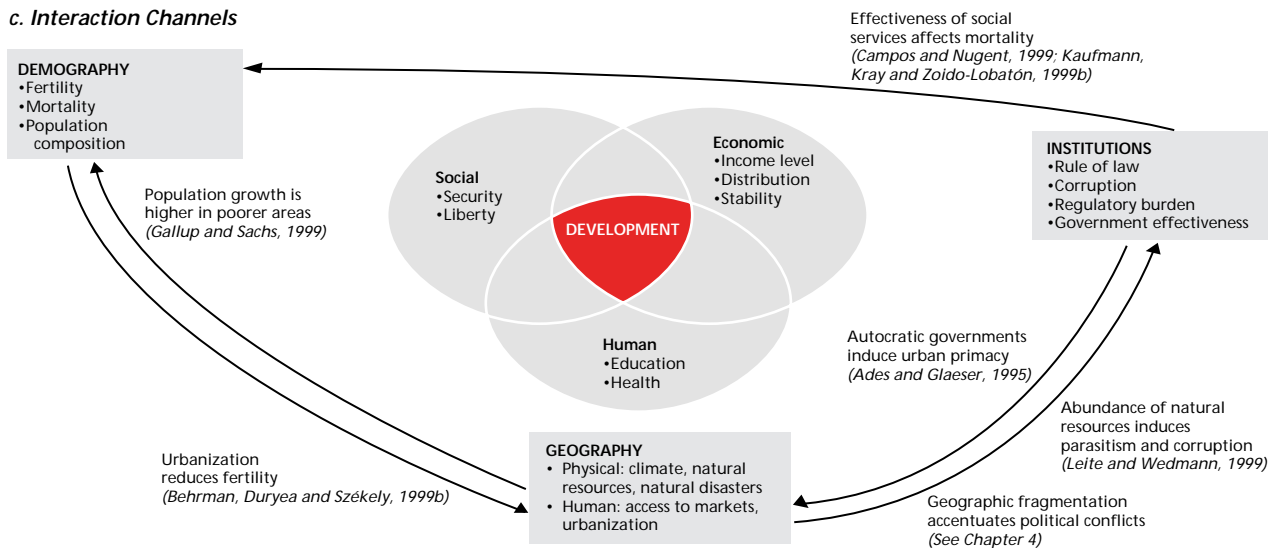
**a. Causality Channels**



**b. Feedback Channels**



**c. Interaction Channels**



## Appendix 1.1

## COUNTRY CLASSIFICATION BY REGION

Latin America and the Caribbean	Developed	Africa	East Asia	Rest of Asia	Eastern Europe	Middle East
Antigua & Barbuda	Australia	Angola	Hong Kong	Bangladesh	Albania	Algeria
Argentina	Austria	Benin	Indonesia	Bhutan	Armenia	Bahrain
Bahamas	Belgium	Botswana	Malaysia	Brunei	Azerbaijan	Djibouti
Barbados	Canada	Burkina Faso	Philippines	Cambodia	Belarus	Egypt
Belize	Denmark	Burundi	Singapore	China	Bulgaria	Iran
Bolivia	Finland	Cameroon	South Korea	Fiji	Croatia	Iraq
Brazil	France	Cape Verde	Thailand	India	Cyprus	Israel
Chile	Germany	Central African Rep.		Korea	Czech.	Jordan
Colombia	Greece	Chad		Laos	Estonia	Kuwait
Costa Rica	Iceland	Comoros		Maldives	Georgia	Lebanon
Cuba	Ireland	Congo		Mongolia	Hungary	Libya
Dominica	Italy	Cote d'Ivoire		Myanmar	Kazakhstan	Oman
Dominican Rep.	Japan	Congo		Nepal	Kyrgyzstan	Qatar
Ecuador	Luxembourg	Equatorial Guinea		Pakistan	Latvia	Saudi Arabia
El Salvador	Netherlands	Eritrea		Papua	Lithuania	Sudan
Grenada	New Zealand	Ethiopia		Samoa	Macedonia	Syria
Guatemala	Norway	Gabon		Solomon	Malta	UAE
Guyana	Portugal	Gambia		Sri Lanka	Moldova	Yemen
Haiti	Spain	Ghana		Vanuatu	Poland	
Honduras	Sweden	Guinea		Vietnam	Romania	
Jamaica	Switzerland	Guinea-Bissau			Russia	
Mexico	United Kingdom	Kenya			Slovakia	
Nicaragua	United States	Lesotho			Slovenia	
Panama		Madagascar			Tajikistan	
Paraguay		Malawi			Turkey	
Peru		Mali			Turkmenistan	
St. Kitts & Nevis		Mauritania			Ukraine	
St. Lucia		Mauritius			Uzbekistan	
St. Vincent & the Grenadines		Morocco				
Suriname		Mozambique				
Trin. & Tob.		Namibia				
Uruguay		Niger				
Venezuela		Nigeria				
		São Tome				
		Senegal				
		Seychelles				
		Sierra Leone				
		South Africa				
		Swaziland				
		Tanzania				
		Togo				
		Tunisia				
		Uganda				
		Zambia				
		Zimbabwe				

## TECHNICAL APPENDIX

## Estimates of the Effects of Demography, Geography and Institutions

## Per Capita Income Estimates

A two-phase method designed to avoid the problems of endogeneity between explanatory variables and the dependent variable was used to estimate the effects of the three groups of dependent variables on per capita income.

In the first phase, the effect of demographic structure on per capita income was estimated by a panel regression with fixed effects (controlling also for nonobserved trend effects) in a sample of 138 countries and 1,117 five-year observations since 1950. Alternatively, the average age, the total dependency rate and the infant dependency rate were used as indicators of the demographic structure, revealing equally solid and consistent results among themselves (Technical Appendix Table 1). The panel method with fixed effects is not subject to problems of endogeneity between demographic structure and income because changes in demographic structure are predetermined for each country separately by its demographic his-

tory, and therefore cannot be the result of contemporary changes in per capita income levels.

In the second phase, the coefficient of the infant dependency rate was used for estimating per capita income in order to calculate the “demographically-adjusted per capita income.” Accordingly, the product of the coefficient resulting from the difference between the country dependency rate and the 1995 world average was subtracted from the per capita income of each country for the same year. The adjusted per capita income was used as a dependent variable to estimate in a cross-sectional regression the effect of a set of geographic variables and a synthetic quality indicator of public institutions. This indicator is the first principal component of the following four quality indices of institutions constructed by Kaufmann, Kraay and Zoido-Lobaton (1999a and 1999b): the rule of law, control of corruption, the quality of the regulatory framework, and the effectiveness of public administration. Because the quality of public institutions is endogenous to per capita in-

**Table 1** Fixed Effects Panel Regressions for Real Per Capita Income, 1950-95  
(*t*-statistic)

Dependent variable: Log (PPP per capita real income)			
Independent variables	1	2	3
Dependency ratio for youth (0-1)	-1.026* (-10.26)		
Dependency ratio (0-1)		-0.778* (-7.55)	
Average age of population (years)			0.092* (34.35)
Trend	0.017* (26.59)	0.018* (29.49)	0.015* (53.54)
Constant	7.827* (96.88)	7.692* (84.89)	4.839* (75.38)
Number of countries	138	138	138
Number of observations	1,117	1,117	5,241
R <sup>2</sup> within countries	0.56	0.54	0.61
R <sup>2</sup> between countries	0.51	0.40	0.46
Total R <sup>2</sup>	0.39	0.24	0.53

Note: *t*-statistic in parentheses.

\* Significant at 5 percent or more.

Source: IDB calculations.

**Table 2** Cross-section Regressions for Income Adjusted by Demography, 1995  
(*t*-statistic)

Dependent variable: Log (per capita real income adjusted by demography)				
Independent variables	1	2	3	4
<b>Geography</b>				
% of area in the tropics	-0.876* (-6.01)		-0.365 (-2.19)	-0.302 (-1.61)
% of population within 100 kms of the coast	0.622* (2.57)		0.162 (0.84)	0.148 (0.73)
Distance to main markets	-0.051 (-1.80)		-0.027 (-1.36)	-0.013 (-0.68)
Oil exports (% of GDP)	3.785* (4.23)		4.711* (5.02)	4.522* (4.45)
Population density (%)	0.252* (8.98)		0.104* (2.36)	0.117 (1.40)
Area (log)	0.077* (2.66)		0.045* (2.57)	0.038* (2.46)
Africa dummy	-0.67* (-3.80)		-0.624* (-4.76)	-0.670* (-5.08)
<b>Institutional quality</b>				
Institutional index		0.435* (10.35)	0.268* (4.05)	0.257* (2.06)
Constant	9.336* (37.08)	8.618* (127.91)	9.075* (46.39)	8.972* (43.17)
Regional dummies	No	No	No	Yes
Adjusted R <sup>2</sup>	0.76	0.65	0.87	0.88
Number of observations	74	97	72	72

Note: *t*-statistic in parentheses.

\* Significant at 5 percent or more.

Source: IDB calculations.

come, the estimate was performed with instrumental variables comprised of a set of dummies derived from the countries' legal codes. Tests on the instruments revealed a close relation with the instrumented variable and the absence of a direct relation between these instruments and the dependent variable.

The results of the second phase regressions for per capita income estimates are shown in Technical Appendix Table 2. The first regression in the table contains only geographic variables, while the second regression contains only the synthetic indicator of the institutional variables. Both groups of variables are combined in the third regression and then used in the decomposition of the per capita income differences among the regions discussed in the text of this chapter. The results obtained with the inclusion of dummy variables for regions in regression 4 are robust vis-à-vis the nonobserved factors common to the regions.

The regression selected for the decompositions explains 87 percent of the variance in per capita income levels of the total world sample and 49 percent of the variance among Latin American countries.

### Infant Mortality Estimates

Cross-sectional regressions for 1995 with explanatory variables for estimating income were used to measure the influence of geographic and public institutions on the countries' infant mortality rate. Demographic variables were not included because of the obvious problems of endogeneity that they cause from being determined by the same structural factors as the dependent variable.

Technical Appendix Table 3 shows the results of a series of regressions that reveal the individual ef-

**Table 3** Cross-section Regressions for Infant Mortality  
(*t*-statistic)

Dependent variable: Log (Infant mortality rate)						
Independent variables	1	2	3	4	5	6
<b>Log (real per capita GDP)</b>	-1.077* (-22.64)					
<b>Geography</b>						
% of area in the tropics			0.885* (4.15)	-0.011 (-0.05)	0.017 (0.07)	-0.022 (-0.07)
% of population within 100 kms of the coast			-1.062* (-3.49)	-0.344 (-1.86)	-0.363* (-2.11)	-0.400* (-2.31)
Distance to main markets (log)			0.065 (1.64)	0.027 (0.96)	0.028 (1.07)	0.012 (0.39)
Oil exports (% of GDP)			-0.249 (-0.37)	-1.615* (-3.49)	-1.572* (-3.49)	-1.400* (-2.09)
Population density (%)			-0.275* (-6.27)	-0.004 (-0.06)	-0.013 (-0.19)	-0.730 (-0.71)
Area (log)			-0.061 (-1.45)	0.002 (0.09)		
Africa dummy			0.567* (2.55)	0.589* (4.10)	0.590* (4.20)	0.633* (3.90)
<b>Institutional quality</b>						
Institutional index		-0.365* (-6.91)		-0.464* (-5.02)	-0.450* (-5.04)	-0.395* (-2.46)
Constant	11.978* (29.44)	3.311* (61.46)	2.930* (8.67)	3.355* (14.75)	3.340* (14.76)	3.501* (13.07)
Regional dummies	No	No	No	No	No	Yes
Adjusted R <sup>2</sup>	0.84	0.59	0.67	0.86	0.86	0.88
Number of observations	104	145	80	77	77	77

Note: *t*-statistic in parentheses.

\* Significant at 5 percent or more.

Source: IDB calculations.

fects of per capita income, geography and institutional quality on infant mortality. Because income is a function of geography and institutions, the first regression contains only the first of these variables, while the other regressions exclude income. Although the regression adjustment that combines geography and institutions is similar to the regression adjustment that uses only income, it does not follow that the effect of the first variables on mortality occurs exclusively through income, as may be deduced when analyzing the decomposition results, which are based on regression 5 in the table (see discussion in main text).

As in the income level regressions, the variable of institutional quality was instrumented with dummies derived from the legal code, after verifying the validity of the instruments and the robustness of the explanatory variables.

### Estimates of the Rate of Secondary Education Coverage

The effects of income, demography, geography and institutional quality were determined using cross-sectional estimates and 1995 instrumental variables. Although the infant dependency rate may have endogeneity with school enrollment, no adequate instrument that could pass the standard tests for measuring it was found, and accordingly it was not instrumented. As in the previous regressions, the results were presented using first only income as an explanatory variable and then other variables, excluding income (Technical Appendix Table 4). Regression 5 was used for the decomposition exercises discussed in the text. That regression explains 82 percent of the variance at the world level as well as one-third of the variance among Latin American countries.

**Table 4** Cross-section Regressions for Secondary Enrollment, 1995  
(*t*-statistic)

Dependent variable: secondary enrollment						
Independent variables	1	2	3	4	5	6
Log (real per capita income)	0.327* (15.46)					
Log (real per worker income)		0.173* (2.46)				
<b>Demography</b>						
Dependency ratio for youth (0-1)		-0.858* (-3.16)			-0.396 (-1.67)	-0.363 (1.75)
<b>Geography</b>						
% of area in the tropics			-0.416* (-7.44)		-0.185* (-3.24)	-0.094 (-1.32)
% of population within 100 kms of the coast			0.358* (5.49)		0.039 (0.67)	0.026 (0.40)
Distance to main markets (log)			-0.022 (-1.95)		-0.006 (-0.84)	0.002 (0.24)
Area (log)			0.025* (3.40)		0.002 (0.31)	-0.005 (-0.94)
<b>Institutional quality</b>						
Institutional index				0.083* (3.77)	0.083* (2.40)	0.085 (1.75)
Constant	-2.064* (-11.69)	0.208 (0.25)	0.713* (8.44)	0.604* (26.25)	0.889* (5.17)	0.785* (5.47)
Regional dummies	No	No	No	No	No	Yes
Adjusted R <sup>2</sup>	0.71	0.82	0.65	0.34	0.82	0.86
Number of observations	100	103	83	138	80	80

Note: *t*-statistic in parentheses.

\* Significant at 5 percent or more.

Source: IDB calculations.

## BIBLIOGRAPHY

- Ades, Alberto and Edard Glaeser. 1995. Trade and Circuses: Explaining Urban Giants. *Quarterly Journal of Economics* 110(1): 195-228.
- Akerlof, G. and J. Yellen. 1994. Gang Behavior, Law Enforcement and Community Values. In Henry Aaron, Thomas E. Mann and Timothy Taylor (eds.), *Values and Public Policy*. Washington, DC: Brookings Institution.
- Asian Development Bank (ADB). 1997. *Emerging Asia. Changes and Challenges*. Manila: ADB.
- Astorga, Pablo and Valpy FitzGerald. 1998. *The Standard of Living in Latin America During the Twentieth Century*. Development Studies Working Paper No. 117. Centro Studi Luca d'Agliano and Queen Elizabeth House, Oxford.
- Barro, Robert J. 1997. *Determinants of Economic Growth: A Cross-Country Empirical Study*. Cambridge: MIT Press.
- Barro, Robert J. and Jon-Wha Lee. 1996. International Measures of Schooling Years and Schooling Quality. *American Economic Review*, AEA Papers and Proceedings 86(2) May.
- . 1994. Data Set for a Panel of 138 Countries. Mimeo.
- Behrman, Jere R., Suzanne Duryea and Miguel Székely. 1999a. *Human Capital Accumulation and Macroeconomic Conditions: A Micro-Macro Approach to the Case of Latin America*. OCE Working Paper, Inter-American Development Bank.
- . 1999b. *Aging and Economic Options: Latin America in a World Perspective*. OCE Working Paper, Inter-American Development Bank.
- . 1999c. *Decomposing Fertility Differences Across World Regions and Over Time: Is Improved Health More Important than Women's Schooling?* OCE Working Paper, Inter-American Development Bank.
- Berry, Julien and Steve D. Levitt. 1996. *Crime, Urban Flight, and the Consequences for Cities*. Discussion Paper No. 199, John M. Olin Center for Law, Economics and Business, Harvard Law School.
- Bloom, David E. and Jeffrey D. Sachs. 1998. *Geography, Demography and Economic Growth in Africa*. Brookings Papers on Economic Activity 2.
- Brunetti, Aymo, Gregory Kisunko and Beatrice Weder. 1997. *Credibility of Rules and Economic Growth*. Policy Research Working Paper No. 1760. World Bank, Washington, DC.
- Buvinic, Mayra. 1999. *La Violencia en América Latina y el Caribe*. Inter-American Development Bank. Unpublished.
- Campos, Nauro F. and Jeffrey Nugent. 1998. A Development Performance and the Institutions of Governance: Evidence from East Asia and Latin America. *World Development* 27(3): 439-52.
- Cassen, Robert. 1994. *Population and Development: Old Debates, New Conclusions*. New Brunswick: Transaction Publishers.
- Chong, Alberto and César Calderón. 1999. Empirical Tests on the Causality and Feedback Between Institutional Measures and Economic Growth. World Bank, Washington, DC.
- Clague, Christopher, Philip Keefer, Stephen Knack and Mancur Olson. 1997. Institutions and Economic Performance: Property Rights and Contract Enforcement. In Christopher Clague (ed.), *Institutions and Economic Development. Growth and Governance in Less-Developed and Post-Socialist Countries*. Baltimore: Johns Hopkins University Press.
- Coale, Ansley, and Edgar Hoover. 1958. *Population Growth and Economic Development in Low-Income Countries*. Princeton: Princeton University Press.
- Coatsworth, John H. 1998. Economic and Institutional Trajectories in Nineteenth-Century Latin America. In John H. Coatsworth and Alan M. Taylor (eds.), *Latin America and the World Economy since 1800*. The David Rockefeller Center Series on Latin American Studies, Harvard University.
- Coleman, James S. 1990. *Foundations of Social Theory*. Cambridge: Harvard University Press.
- Collier, Paul and J. W. Gunning. 1999. Why Has Africa Grown Slowly? *Journal of Economic Perspectives* 13(3) Summer.
- Dahl, Robert. 1971. *Participation and Opposition*. New Haven: Yale University Press.
- Deiningner, K. and L. Squire. 1996. A New Data Set Measuring Income Inequality. *World Bank Economic Review* 10(3) September: 565-91.
- Freedom House. 1999. *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties 1998-1999*. New York: Freedom House.
- Gallup, John Luke. 1998. *Agriculture Productivity and Geography*. HIID. Unpublished.
- Gallup, John Luke, Jeffrey D. Sachs and Andrew D. Mellinger. 1999. Geography and Economic Development. In Boris Pleskovic, and Joseph E. Stiglitz (eds.), *World Bank Annual Conference on Development Economics 1998*. Washington, D.C.: World Bank.
- Gaviria, Alejandro. 2000. Increasing Returns and the Evolution of Violent Crime. *Journal of Development Economics*.
- Gaviria, Alejandro and Carmen Pagés. 1999. Patterns of Crime Victimization in Latin America. Background paper for the Office of the Chief Economist, Inter-American Development Bank.
- Gaviria, Alejandro, Ugo Panizza and Jessica Seddon. 1999. Patterns and Determinants of Political Participation. Background paper for the Office of the Chief Economist, Inter-American Development Bank.
- Gaviria, Alejandro and Ernesto Stein. 1999. Urban Concentration in Latin America and the World. Background paper for the Office of the Chief Economist, Inter-American Development Bank.
- Goldin, Claudia and Lawrence Katz. 1998. *Human Capital and Social Capital. The Rise of Secondary Schooling in America: 1910 to 1940*. Working Paper 6439, National Bureau of Economic Research.
- Goldsmith, Arthur A. 1997. Economic Rights and Government in Developing Countries: Cross-National Evidence on Growth and Development. *Studies in Comparative International Development* 32(2): 29-44.

- Hall, Robert E. and Charles I. Jones. 1999. Why Do Some Countries Produce So Much More Output Per Worker Than Others? *Quarterly Journal of Economics* 114(1).
- Inter-American Development Bank (IDB). 1998/99. *Facing Up To Inequality in Latin America. Economic and Social Progress Report*. Washington, DC: Inter-American Development Bank.
- . 1996. *Economic and Social Progress Report*. Washington, DC: Inter-American Development Bank.
- Jagers, Keith and Ted Robert Gurr. 1995. Tracking Democracies: Third Wave with the Polity III Data. *Journal of Peace Research* 32(4): 469-82.
- Kaufmann, Daniel, Art Kraay and Pablo Zoido-Lobaton. 1999a. Aggregating Governance Indicators. World Bank, Washington, DC. Unpublished.
- . 1999b. Governance Matters. World Bank, Washington, DC. Unpublished.
- Kelley, Allen C. and Robert M. Schmidt. 1998. Economic and Demographic Change: A Synthesis of Models, Findings and Perspectives. Duke University, Durham, NC. Mimeo.
- Knack, Stephen and Philip Keefer. 1997a. Why Don't Poor Countries Catch Up? A Cross-National Test of an Institutional Explanation. *Economic Inquiry* 35.
- . 1997b. Does Social Capital Have an Economic Payoff? A Cross-Country Investigation. *Quarterly Journal of Economics* 112: 1251-288.
- . 1995. Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures. *Economics and Politics* 7(3): 207-27.
- Latinobarómetro. 1996-1998. Latin American Public Opinion Survey. Corporación Latinobarómetro, Santiago, Chile.
- La Porta, Rafael, Florencio Lopez de Silanes, Andrei Shleifer and Robert Vishny. 1998. The Quality of Government. Harvard University and University of Chicago. Mimeo.
- Leblang, David A. 1996. Property Rights, Democracy, and Economic Growth. *Political Science Quarterly* 49(1): 5-26.
- Levine, Ross. 1997. Law, Finance and Economic Growth. World Bank, Washington, DC. Unpublished.
- Leite, Carlos and Jens Wedmann. 1999. *Does Mother Nature Corrupt? Natural Resources, Corruption and Economic Growth*. IMF Working Paper WP/99/85.
- Lora, Eduardo and Gustavo Márquez. 1998. *El problema del empleo en América Latina: percepciones and hechos estilizados*. Working Paper No. 371, Office of the Chief Economist, Inter-American Development Bank.
- Lora, Eduardo and Mauricio Olivera. 1998. *Las políticas macro y el problema del empleo en América Latina*. Working Paper No. 372, Office of the Chief Economist, Inter-American Development Bank.
- Maddison, Angus. 1997. *La Economía Mundial 1820-1992. Análisis y Estadísticas. Perspectivas*. Paris: OECD.
- Mauro, Paolo. 1998. Corruption and the Composition of Government Expenditure. *Journal of Public Economics* 69: 263-79.
- . 1997. The Effects of Corruption on Growth, Investment, and Government Expenditure. In Kimberly Ann Elliott (ed.), *Corruption and the Global Economy*. Washington, DC: Institute for International Economics.
- . 1995. Corruption and Growth. *The Quarterly Journal of Economics* (August): 681-712.
- Murray, Christopher and Alan López. 1996. *The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries, and Risk Factors in 1990 and Projected to 2020*. Cambridge: Harvard University School of Public Health.
- Pagés, Carmen and Gustavo Márquez. 1998. *Lazos que atan: protección del empleo y resultados laborales en América Latina*. Working Paper No. 373, Office of the Chief Economist, Inter-American Development Bank.
- Penn World Tables. 1998. Website.
- Posner, R.A. 1997. Social Norms and the Law: An Economic Approach. *American Economic Review* 87 (Papers and Proceedings): 365-69.
- Putnam, Robert. 1993. *Making Democracy Work: Civil Traditions in Modern Italy*. Princeton: Princeton University Press.
- Sah, R. 1991. Social Osmosis and Patterns of Crime. *Journal of Political Economy* 99(6): 169-217.
- Sen, Amartya. 1992. *Inequality Reexamined*. Oxford: Clarendon Press.
- . 1985. *Commodities and Capabilities*. Amsterdam: North-Holland.
- Sender, J. 1999. Africa's Economic Performance: Limitations of the Current Consensus. *Journal of Economic Perspectives* 13(3) Summer.
- Székely, Miguel and Suzanne Duryea. 1998. *El mercado laboral en América Latina: Una explicación de oferta*. Working Paper No. 374, Office of the Chief Economist, Inter-American Development Bank.
- United Nations. 1998. World Population Prospects. Electronic data. United Nations, New York.
- United Nations Development Programme (UNDP). 1998. *Human Development Report*. New York: United Nations.
- Wei, Shang-Jin. 1997. *How Taxing is Corruption on International Investors?* National Bureau of Economic Research Working Paper No. 6030.