The Developing Economies, XXXIX-4 (December 2001): 333–65

GROWTH AND HUMAN DEVELOPMENT: COMPARATIVE LATIN AMERICAN EXPERIENCE

GUSTAV RANIS
FRANCES STEWART

I. INTRODUCTION

IT may not be necessary to dwell at great length on the basic notion that human development should be viewed as the bottom-line or basic objective of human activity, and that economic growth should be viewed as a contributor to it, rather than as the end product. The intellectual antecedents of this notion are well established in both the original "basic needs" approach of the International Labour Organization (ILO), later taken up by the World Bank, as well as Amartya Sen's concept of capabilities.[1] In its broadest sense we define human development as permitting people to lead longer, healthier, and fuller lives. More narrowly, we can interpret human development as reflected in the status of people's levels of health and education.

This paper focuses on the two-way relationship between economic growth and human development, focused on Latin America. The intention here is to try and understand this relationship by discussing interesting and relevant regional case studies. Section II discusses the conceptual framework relating growth and human development.[2] Section III begins by outlining some of the relevant comparative international evidence, discussing the results and their implications for economic growth as related to human development. It then turns to the situation facing individual Latin American countries, focusing on differential trends over the past few decades. Section IV provides brief conclusions for policy.

II. CONCEPTUAL FRAMEWORK

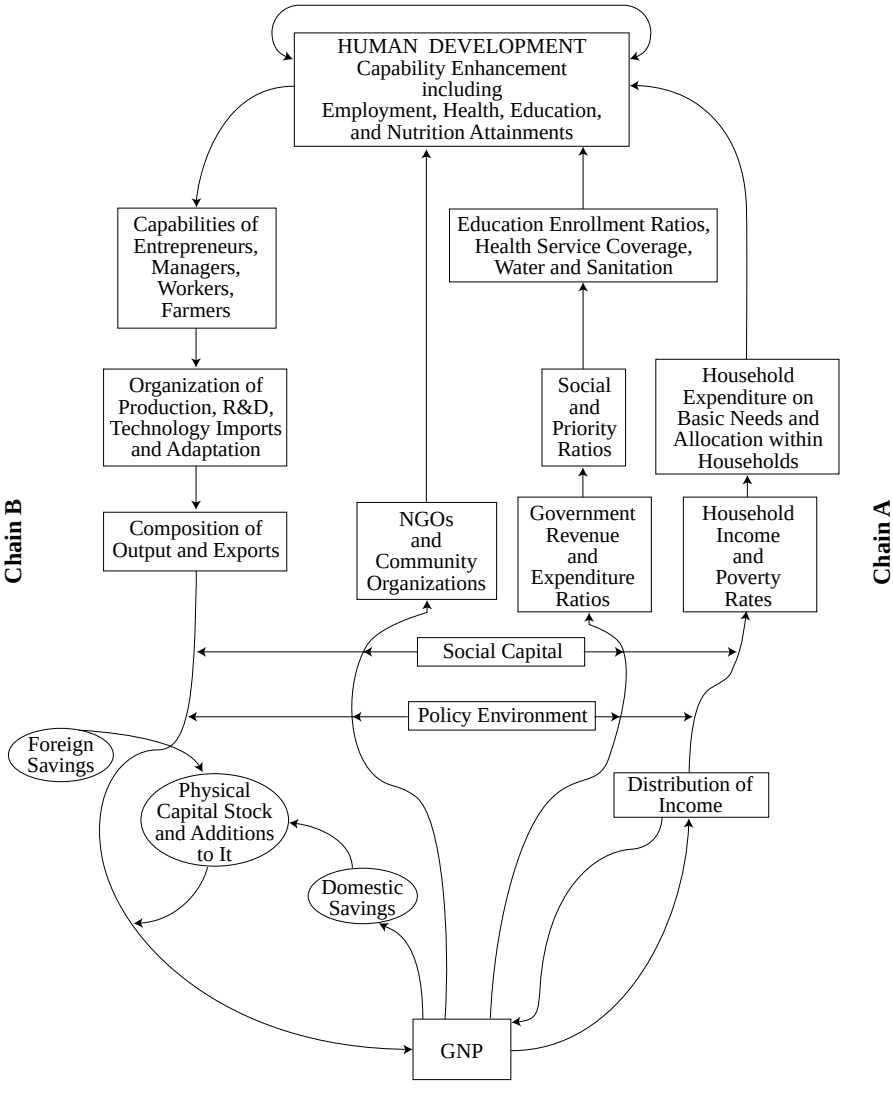
Obviously there exists a strong two-way relationship between economic growth (EG) and human development (HD). On the one hand, EG provides the resources to

The authors wish to acknowledge the contribution of Alejandro Ramirez to the earlier, global version of this paper (Ranis, Stewart, and Ramirez 2000). The research assistance of Tavneet Suri and Michael Wang is appreciated.

[1] See, for example, Sen (1984), Streeten et al. (1981), and Fei, Ranis, and Stewart (1985).

[2] Section II draws heavily on Ranis, Stewart, and Ramirez (2000).

Fig. 1. The HD-GNP Cycle



permit sustained improvements in HD; on the other, sustained improvements in the quality of human capital are an important contributor to EG. Yet, while this symbiotic two-way relationship is easily accepted, the specific factors linking them have not been systematically explored. Nor has the question of priorities in the phasing of development policy. The customary assumption has been that growth must precede progress in human development.

In Figure 1 we present two causal chains linking growth and human develop-

ment. Human development is featured "at the top," in recognition of its status as the fundamental objective. With respect to Chain A, running from EG to HD, we may note that, from a given level of income generated by past growth, we can trace the expenditure of households, governments, and civil society, including NGOs, on inputs which serve to enhance human development, as defined above. The impact of given aggregate levels of average household income on HD, of course, depends not only on the average level but also on the distribution of that income and on the extent to which societal poverty has been alleviated. Thus, the nature of the growth process, i.e., how growth is generated, how employment sensitive, and how income distribution friendly it is, as well as how well it has succeeded in reducing poverty, will have an effect on how households spend their income. When income per capita is low or when it is badly distributed, the total expenditure of many households on HD, of course, is bound to be low. But, in general, lower-income households spend a higher proportion of their income on HD items than those with higher incomes. It is also important to know who controls the allocation of expenditures within households. Ceteris paribus, female-headed households spend more than male-headed households on health, education, food, potable water, etc. Latin American empirical evidence, including for Bolivia, Brazil, Chile, Nicaragua, and Peru, indicates the effects of a positive income change on household demand for HD-related items. For example, in the case of Brazil it is estimated that, if the distribution of income were as equal as Malaysia's, school enrollments of poor children would be 40 per cent higher than they currently are (Birdsall, Ross, and Sabot 1995). While the evidence on the relationship between income and health is less extensive, studies in Brazil and Nicaragua suggest that household income has a significant effect on the demand for health, but showing again a much higher response for low- than for high-income households. Symmetrically, while HD levels are negatively affected by reductions in economic growth, the extent of the impact varies greatly with the distribution of income and its change over time.

Health and education, of course, are also important public goods. The allocation of resources out of GNP for HD-improving public goods investments by various levels of government is partly a function of the relative size of public expenditures, partly a function of what proportion of these expenditures flow to the HD sectors and, finally, partly a function of how they are allocated within each of the sectors. All this can be expressed in the form of three ratios:[3] the public expenditure ratio, i.e., the proportion of GNP spent by various levels of government; the HD allocation ratio, defined as the proportion of government expenditures going to the HD sectors; and, finally, the HD "priority ratio," defined as the proportion of total HD expenditures going to "priority areas," e.g., primary versus tertiary education, as one example. This last concept is, of course, somewhat arbitrary, depending on a

[3] Also see UNDP (1991).

country's stage of development, e.g., in the early stages of development primary education is more likely to be productive in terms of achieving advances in HD, while it is generally recognized that vocational and secondary education are likely to have a larger impact on HD later on, with tertiary education still later, as the system moves into a leadership role in science and technology, yielding higher levels of human development.

The underlying determinants of these three ratios, of course, include the tax capacity of the system, the strength of the demand for military expenditures and other non-HD priorities of government, each influenced by the interplay between bureaucratic forces and populist pressures. All three ratios are affected by the extent of decentralization, which tends to increase the total revenues available, is likely to raise the HD allocation ratio, and usually improves the HD priority ratio.[4]

Finally, the expenditures of civil society or NGO activity, on which information is more scattered, are mostly heavily oriented towards HD objectives. Resources are primarily derived from private donations and governments, both foreign and domestic. In most contexts, NGOs play a supplemental or even marginal role in a few areas, but occasionally, e.g., the case of the *comedores populares* in Peru, they appear to represent a significant source of HD enhancement.

How expenditures in the direction of enhancing HD levels are allocated, and how effective they are in raising HD levels is, of course, another central issue. This link in the chain between expenditure inputs and HD outputs may be called the HD production function. The relationships embodied in this production function are complex, depending on both individual family and community behavior, the existence of local knowledge about relevant technologies, and the complementarity or competitiveness among various inputs, such as preventive health, nutrition, education, etc. While, as noted above, some aspects of that production function have been elucidated by detailed empirical work, it is generally still poorly understood. Nonetheless, there exists abundant evidence that female education tends to improve child nutrition and survival levels. A study of Brazil indicates that an increase in the nonlabor income of women increases the probability of child survival by twenty times that of an equivalent increase in the nonlabor income of men (Thomas 1990).[5]

It should be clear that the strength of the various links in Chain A is critical, that it varies according to a large number of factors, including the structure of the

[4] Decentralization of publicly provided services has recently been introduced in a wide range of countries. Tentative conclusions about its effectiveness are mixed, with apparent relative success in promoting efficiency and contributing to HD in Indonesia, Malaysia, Chile, and Karnataka in India, but less so in Argentina, Bangladesh, and Brazil. Mostly, local governments have been severely constrained in their ability to raise taxes as well as in the freedom of allocative decision making, and full democratic devolution has been rare. See Behrman (1995a, 1995b), Prud'homme (1995), Klugman (1994), and Ranis and Stewart (1994).

[5] Also see Ainsworth, Beegle, and Nyamete (1995), Behrman (1990), and Behrman and Wolfe (1987).

economy, the level and distribution of household income, and the policy choices made by government. Where horizontal links among actors, i.e., so-called social capital, is strong, the strength of these links is also likely to be positively affected, i.e., when people act together to promote their common well-being, when the community monitors any malfeasance, we can expect Chain A links to be stronger. The same, in brief, can be said, ceteris paribus, about a better distribution of income, a lower poverty level, a higher level of female education, a higher level of female control over household income within the household, a higher government social expenditure ratio, and a more efficient HD production function.

Turning to Chain B, running from HD to EG, we have ample evidence that as people become healthier, better nourished, and better educated, they contribute more to economic growth. This is conventional wisdom—even if all components of HD are not part of the feedback effect. Thus, higher levels of HD, in addition to being an end in themselves, affect an economy by enhancing the productivity of workers and the entrepreneurial capabilities and creativity of managers, and thus total factor productivity. A higher level of human development means that the society disposes over better human capital across the board. More specifically, additional primary education improves the capabilities of farmers and unskilled workers; additional secondary education creates more skills and better supervisory personnel; and, at the tertiary level, the impact of higher-level manpower, combined with science and technology, is well understood. Better human capacity means better governance, better choice of foreign technology, and better adaptation of such technology. At the macro-level support for this relationship may be obtained from the so-called new growth theories. Specific investments in education or research and development make the whole system more productive. Higher savings and investment rates, combining with technology and social capital, are again part of the enabling environment which determines the impact of the supply of a more educated labor force on the generation of income.

There is clear evidence in agriculture of the effects of education, including literacy, on productivity change among farmers, especially those using improved or modern technologies. Some such evidence indicates that farmers with four or more years of schooling are three times as likely to adopt fertilizer and other modern inputs than less educated farmers. Even the quality of policy making and of investment decisions in the public and private sectors, respectively, are bound to be influenced by the education of policymakers, entrepreneurs, and managers. The productivity of sugarcane workers in Guatemala, for example, increases fairly immediately as their current intake of calories or micro-nutrients is increased (Strauss 1986; Immink and Viteri 1981; Wolgemuth et al. 1982). A large longitudinal study of children in Chile showed that providing nutritional supplements to children would generate benefits six to eight times the cost of the intervention in terms of additional productivity (Selowsky and Taylor 1973). A similar study in Cali, Colombia

found that a health/nutrition program increased the lifetime earnings of individuals from two and a half to nine times those of an illiterate worker (Selowsky 1981). The impact of education on the nature and growth of exports and of being able to take advantage of export opportunities, which, in turn, affects the aggregate growth rate, is another way in which HD influences EG. Even so-called unskilled and semi-skilled workers normally need a literacy/numeracy-related discipline, acquired in primary and secondary school environments, to be effective in a factory context.

It should be noted that income distribution plays an important role once again in Chain B. For example, while improvements in human development can affect income distribution, Alesina, Tabellini, and others[6] have pointed out that an improved income distribution can mean faster growth as the median voter is satisfied and does not agitate for unwise macro-economic expansionary policies. A more unequal distribution of income is likely to be associated with greater political instability and, therefore, more likely to interfere with growth. For example, a study of the relationship between schooling, income inequality, and poverty in eighteen Latin American countries in the 1980s found that one-fourth of the variation in workers' incomes was accounted for by variations in schooling attainment. The study concluded that "clearly, education is the variable with the strongest impact on income equality" (Psacharopoulos et al. 1997). Education may also affect per capita income growth through its impact on the denominator, i.e., population growth. The higher the level of schooling, especially female schooling, the lower the levels of fertility, often working their way through infant mortality rates. Just as in Chain A, the strength of the links in Chain B varies substantially across countries. For example, the increased supply of more educated people, by themselves, will not do the job. One must also have the requisite demand, i.e., opportunities for employing these same people, depending on investment levels, technology choices made, etc.

III. RELEVANT EMPIRICAL FINDINGS

A. *Cross-Country Study*

This section draws heavily on Ranis, Stewart, and Ramirez (2000). The reasoning and inductive evidence discussed above led us to a set of hypotheses about the links between HD and EG in both causal directions. In the attempt to test these hypotheses, we ran cross-country regressions including thirty-five to seventy-six developing countries (depending on data availability) for the years 1960–92, the results of which we outline here. The intent was to identify the more significant variables in Chain A affecting improvements in HD, using life expectancy shortfall

[6] For example, Alesina and Rodrik (1994).

reduction between 1970 and 1992 as the shorthand indicator of such improvement.[7] Below are some of our key findings from this earlier work:

1. GDP growth per capita was significant in all cases. Our results indicate that a 1 per cent increase in the growth rate would lead to a reduction in the life expectancy shortfall of 3 per cent.
2. The social expenditure ratio, i.e., the percentage of government expenditure devoted to HD-related activities, was significant in all equations; a 1 per cent increase in this ratio resulted in a 1.75 per cent reduction in the life expectancy shortfall.
3. Even more interesting was the finding that the social expenditure ratio's impact on the level of human development seems to work through the female primary educational enrollment ratio, i.e., when the female primary enrollment ratio is added in our equations the social expenditure ratio coefficient, while still of the right sign, ceases to be significant.

Turning to our empirical findings on Chain B, with GDP per capita income growth between 1970 and 1992 as the dependent variable, we found:

1. The initial level of human development as summarized by life expectancy was consistently highly significant.
2. Adult literacy and life expectancy, as well as a more comprehensive definition of human development (i.e., one including education), were significant in several equations.
3. The investment rate was consistently significant.
4. A better distribution of income was associated with a higher rate of growth, except in the case where regional dummies were introduced. This agrees with the findings of Alesina and Perotti (1994) and Alesina and Rodrik (1994).
5. The initial level of GDP per capita was significant, carrying a negative sign, thus indicating the existence of some convergence among developing countries, i.e., the lower that initial level, the more catch-up can be expected, presumably through technology borrowing by latecomers.

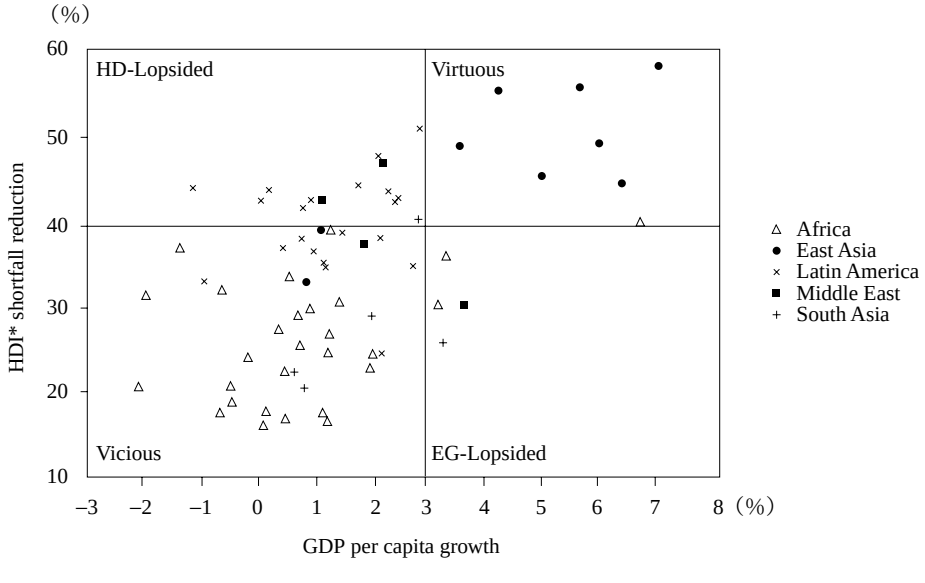
Given these findings of positive links between EG and HD, we may note that an individual country may find itself in a virtuous cycle, with vigorous growth leading to improved human development, and improved levels of human development in turn leading to vigorous growth, i.e., especially if the links in both these chains are strong. But it is also true that if these links are strong weak growth will lead to weak human development and weak human development in turn will lead to weak growth, which would be tantamount to a vicious cycle. On the other hand, we may also note

[7] Shortfall reduction refers to the closing of the gap with the longest country life expectancy on record (see UNDP 1995). We also tried regressions with changes in adult literacy rates and a combined, equally weighted, measure of the two. The results were similar but the number of observations more limited.

that there may exist two types of "lopsidedness" if the linkages between HD and EG happen to be weak. One could, for example, encounter good growth but poor human development (EG-lopsidedness), e.g., because there is a low public expenditure ratio, or one could encounter good human development and poor growth (HD-lopsidedness), e.g., because the investment rate is low. We may also hypothesize that such lopsided cases are unlikely to persist for very long, but turn into either vicious or virtuous cycle cases over time.

In order to examine these various categories of performance more closely, we compared all developing countries for which we have data between 1960 and 1992. Figure 2 illustrates this, with each country compared to the average, weighted by population, with respect to their human development and economic growth performance. We note the existence of four quadrants: virtuous and vicious cycles in the northeast and southwest quadrants, respectively, and the two different types of lopsidedness in the northwest and southeast quadrants. Seven out of the eight virtuous quadrant countries are in East Asia, while twenty-five out of forty-one in the vicious cycle category are in sub-Saharan Africa, with ten in Latin America. Moreover, there are a substantial number of HD-lopsided cases but very few EG-lop-

Fig. 2. Economic Growth and Human Development, 1960–92



Source: Ranis, Stewart, and Ramirez (2000).

Notes: 1. The horizontal and vertical lines defining the four quadrants represent developing country averages, weighted by population.

2. HDI* pertains to the component of the Human Development Index (HDI) containing life expectancy, school enrollment, and literacy rates.

sided cases. Eleven of the fourteen HD-lopsided countries are in Latin America, while the four EG-lopsided cases are Egypt, Pakistan, Mauritius, and Lesotho. From the point of view of policy, of course, an important question is how a country is capable of transiting over time, presumably with the objective of ending up in a virtuous cycle at the end of the day. By examining the location of our countries on a global basis, described in Table I, in each of the three decades between 1960 and 1992, we are in a position to make the following observations:

1. Eighteen of the thirty-four countries that were in a vicious cycle in the 1960s remained in that category throughout. Most of these are sub-Saharan African countries, which started with very low HD levels, handicapping their growth. Their subsequent low growth rates, followed by the debt crisis, prevented them from generating the necessary resources to improve their HD levels.
2. Between the 1960s and 1970s, six countries moved from vicious to EG-lopsided positions. But, of these six, four fell back to the vicious cycle category in the 1980s. Three moved from vicious to HD-lopsided, including Honduras, Algeria, and Madagascar, of which only Madagascar returned to the vicious cycle. Kenya moved from vicious to virtuous in the 1970s, and subsequently fell back to vicious. Sri Lanka and Botswana were the only two countries that managed to move from the vicious to virtuous category on a sustained basis.
3. Seven countries were EG-lopsided in 1960 to 1970, but none stayed in that category throughout. They all moved into the vicious category, and one—Pakistan—reverted to EG-lopsided in the 1980s. Brazil and Egypt enjoyed relatively fast growth of over 3 per cent in the 1960s and about 6 per cent in the 1970s, but did not utilize this opportunity to improve their HD levels substantially. In Pakistan and Egypt, public expenditures on health and education were low, partly due to high military expenditures. Pakistan's human development suffered especially from discrimination against females. In the case of Brazil, the highly unequal income distribution, a Gini of 0.634, was one reason why reasonably good growth did not translate into HD improvements.
4. Costa Rica was the only one of the thirteen HD-lopsided countries in the 1960s to stay in that cycle throughout. Of these thirteen, four—Chile, China, Colombia (later falling back to HD-lopsided), and Indonesia—moved into the virtuous cycle. In these cases, early HD progress enabled them to take advantage of economic policy reforms to help generate and reinforce economic growth. Egalitarian income distribution also assisted the movement towards a virtuous cycle. Three, Myanmar, Peru, and El Salvador,[8] moved initially from HD-lopsided into the vicious category, with the latter two moving back into HD-lopsided-

[8] Iraq made the same move between the 1960s and 1970s, but data are not available for the later period, when conflict is likely to have damaged both HD and EG.

TABLE I

VIRTUOUS, VICIOUS, AND LOPSIDED PERFORMANCE, 1960–92

Country	1960–70	1970–80	1980–92
Africa			
Benin	Vicious	Vicious	Vicious
Botswana	Vicious	Virtuous	Virtuous
Burkina Faso	Vicious	Vicious	Vicious
Burundi	Vicious	Vicious	Vicious
Cameroon	Vicious	EG-lopsided	Vicious
Central African Republic	Vicious	Vicious	Vicious
Chad	Vicious	Vicious	Vicious
Congo	Vicious	EG-lopsided	Vicious
Côte d'Ivoire	EG-lopsided	Vicious	Vicious
Gabon	EG-lopsided	Vicious	Vicious
Ghana	Vicious	Vicious	Vicious
Kenya	Vicious	Virtuous	Vicious
Lesotho	Virtuous	EG-lopsided	Vicious
Madagascar	Vicious	HD-lopsided	Vicious
Malawi	Vicious	EG-lopsided	Vicious
Mali	Vicious	Vicious	Vicious
Mauritius	HD-lopsided	EG-lopsided	EG-lopsided
Niger	Vicious	Vicious	Vicious
Nigeria	Vicious	Vicious	Vicious
Rwanda	Vicious	Vicious	Vicious
Senegal	Vicious	Vicious	Vicious
Sierra Leone	EG-lopsided	Vicious	Vicious
South Africa	Virtuous	Vicious	Vicious
Sudan	Vicious	Vicious	Vicious
Tanzania	Vicious	Vicious	Vicious
Togo	EG-lopsided	Vicious	Vicious
Zaire	Vicious	Vicious	Vicious
Zimbabwe	Vicious	Vicious	Vicious
Latin America & Caribbean			
Argentina	Vicious	Vicious	HD-lopsided
Barbados	Virtuous	HD-lopsided	HD-lopsided
Bolivia	Vicious	Vicious	HD-lopsided
Brazil	EG-lopsided	EG-lopsided	Vicious
Chile	HD-lopsided	HD-lopsided	Virtuous
Colombia	HD-lopsided	Virtuous	HD-lopsided
Costa Rica	HD-lopsided	HD-lopsided	HD-lopsided
Dominican Republic	HD-lopsided	EG-lopsided	Vicious
El Salvador	HD-lopsided	Vicious	HD-lopsided
Guatemala	HD-lopsided	EG-lopsided	Vicious
Haiti	Vicious	Vicious	Vicious
Honduras	Vicious	HD-lopsided	HD-lopsided
Jamaica	Virtuous	Vicious	Vicious
Mexico	Virtuous	Virtuous	HD-lopsided
Nicaragua	Virtuous	Vicious	HD-lopsided
Panama	Virtuous	Virtuous	HD-lopsided
Paraguay	Vicious	EG-lopsided	Vicious

TABLE I (Continued)

Country	1960–70	1970–80	1980–92
Peru	HD-lopsided	Vicious	HD-lopsided
Trinidad & Tobago	Vicious	EG-lopsided	HD-lopsided
Uruguay	Vicious	Vicious	HD-lopsided
Venezuela	HD-lopsided	HD-lopsided	Vicious
South Asia			
India	Vicious	Vicious	EG-lopsided
Nepal	Vicious	Vicious	Vicious
Pakistan	EG-lopsided	Vicious	EG-lopsided
Sri Lanka	Vicious	Virtuous	Virtuous
Bangladesh	Vicious	Vicious	Vicious
East Asia			
China	HD-lopsided	Virtuous	Virtuous
Hong Kong	Virtuous	Virtuous	Virtuous
Indonesia	HD-lopsided	Virtuous	Virtuous
Korea, Republic of	Virtuous	Virtuous	Virtuous
Malaysia	Virtuous	Virtuous	Virtuous
Myanmar	HD-lopsided	Vicious	Vicious
Philippines	HD-lopsided	EG-lopsided	Vicious
Singapore	Virtuous	Virtuous	Virtuous
Thailand	Virtuous	Virtuous	Virtuous
Middle East			
Algeria	Vicious	HD-lopsided	HD-lopsided
Egypt	EG-lopsided	EG-lopsided	Vicious
Morocco	Vicious	EG-lopsided	HD-lopsided
Turkey	Virtuous	HD-lopsided	HD-lopsided

Source: Ranis, Stewart, and Ramirez (2000).

ness in the 1980s. Venezuela, initially in the HD-lopsided sector, stayed there for two decades, before moving into the vicious cycle category by the 1980s. The Dominican Republic, Guatemala, and the Philippines initially moved to EG-lopsided, but subsequently fell back into the vicious cycle. The reasons for the failure to move into high economic growth included the debt situation, poor economic policies, and internal disturbances. Consequently, these countries were not able to maintain progress in HD.

5. In the 1960s, thirteen countries were in the virtuous cycle category. Of these thirteen, five remained in this category throughout. Five fell into the HD-lopsided and three into the vicious categories.[9] Mostly, the countries that fell back were subject to the depressing effects of the 1980s debt crisis on economic growth.
6. Note, importantly, that lopsidedness was only a temporary condition in all cases,

[9] Lesotho moved from virtuous to vicious by way of EG-lopsidedness.

except Costa Rica.[10] The most significant finding here is that HD-lopsidedness permitted movement towards a virtuous cycle—this occurred about a third of the time. However, *in the case of EG-lopsidedness, all the cases reverted to a vicious cycle*. Very few countries indeed managed to go directly from vicious to virtuous. Some countries succeeded in moving to a virtuous cycle, by first moving into HD-lopsidedness, from where it was possible to move into the virtuous category. Our analysis therefore suggests that it is not possible to move to virtuous via EG-lopsidedness, but more likely via HD-lopsidedness.

The significance of all this may now be summarized. It seems clear that lopsidedness, as mentioned earlier, proved to be a temporary condition for all but one country, i.e., Costa Rica. One-third of the HD-lopsided became virtuous; all the EG-lopsided became vicious. An important conclusion flowing from this is that the best path from vicious to virtuous is to attempt to move through HD-lopsidedness. In common sense terms this means a system should first strengthen the links in its Chain A by shifting resources to education and health in order to improve its human development; only then will it be able to move from HD-lopsided, through a strengthening of links in Chain B, to further enhance growth. While all this is basically an iterative process, the phasing of policy change does appear to be critical. Thus the often held position that we should first "get the fundamentals right" to ensure good economic growth, while human development has to wait, is in error. Human development improvement must precede or at least accompany the improvement in growth. What was intuitively seen as correct by only a few observers[11] generally holds up well empirically in this very simple framework.

B. *Case Studies of Some Latin American Countries*

Figure 2 clearly shows the relationship between the Human Development Index (HDI) and per capita GDP growth. As can be seen, this primarily is driven by the inter-group variations among the various regional groups that we consider. Analyzing each region individually becomes more difficult statistically due to the fact that the intra-group variation is naturally much smaller. A large time series would probably have provided more variation, but is not available. Latin America, in this sense, is no exception in terms of the lack of sufficient variation across the member countries of this group to formally test our hypotheses, as we can see from Figure 2. However, we can demonstrate many interesting cases of Latin American countries, cited extensively in various country studies, which conceptually illustrate the relationship between human development and economic growth posited above.

[10] One of the explanations of why Costa Rica was able to sustain HD achievements despite low economic growth resides in its early, strong, and sustained commitment to HD, exemplified by abolition of its army in 1948 and its heavy investment (at 10 per cent of GDP) on health and education between 1970 and 1992.

[11] For example, Adelman and Morris (1967).

TABLE II

	1960–70	1970–80	1980–92
Argentina	Vicious	Vicious	HD-lopsided
Barbados	Virtuous	HD-lopsided	HD-lopsided
Brazil	EG-lopsided	EG-lopsided	Vicious
Chile	HD-lopsided	HD-lopsided	Virtuous
Colombia	HD-lopsided	Virtuous	HD-lopsided
Haiti	Vicious	Vicious	Vicious
Jamaica	Virtuous	Vicious	Vicious
Mexico	Virtuous	Virtuous	HD-lopsided
Peru	HD-lopsided	Vicious	HD-lopsided
Venezuela	HD-lopsided	HD-lopsided	Vicious

Let us thus now focus more explicitly on Latin America and the Caribbean, with the help of Table II.

We chose these ten Latin American countries as case studies or examples of good, poor, and questionable performance. The poor performers are Brazil, Haiti, Jamaica, and Venezuela; the good performers Barbados, Chile, Colombia, and Mexico;[12] and the questionable performers Argentina and Peru. We placed these ten countries into these three performance groups, given the "virtuous cycle" as the ultimate aim of a country and chose the countries in each group as typological representative group.

It should be noted that we are not concerned with the "level" of per capita income or the "level" of human development, but with "changes" in per capita income and its two-way relationship with "changes" in human development, i.e., HD progress as measured by life expectancy shortfall reduction. Of all the Latin American countries listed, Brazil, Jamaica, Venezuela, and Haiti are the worst performers; Chile, Mexico, Colombia, and Barbados are the best, with Argentina and Peru giving signs of moving towards a virtuous cycle. In what follows, we present thumbnail sketches of the performance of some of these countries over the three decades.

1. *Poor performers*

Brazil (EG-lopsided, EG-lopsided, vicious). More so than perhaps any other country in Latin America, Brazil typifies the case where a development approach, focused primarily on rapid economic growth, with insufficient regard for the links between growth and human development, eventually led to poor performance in both dimensions.

[12] Costa Rica is also a good performer in this region. However, it was not included in this study as the aim was to pick typical performers. Costa Rica remained in the HD-lopsided quadrant throughout the period in question, while Barbados, Chile, Colombia, and Mexico were in the virtuous cycle at least once over this time period.

For much of the past three decades, Brazil posted one of the more remarkable growth rates in the developing world. An ambitious modernization program in the 1960s and 1970s premised on capital accumulation, import-substituting industrialization, and a rapidly growing labor force, helped produce average annual GDP growth rates in excess of 9 per cent between 1960 and 1985 (Barros, Mendonca, and Rocha 1995, p. 237).

Nevertheless, this quite spectacular growth did not produce a commensurate impact on human development. Brazil's educational indicators are considerably worse than those of Latin America's seven other upper-middle-income countries (Argentina, Chile, Colombia, Costa Rica, Mexico, Uruguay, and Venezuela): the illiteracy rate for the population aged fifteen years and older in Brazil is approximately 10 per cent higher than the average of those countries; the school attendance rate for children six to eleven years old is 15 percentage points lower; and the proportion of repeaters in the first grade is 10 percentage points higher.[13] Health indicators are also relatively weak. While Brazil experienced quite a notable decline in its infant mortality rate (IMR) over the last fifty years—decreasing in absolute terms by more than 100 deaths per 1,000 live births—infant mortality is still higher than in almost every other Latin American country (Barros, Mendonca, and Rocha 1995, p. 262).

The chief culprit in Brazil's relatively disappointing HD record appears to be a highly unequal income distribution. Having inherited a very unequal distribution of power and land from its colonial past, Brazil did little to modify these patterns through two decades of quite spectacular growth. For example, it has never attempted any serious program of land reform (Maddison et al. 1992, p. 12). As a result, Brazil has one of the poorest distributions of income.

While the rather unequal income distribution adversely affected household expenditure on human development, Brazil's poor HD allocation and priority ratios also affected the quantity and quality of public spending on social sectors. Throughout the 1960–92 period, HD-allocation ratios were comparatively low. Brazil's combined expenditure on education and health as a proportion of total government expenditure was between one-fourth and one-half that of Argentina and Chile (IMF, various years). Furthermore, Brazil's social spending declined at the end of the 1970s, with education particularly affected. The share of total expenditure devoted to education decreased from about 6.5 per cent in the 1970s to only about 3 per cent in the 1980s (IMF, various years) and was geared largely to higher education, while neglecting technical schools.

Brazil's priority ratios in health were also deficient. Although large numbers still die as a result of infectious diseases, public expenditure on health has been characterized by a large and growing emphasis on curative and a corresponding decline

[13] See Amadeo et al. (1993).

on preventive medicine. The portion of public expenditure on curative services increased from 35.8 per cent in 1965 to 84.6 per cent in 1982, while that for prevention decreased from 64.1 per cent to 15.4 per cent over the same time period (Maddison et al. 1992, p. 104). Sophisticated treatments in São Paulo, including heart surgery and organ transplants, are estimated to consume 40 per cent of all public resources allocated to health, while benefiting only 3 per cent of the population (EIU 1998a, p. 19).

Haiti (vicious, vicious, vicious). Due to strong links, Haiti has found itself on a trajectory of low growth and poor human development for most of the past three decades. Although growth was moderate during the 1960s and 1970s, averaging 5.3 per cent during the second half of the 1970s (World Bank, *Trends in Developing Economies*, 1991, p. 254), improvements in real per capita income failed to translate into widespread gains in human development due to a highly unequal distribution of income. While there is disagreement about the magnitude of inequality,[14] it is clear that income was (and still is) concentrated within urban areas, a significant result considering that three-quarters of the population lives in rural areas and that agricultural production has declined on a per capita basis since the 1970s (World Bank, *Trends in Developing Economies*, 1991, p. 254).

Haiti's tax system served to weaken both expenditure ratios and increased income inequality, with collection weak and the structure highly regressive. Public expenditure on primary education as a per cent of GNP, for example, decreased from approximately 0.9 per cent a year in 1965 to 0.6 per cent a year by 1985 (World Bank 1993, p. 70, Table 4.11). Per capita public health expenditures have also declined more than 15 per cent from 1980 to 1985 (World Bank 1987, Statistical Appendix, Table 11.4).

The priority ratios were also unfavorable, especially in the health sector. Over half of the physicians employed by the Ministry of Public Health and Population reside in the capital, leaving only 1.4 physicians per 10,000 people in rural areas (World Bank 1987, p. 103). This has worsened the efficiency of the HD production function, leading to a high incidence of malnutrition and morbidity. About 30 per cent of rural children and 48 per cent of urban children are anemic, while 90 per cent of deaths among one-to-four-year-old children are associated with malnutrition and diarrheal diseases (World Bank 1987, p. 103).

As for Chain B, rampant corruption leading to highly inefficient public investment decisions have continuously dampened growth. Negative reinforcement between the two chains has also worsened over time, i.e., during 1980 to 1991, real GNP per capita fell by about 2 per cent per annum (World Bank 1996, p. 225). This decline further deteriorated living standards so that Haiti's growth and HD record

[14] See, for example, Lundahl (1996).

today resemble those of sub-Saharan African countries rather than those of its Caribbean neighbors.[15]

Jamaica (virtuous, vicious, vicious). Jamaica found itself in a virtuous cycle during the 1960s, largely as a result of rapid economic growth, combined with a strong government commitment to HD. Development of the bauxite and alumina industries stimulated development, with GDP increasing at an average of 6.3 per cent per year during the 1952–72 boom period (Stone and Wellisz 1993, p. 161). This, in turn, increased public expenditure on HD goods, with social expenditure increasing from 5.6 per cent in 1960 to 12.1 per cent of GDP in 1975 (Stone and Wellisz 1993, p. 171). The policy setting during the 1960s clearly favored human development. The two major political parties sharing power at the time were committed to social reform, expanding education and health services, constructing low-income housing, and supporting small farmers through extension services. Primary school enrollment expanded from 65 to 85 per cent, and secondary enrollment from 15 to 58 per cent from 1960 to 1970, while life expectancy increased and infant mortality declined.

During the 1970s severe external terms of trade shocks led to sustained economic contraction, with sharp cutbacks in public expenditure and increases in the poverty rate (World Bank, *Trends in Developing Economies*, 1991, p. 286). This was followed by severe adjustment policies in the 1980s. Real spending on education and health fell about 30 per cent between 1980 and 1986 (World Bank, *Trends in Developing Economies*, 1994, p. 240). This decline in social spending was further accentuated by the adjustment policies of the 1980s, leading to a deterioration in nutrition, education, and health levels, although debate surrounds the exact magnitude of such effects.[16] The quality of public education has declined not only because of reduced public expenditure, but also because of a poor HD priority ratio partly due to the top-down allocation of resources. Expenditure per head on tertiary-level students was excessively high compared with spending on secondary and primary students (EIU 1997a, p. 16). The neglect of primary education has resulted in serious literacy problems among the student population, with some 30 per cent of those leaving the primary school system thought to be functionally illiterate (EIU 1997a, p. 16).

Links in both chains were consequently weakened. The retreat into a vicious cycle, however, was not due entirely to external factors. On the one hand, during the 1970s populist domestic policies eroded investor confidence, further weakening the links in Chain B. Jamaica's increased economic dualism also meant that income distribution worsened, especially in the rural areas, with a negative impact on EG. Indeed, Jamaica's already extremely unequal distribution of income wors-

[15] See World Bank (1987).
[16] See, for example, Behrman and Deolalikar (1991) and Cornia and Stewart (1987).

ened during the 1960s and 1970s. By 1971/72, the bottom 58 per cent of households earned less than 16 per cent of total income, while the top 10 per cent earned 50 per cent (Boyd 1988, p. 135). On the other hand, the adjustment policies of the 1980s involved substantial reductions in public expenditure on HD, weakening the links in Chain A.

Venezuela (HD-lopsided, HD-lopsided, vicious). Along with Jamaica, Venezuela represents a case where natural resource abundance has led to "boom and bust" cycles reminiscent of the Dutch Disease. During times of high oil revenue, HD progress has typically been very good, largely as a result of expansionary spending programs, only to deteriorate drastically once oil prices have weakened and the public expenditure ratio declined. But, growth is harmed by the overvaluation of the currency and the negative effect on policy reform when oil prices are high.

Social spending on priority HD sectors kept pace during the first two decades. The share of the central government budget going to education and health increased throughout, with education spending rising from 6 per cent of government expenditure in the 1950s to nearly 15 per cent in 1971 (Marquez 1995, p. 409). The literacy rate increased rapidly, with primary and secondary school enrollment growing much faster than the population (Marquez 1995, p. 409), helping to explain Venezuela's human development bias during this period.

Interestingly, though educational and health indicators suffered during the 1980s, expenditure on social services did not appear to suffer disproportionately large cuts. For example, the share of the central government budget devoted to education decreased from 14.4 per cent in 1981 to only 12 per cent in 1990 (Marquez 1995, p. 409). Rather, what seemed to be at issue was poor resource use, that is, a worsening of the HD production function linking inputs to outputs. During the 1980s, there was a shift in the composition of social service expenditures, with increasing shares devoted to support planning and administration, and decreasing shares to operational programs and inputs, leading to marked inefficiencies in the delivery of education and health outputs (Marquez 1995, p. 412). Partly as a consequence, teaching quality has declined, while school dropout rates have increased. Only one-third of the student population continues in education past the ninth grade (EIU 1997b, p. 20). Similarly, decaying infrastructure and shrinking budgets in the health sector have led to a situation where in 1990, 46 per cent of Venezuela's three hundred public hospitals were in need of repair (EIU 1997b, p. 20).

Poor priority ratios in education have further weakened the two-way links between human development and growth. Universities receive over 50 per cent of education spending in Venezuela, compared with about 25 per cent in the rest of Latin America (EIU 1997b, p. 19). The structure of Venezuela's education system has, moreover, focused excessively on academic and philosophical rather than vocational and scientific subjects (EIU 1997b, p. 19).

Links in Chain B were relatively weak. When Venezuela found itself in a boom following increases in oil prices in the 1970s, rather than investing in sectors which might have generated more broad-based employment opportunities and taking advantage of higher HD levels, the government instead encouraged capital-intensive import substitution industries in steel, aluminum, and petrochemicals (Nissen and Welsch 1994, p. 95). Such policies enhanced the structural rigidities in the economy, thereby increasing Venezuela's vulnerability to external shocks, worsening income distribution, and reducing growth (World Bank 1989, p. 479). As a result, once the external situation deteriorated in the 1980s, Venezuela found itself in a very difficult situation. A large rise in real interest rates in international financial markets in the early 1980s, coupled with the sharp drop in oil prices in 1986, triggered an economic crisis, plunging Venezuela into a low-growth and poor-HD decade: per capita income declined every year between 1979 and 1985 while poverty rapidly increased (World Bank, *Trends in Developing Economies*, 1996, p. 541).

As with most developing countries during the 1980s, external shocks generated real costs in human development as a result of declining per capita income. Such effects were particularly severe in Venezuela. Between 1981 and 1990 the number of people living in poverty doubled from 24 to 59.2 per cent, while the Gini coefficient rose from 0.39 to 0.44 (Marquez et al. 1993, p. 146).

2. *Good performers*

Barbados (virtuous, HD-lopsided, HD-lopsided). In contrast to Jamaica, which started out in the virtuous category but subsequently moved into vicious development, Barbados began the 1960s in a virtuous cycle and managed to stay in HD-lopsidedness afterwards, continually improving its HD record over the past twenty years.

Such sustained improvements were the result of strong links in Chain A which allowed Barbados' steady economic growth—averaging 3.2 per cent per year from 1966 to 1996 (World Bank, *Trends in Developing Economies*, 1996, p. 30)—to translate into real gains for human development. On the household side, a sustained improvement in income distribution helped to increase household resources for human development. While income distribution became more unequal during the 1950s, this trend was reversed, with the Gini coefficient decreasing from 0.4 in 1960 to 0.28 in 1981 (Holder and Prescod 1989, p. 105, Table 9).

Improvements in female education and female participation in the labor market also contributed to improving household HD expenditure patterns. The number of women entering formal sector employment increased 21.6 per cent over the 1970 to 1993 period (Coppin 1995, p. 107), helping to explain the substantial reduction in income inequality.

On the public sector side, HD expenditure ratios were favorable and increasing. During the 1970s and 1980s, the health sector accounted for between 15 and 20 per

cent of current expenditures, and 5 to 15 per cent of capital outlays, while the comparable figures for education were in excess of 20 per cent of the current budget, and about 10 per cent of the capital budget (Baker 1997, p. 89). In comparison, Brazil's outlays as a per cent of total expenditures for the same period ranged between 3–5 per cent for education and 6–10 per cent for health (IMF, various years).

The portion of public expenditure earmarked for "priority" areas also improved, with health funds devoted to improving sewage services, water quality, and the development of community health centers providing dental, maternal, and child care, and out-patient medical and psychiatric services (Inter-American Economic and Social Council 1974, p. 14). Active family planning programs introduced in the 1950s were particularly important, helping to reduce the fertility rate from 2.8 in 1970 to 1.7 in 1991, undoubtedly contributing to both the rise in female employment and GDP per capita (Coppin 1995, p. 108, footnote 14).

Over the same period, improvements in the HD production function also helped overall HD performance. In health, the government targeted funds more efficiently by providing school meal programs, while, in education, the government increased access, resulting in a favorable situation, with less than 5 per cent of the total enrollment in primary and secondary schools in the private sector (Baker 1997, p. 90).

With regard to Chain B, Barbados also took important steps to utilize the improvements in human development by diversifying the economy. Starting in the 1970s, the Barbados became less dependent on primary (i.e., sugar) exports, with the share of manufactured exports and tourism gradually increasing to comprise two-thirds of exports by the 1980s (World Bank, *Trends in Developing Economies*, 1996, p. 30). Not only did this make the economy more dynamic, but it also fed back into the HD-EG cycle and improved human development by increasing employment opportunities, particularly for women. The government further strengthened links in Chain B by developing a number of vocational schools in response to the changing employment demand, developing a hotel school and teacher training center (Inter-American Economic and Social Council 1974, p. 14).

The oil shocks of the 1970s and early 1980s did generate recessions in the Barbadian economy, reducing growth. What is significant, however, is that such declines in economic growth did not severely affect Barbados's social programs or its HD progress, permitting it to improve its HD record throughout.

Chile (HD-lopsided, HD-lopsided, virtuous). What makes Chile an interesting case from our perspective is that, even when faced with economic crisis and major structural reforms, it managed to safeguard the HD improvements achieved in previous decades which eventually allowed it to move into a virtuous cycle.

Chile has had a long tradition of a balanced development orientation. From the 1920s onwards, successive governments have made substantial investments in the social sectors, with the state playing a very prominent role in the provision of edu-

cation, health, housing, and social security (Raczynski 1988, p. 57). By the end of the 1960s the links in Chain A were very well developed: social expenditure comprised 20 per cent of GDP; registration in primary education covered 95 per cent of the six-to-fourteen-year olds; and 81 per cent of births were delivered by professionals (Raczynski 1988, p. 66).

When hit by recessions in the late 1970s and early 1980s, Chile's post-1973 military government undertook substantial adjustment programs characterized by a reduction in the state's economic role. This resulted in a decline in both the public expenditure and HD-allocation ratios, with social spending as a share of GDP declining every year from 1984 to 1990 (Riveros 1998, p. 128, Table 4.4). Despite this reduction, Chile's HD was largely left intact, due mainly to improvements in the targeting and effectiveness of its existing social expenditure, that is, the HD priority ratio and production function. The government developed a number of special programs and subsidies designed to protect the most vulnerable strata of society, especially mothers and children, during the adjustment period. These included a family subsidy for those in extreme poverty, supplementary feeding program for mothers and preschoolers (two to five years old), as well as programs for nutritionally deficient children and a school feeding program designed to help reduce dropout and repetition problems.[17]

Other measures designed to strengthen the allocative efficiency of social services included the decentralization of education and health to the municipalities, focusing restricted health budgets on disease prevention rather than curative medicine, and an increase in the collaboration between private and public health care providers (World Bank, *Trends in Developing Economies*, 1996, p. 102; EIU 1998b, p. 21; Raczynski and Romaguera 1995, p. 313).

The observed pattern of HD indicators suggests that government actions to maintain the strength of the links in Chain A during times of crisis were successful. For example, the prevalence of moderate and advanced malnutrition declined to their lowest rates since the mid-1970s in 1987 (World Bank, *Trends in Developing Economies*, 1991, p. 81). Infant mortality also fell, from 73 per 1,000 live births in 1972 to 17.1 per 1,000 in 1989 (EIU 1998b, p. 20), while dropout rates in primary education among public schools declined from 7.1 per cent in 1977 to 5.1 per cent in 1984 (Raczynski 1988, p. 78). Admittedly, there were some real costs of adjustment, as unemployment increased a great deal, from 6 per cent in the 1960s to more than 16 per cent during 1974–81, and income distribution worsened, with the Santiago Gini coefficient increasing from 0.47 in the 1960s to 0.51 in 1978–82 (Riveros 1998, p. 127). Poverty rates rose sharply in the 1980s, but extensive emergency employment schemes were deployed to prevent excessive deterioration.

[17] See Raczynski (1988).

In some important respects, Chile's adjustment programs have also contributed to better HD by strengthening the links between HD and EG. Chile's reform of the labor market increased its flexibility and eventually the availability of employment opportunities, while its trade liberalization measures improved the deployment of Chile's substantial factor endowments and increased investment from abroad.[18] As a result, Chile developed into quite a dynamic economy in the 1990s, with good progress in human development along with respectable growth.

Colombia (HD-lopsided, virtuous, HD-lopsided). Sustained improvements in a not very equitable income distribution have played a key role in Colombia's very good human development record. Labor's increasing share of income since the 1970s—a function of economic policies that made the labor market more flexible and increased labor-intensive minor industrial exports, i.e., strengthening the links in Chain B—help to explain some of these sustained improvements in income distribution (Berry and Tenjo 1998, p. 160). The production and trade in drugs may also have contributed. Both the quantity and quality of public expenditure, however, also contributed. During the period under consideration, HD-allocation ratios consistently rose: per capita public social expenditure grew by 4 per cent per year in real terms between 1970 and 1995, doubling its share of GDP from 6.7 per cent to 12.5 per cent (Londoño de la Cuesta 1997, p. 29). More importantly, priority ratios also improved steadily, with the allocation of public expenditures becoming more progressive between 1975 and 1995 and the coefficients of concentration for public expenditure on education and health indicating that a larger proportion reached the poor (Londoño de la Cuesta 1997, p. 30). According to some estimates, the redistributive effect of social spending from 1975 to 1995 helped to reduce the Gini coefficient by 1.6 points (Londoño de la Cuesta 1997, p. 31).

Increasing levels of education among women point to the role of another important link. Significantly, by 1992, female enrollment rates were higher than male rates at all levels of schooling in both rural and urban areas and across income groups (World Bank 1994b, p. 58). This decrease in gender bias helped to increase female participation rates in the labor force and reduce earning differentials between men and women (Berry and Tenjo 1998, p. 165). For example, the average hourly wage differential favoring men by 30 per cent in 1976 disappeared by 1992 (Berry and Tenjo 1998, p. 166).

As a result of strong links in Chain A, Colombia was able to take advantage of its very stable GDP growth—which averaged 4.5 per cent from 1970 to 1993 (World Bank, *Trends in Developing Economies*, 1996, p. 112)—to improve HD in every decade. Almost all indicators showed sustained progress: basic literacy rose from 57 per cent to approximately 90 per cent from 1959 to 1993; infant mortality rates

[18] See Riveros (1998, pp. 112–19).

decreased from the 1960s when it was 15 per cent above to about 25 per cent below internationally expected level for countries with Colombia's national income; and poverty, using unmet basic needs as the criterion, decreased between 1970 and 1995, in marked contrast with the situation in the rest of Latin America (Londoño de la Cuesta 1997, pp. 34–35).

There are also indications that improvements in HD helped economic growth with the help of a strong Chain B. An increased flexibility in the labor market permitted the composition of exports to change significantly during the 1970s and 1980s, with a gradual move from labor intensive to more skill-intensive manufactured exports (Berry and Tenjo 1998, p. 159). Partly as a consequence, total factor productivity grew during the 1970s, helping to explain Colombia's move into the virtuous cycle category (Berry and Tenjo 1998, p. 160). The links in Chain B, however, weakened towards the end of the 1970s, the result of stagnation in the growth of total factor productivity, and a lack of dynamism in investment. When combined with the deterioration in the external economic environment, Colombia's growth rate slowed, but remained positive, explaining its retreat back to HD-lopsided development in the 1980s. The sustained success of Colombia may more recently, however, be coming under threat from a combination of macroeconomic mistakes and a rising level of domestic violence weakening both chains.

Mexico (virtuous, virtuous, HD-lopsided). Along with Chile, Mexico has come closest in Latin America to achieving virtuous development throughout the 1960 to 1992 period. The 1960s and 1970s were times of virtuous development as a result of earlier reforms which reinforced the connection between growth and HD improvements in Chain A. Unlike Brazil, Mexico instituted major land reforms earlier this century. Absolute poverty declined during the 1960s and 1970s, with some studies suggesting the number of poor families dropping by as much as 40 per cent between 1950 and 1975.[19] There is less certainty, though, regarding the level and changes in income distribution, which appear to have remained at rather unfavorable levels, i.e., Ginis between 0.5 and 0.6 (Maddison et al. 1992, p. 185).

The general policy setting and prevailing political ideology seem to have contributed to strong links in Chain A. A central pillar of post-revolutionary governments has been a strong commitment to social development. In the 1960s, this took the form of an "Alliance for Progress" framework, which sought to enhance land reform, health, sanitation, education, and food production (Maddison et al. 1992, p. 129). In the 1970s, the Echeverría and Portillo governments developed the strategy for "shared development" *(desarrollo compartido)* focused on redistributing economic growth through higher social expenditure ratios (EIU 1991, p. 9). Educational expenditure averaged around 18 per cent of total government spending in the 1970s, while health averaged around 5 per cent (IMF, various years). Good priority

[19] See van Ginneken (1980).

ratios also contributed to improvements, with primary education and vaccination programs receiving the bulk of social spending (Maddison et al. 1992, pp. 196, 201).

As a result of favorable spending patterns and a reduction in poverty, HD improved substantially between 1960 and 1980. Life expectancy increased from fifty-nine years to sixty-six years; infant mortality decreased from 74.2 per 1,000 births to 53.1; literacy among fifteen-year olds and older increased from 66 per cent to 83 per cent; and educational enrollment as a percentage of the population almost doubled, from 16 per cent to 30 per cent (Maddison et al. 1992, p. 187, Table 7-2). Such HD improvements, moreover, fed back into the HD-GNP cycle as total factor productivity increased in the 1960s and 1970s, contributing to Mexico's very robust growth rates (Maddison et al. 1992, p. 149). Over the 1950–70 period, Mexico's annual GDP grew at 6.6 per cent, resulting in an average increase of 3.3 per cent in GDP per capita (Maddison et al. 1992, p. 131) and helping to produce a virtuous cycle of development.

The story in the 1980s was different, as macroeconomic imbalances and the debt crisis produced a contraction in growth. Mexico cut its public expenditure ratio, with a corresponding decline in HD spending, which contracted by 6.2 per cent a year between 1983 and 1988 (Friedmann, Lustig, and Legovini 1995, p. 344). These cuts especially affected education, which saw its share of total expenditure drop by 29.6 per cent, with most of the reduction absorbed by primary education (Friedmann, Lustig, and Legovini 1995, p. 348). HD indicators have resultingly been affected. Student-teacher and student-school ratios, proxies for the quality of education, both declined between 1983 and 1988, while per capita medical units, hospital beds, and doctors available in the "formal" health sector also fell (Friedmann, Lustig, and Legovini 1995, pp. 359–61).

Nevertheless, like Chile, Mexico attempted to address the weakening of its Chain A links through a more efficient use of public funds. While the government cut its program of general transfers, it attempted to target existing food subsidies specifically to the poor through the Programa Nacional de Alimentación (PRONAL) (Friedmann, Lustig, and Legovini 1995, p. 365). At a more general level, an important policy mitigating the impact of adjustment, its macroeconomic consequences notwithstanding, was the temporary expansion of public sector employment. Another development which has helped Mexico to remain in HD-lopsided development despite economic decline has been the improving gender situation in Mexico. Women's rights have gradually been institutionalized in Mexico's legal framework during the 1980s (Duarte y N. 1996, p. 325). Female participation rates in formal sector employment have increased, the schooling gap between men and women has declined, and there now appears to be no difference between male and female rates of infant mortality, a sensitive measure of discrimination in access to health care (Langer and Lozano 1996, p. 336).

3. *Questionable performers*

Argentina (vicious, vicious, HD-lopsided). Argentina, like Peru, has exhibited an ambiguous record of development, experiencing low growth and human development for two decades before moving into HD-lopsidedness in recent years. Growth rates in the 1960s began to slow due to the increasing unsustainability of import substitution policies implemented in previous decades (Marshall 1998, p. 81). While Argentina's human development record during the 1940s and 1950s had been relatively good, by Latin American standards, it began to slacken as a result. Nevertheless, successive military regimes introduced measures aimed at improving living standards, including retirement benefits for domestic servants; family allowances; health insurance for retired workers; and a social housing fund (Fondo Nacional de Vivienda, FONAVI) (Golbert and Fanfani 1994, p. 4). Despite such efforts, human development actually worsened in the 1970s. Three factors conspired to weaken Chain A. First, income distribution became more uneven and poverty increased. Between 1970 and 1980, the upper decile of households enlarged their share of total income by almost 5 percentage points, while the lower strata lost almost 3 percentage points (Altimir 1998, p. 62). Real wages also fell by 30 per cent after the 1976 wage freeze, increasing the portion of the population falling into poverty (Marshall 1998, p. 99). Second, HD allocations as a share of the public expenditure ratio declined due to increased security expenditures which crowded out the social sectors. As a per cent of GDP, expenditure on education fell from 4 per cent in 1973 to 2.6 per cent in 1977, indicating a decline in real terms as GDP also fell over the same period (Lo Vuolo 1995, Table 5). Third, the HD production function weakened, as the lack of coordination between private and public HD providers, particularly in health care, reduced the relative efficiency of HD inputs (Beccaria and Carciofi 1995, p. 213).

Several weaknesses in Chain B also contributed to the vicious cycle of the 1970s. Labor force participation rates started to fall quite sharply; the activity rate of adult male household heads of working age decreased from 53.6 per cent in 1960 to 50.3 per cent in 1980, while that of females stagnated after substantial growth in the previous decade (Marshall 1998, p. 106, footnote 14). Obviously, the substantial slowdown of economic activity after 1974 contributed to the underutilization of labor. However, economic policy implemented after 1976 exacerbated the situation. An overvalued currency led to a contraction in manufacturing employment, as did the very rapid liberalization of trade and the privatization of public enterprises, further dampening labor demand (Marshall 1998, p. 92). To make things worse, Argentina's educational curricula did not keep pace with changes in the type of labor demanded (Beccaria and Carciofi 1995, p. 207).

Surprisingly, however, just as the debt crisis exacerbated macroeconomic disequilibrium and GDP contracted by 9.4 per cent between 1980 and 1990 (Beccaria and Carciofi 1995, p. 187), Argentina managed to move into the HD-lopsided cat-

egory. This occurred due to a strengthening of Chain A after 1982. Even though public expenditures fell in the 1980s, HD spending did not suffer disproportionate cuts. In fact, total public social spending measured in constant prices was almost 30 per cent higher on average during the 1980s than during the 1970s while, in per capita terms, it was 8 per cent higher on average than in the previous decade (Beccaria and Carciofi 1995, pp. 201–2).

Not only did higher HD expenditure ratios strengthen Chain A, but the more efficient use of HD inputs also contributed. For example, public health funds became more progressive. During the 1980s there was a rise in the number of patients from lower-middle class households using public hospitals, while an estimated 44 per cent of expenditures on public hospitals went to the poorest quintile of households in 1986 (Beccaria and Carciofi 1995, p. 215). There is also some evidence that the steady decentralization of social services to provincial and municipal authorities, beginning with primary education in 1978, has gradually improved the quantity and effectiveness of their delivery.[20] Moreover, the government also began to improve priority ratios by attempting to target the poor through the National Food Program (PAN) begun in 1984, providing food subsidies to poor households for the first time (Beccaria and Carciofi 1995, p. 220).

As a result of the increase in HD-allocation ratios and improvements in the HD production function, HD performance during the 1980–92 adjustment period appears to have been better than in the previous two decades, with improvements in many indicators. Infant mortality, for example, dropped from 33.2 to 25.6 per 1,000 births between 1980 and 1990 (Beccaria and Carciofi 1995, p. 229). Similarly, poverty, while increasing at the very beginning and end of the decade, appears to have decreased from 1991 onwards due to increases in real wages (Beccaria and Carciofi 1995, p. 195). Given the social sector reforms of the early 1990s—with further decentralization and reform of pension and tax systems—only the combination of Argentina's currency board and Brazil's devaluation, plus Argentina's heavy debt burden stand in the way of Argentina's eventual move into the virtuous cycle of development.

Peru (HD-lopsided, vicious, HD-lopsided). The 1960s were a relatively good decade for Peru, as it managed to advance its HD performance. Income distribution was not favorable, with some studies showing that the concentration of income actually increased during the 1960s.[21] Nevertheless, absolute living standards did improve because economic growth managed to increase workers' real incomes as well as public expenditure on education (Figueroa, Altamirano, and Sulmont 1996, p. 35). Between 1958 and 1968 primary education enrollments doubled, while that for secondary education tripled (Alcalde 1991, p. 172). Similarly, the rate of illit-

[20] See World Bank (1988) and Habibi et al. (1999).
[21] See, for example, Webb (1977).

eracy shrank from 57 per cent in 1940 to 28 per cent by the end of the 1960s (Alcalde 1991, p. 172).

Chain B results worsened in the 1970s as a result of sharp declines in public investment which had serious consequences for capital accumulation. The decline in Peru's ratio of investment to GDP was three times as great as elsewhere in Latin America between 1975 and 1985 (World Bank 1994a, p. 4). Growth rates suffered also as a result of the debt crisis, sparking a protracted recession in the 1975 to 1990 period, leading to a one-third decline in per capita income (Figueroa, Altamirano, and Sulmont 1996, p. 42).

The decline in EG, in turn, tended to reduce private as well as public outlays on HD inputs. For example, expenditure on education, health, housing, and employment fell, starting in 1975, both in absolute and per capita terms and as a proportion of total government expenditure (Figueroa, Altamirano, and Sulmont 1996, p. 41, Table 5). A worsening pattern of income distribution and poverty also affected Chain A adversely. Although the Velasco regime attempted some redistributive programs, they proved largely ineffective (Figueroa, Altamirano, and Sulmont 1996, p. 35). Consequently, HD indicators fell somewhat during the next two decades, although a massive expansion of the informal and NGO sector may have helped mitigate the problem.

Peru's performance in the 1980s highlights the importance of income distribution for both chains. The worsening of income distribution in the 1970s led to increased social unrest and internal disturbances. Kidnappings, bombings, and acts of sabotage have increased rapidly, while the number of violent deaths per capita rose substantially after 1987 (World Bank 1994a, p. 16). All this has weakened Chain B, depressing the growth rate by damaging infrastructure, increasing security costs, and discouraging foreign investment. It has also had an effect on human development not only as a result of direct physical violence, but also because the government has had to divert public funds away from essential social services.

Nevertheless, Peru moved back into HD-lopsidedness in the 1980s, partly because of improvements in the efficiency of the HD production function. Both education and health expenditures appear to have become more progressive: in 1985–86, approximately 46 per cent of students enrolled in public school were in the bottom two quintiles of the distribution, whereas only 40 per cent were in the top two (Figueroa 1995, p. 382). Evidence also indicates that the poor made relatively greater use of public health services, particularly health centers and clinics, rather than hospitals (Figueroa 1995, p. 383). A number of compensatory social policies targeted at the poor also proliferated during the 1980s, with employment programs appearing focused particularly on adult women (Figueroa 1995, p. 385). Civil society activity also rose considerably, with a number of NGOs initiating their own food, health, and employment programs, partly compensating for the decline in HD-related public expenditures (Figueroa 1995, p. 388).

IV. SUMMARY AND CONCLUSIONS

While generalizing too much from individual country experiences may be risky, given their diverse initial conditions and historical legacies, certain instructive patterns do emerge from this comparative Latin American performance.

First, the observed patterns appear to suggest the general observation that human development must precede or accompany economic growth in order for virtuous patterns of development to result. Additional quantitative analysis is required for a fuller confirmation of the hypotheses posited in Ranis, Stewart, and Ramirez (2000), once more points of observation become available. The four countries that managed to cross into the virtuous category for one or more decades—Barbados, Chile, Colombia, and Mexico—either started out with relatively good growth and human development (Barbados and Mexico), or initiated rapid improvements in HD which eventually reinforced both chains (Chile and Colombia). It also appears that countries which made early progress in human development stood a better chance of sustaining, if not improving, their HD record during difficult economic downturns and adjustment periods (e.g., Barbados, Chile, Colombia, Mexico). In contrast, the four poor performers which ended up in the vicious category in the 1980s—Brazil, Haiti, Jamaica, and Venezuela—did not commit to HD improvements early on (Haiti and Brazil), or failed to protect HD sectors during times of economic downturn (Jamaica and Venezuela). In contrast to either of these scenarios, Argentina and Peru were questionable performers, with Argentina remaining in the vicious cycle for two decades and then moving to the HD-lopsided cycle. Peru, on the other hand, started off in the HD-lopsided cycle in the 1960s, moved to the vicious category in the 1970s and then back to the HD-lopsided cycle.

Second, income distribution appears to be an important variable in explaining differences in performance, via its impact in both chains. In all countries with one or more decades of vicious cycle development, worsening distributions of income appear to have preceded the move to the vicious category, e.g., Brazil, Jamaica, and Peru. Peru's experience, in particular, highlights the concomitant effects income distribution can have on both chains, not only in reducing the effects of economic growth on human development, but also in depressing growth through political and economic instability, eventually also depressing HD improvements. All countries that moved into a virtuous cycle, in contrast, witnessed prior improvements in their distribution of income. This was particularly the case with Colombia which managed to reduce income inequality in every decade and, as a result, to improve its HD performance.

Third, the relative effectiveness of expenditures on HD inputs appears to be an important mechanism for sustaining improvements in human development. Although almost all the countries examined reduced the absolute and relative value of HD

expenditures in the aftermath of the 1980s debt crisis, the majority of those that managed to remain in HD-lopsidedness did so by improving the priority ratios and the efficiency of the HD production function. Chile and Mexico, for example, compensated for reduced social sector outlays by rendering existing expenditure patterns more efficient through ensuring better access to lower-income groups. In Peru, improvements in the HD production function eventually helped the country move back from the vicious into the HD-lopsided category. Increased female education and employment probably also played an important role, e.g., in Colombia.

Last, it may be particularly important for countries with natural resource abundance to adopt a balanced approach to development, one which generates broad employment opportunities during times of economic boom and which therefore may help to redress the problems created during economic downturns. Both Jamaica and Venezuela initially strengthened links in Chain A, but neglected those in Chain B. This disregard not only further depressed growth during economic declines, but it also worsened the HD situation by exacerbating unemployment and real wages, leading eventually to Jamaica's and Venezuela's perverse movement from virtuous and HD-lopsided development into the vicious cycle category. Their experience underlines the iterative, mutually reinforcing nature of the HD-GDP cycle.

From the policy point of view, the transitions we clearly need to examine more closely are those from vicious to HD-lopsided, from HD-lopsided to virtuous, or the very unusual case, undoubtedly difficult, of taking the direct route from vicious to virtuous.

As we discussed earlier, vis-à-vis the links in the two chains between economic growth and human development, in order to move from the vicious cycle to HD-lopsidedness, an economy needs to focus on the Chain A links. These links can be strengthened through the following types of policies:

—More resources being allocated towards education and health services, especially those serving the majority of the people, as occurred in Argentina with enhanced decentralization. In tandem with such policies are also those that would aim to increase female school enrollment rates.

—Policies that generate more equal distributions of income. Examples of such policies include land reform, tax reform, a more employment-intensive pattern of output generation.

—Providing more opportunity for the unemployed. Extremely relevant examples of this include Chile's Emergency Employment Scheme and Bolivia's Social Fund in the 1980s, both of which received substantial donor support.

This movement from a vicious to a HD-lopsided position would then, ideally be followed by a movement into the virtuous category. This transition from HD-lopsidedness to the virtuous cycle requires strengthening the links in Chain B by, for example:

—Taking advantage of the improved levels of HD to promote economic growth through country specific macro- and micro-level policy reforms.
—Policies to increase the investment rate.
—Policies improving the distribution of income.
—Policies to select appropriate technologies and adaptation of technology.

The aim of this paper is not to argue that any particular set of policies can bring about the movement among the cycles/categories discussed above. Rather, we emphasize the importance of the sequencing of policy change. By this we mean that HD must be strengthened *before* a virtuous cycle can be attained and therefore policies aimed at solely improving economic growth, without thought to HD, are unlikely to succeed. This also implies that any countries in the virtuous cycle category may well slip back. If, for some reason, say growth slows down, but HD as such stays high, then such cases have a good chance of resuming their virtuous cycle pattern. However, without this high HD, the country may well slip even further into the vicious cycle category. So, ultimately for sustained virtuous cycle performance, high HD levels are important.

Countries are in either the lopsided or vicious cycle position due to one or both Chains A and B being weak. In such situations, it is extremely important to identify where exactly the weak links lie and therefore what policies are necessary to strengthen these links. Such policies must, moreover, be viewed in an evolutionary context. Even those countries that are initially successful in both HD and EG will have to change their policies as development proceeds to sustain success. We can present an example here. Say that priority is initially given to primary education and some comprehensive health interventions, with the aim of improving both HD and economic growth. Later, the policy emphasis will need to shift towards science and technology institutions and higher education.

In summary, given that improvements in HD are the ultimate objective of an economy, we have demonstrated the importance of an iterative process between these ultimate objectives and economic growth. We have also investigated the relative importance of links connecting HD and EG and identified policy directions that economies might take to strengthen such links by looking at some Latin American case studies. The important conclusions that remain concern the phasing of policy change. We do not deny the importance of economic reforms, but emphasize that a focus on HD must be included from the beginning of any reform program.

REFERENCES

Adelman, Irma, and Cynthia Taft Morris. 1967. *Society, Politics and Economic Development: A Quantitative Approach*. Baltimore, Md.: Johns Hopkins Press.

Ainsworth, Martha; Kathleen Beegle; and Andraw Nyamete. 1995. "The Impact of Female Schooling on Fertility and Contraceptive Use: A Study of Fourteen Sub-Saharan African Countries." World Bank LSMS Working Paper no. 110. Washington, D.C.: World Bank.

Alcalde, Javier Gonzalo. 1991. *Development, Decay, and Social Conflict: An International and Peruvian Perspective*. Lanham, Md.: University Press of America.

Alesina, Alberto, and Roberto Perotti. 1994. "The Political Economy of Growth: A Critical Survey of the Recent Literature." *World Bank Economic Review* 8, no. 3: 351–71.

Alesina, Alberto, and Dani Rodrik. 1994. "Distributive Politics and Economic Growth." *Quarterly Journal of Economics* 109, issue 2: 465–90.

Altimir, Oscar. 1998. "Income Distribution and Poverty through Crisis and Adjustment." In *Poverty, Economic Reforms and Income Distribution in Latin America*, ed. Albert Berry. Boulder, Colo.: Lynne Rienner Publishers.

Amadeo, Edward, et al. 1993. *Human Resources in the Adjustment Process*. Inter-American Development Bank Working Paper no. 137. Washington, D.C.: Inter-American Development Bank.

Baker, Judy L. 1997. *Poverty Reduction and Human Development in the Caribbean: A Cross-Country Study*. World Bank Discussion Paper no. 366. Washington, D.C.: World Bank.

Barros, Ricardo; Rosane Mendonca; and Sonia Rocha. 1995. "Brazil: Welfare, Inequality, Poverty, Social Indicators, and Social Programs in the 1980s." In *Coping with Austerity: Poverty and Inequality in Latin America*, ed. Nora Lustig. Washington, D.C.: Brookings Institution.

Beccaria, Luis, and Ricardo Carciofi. 1995. "Argentina: Social Policy and Adjustment during the 1980s." In *Coping with Austerity: Poverty and Inequality in Latin America*, ed. Nora Lustig. Washington, D.C.: Brookings Institution.

Behrman, Jere. 1990. "Women's Schooling and Nonmarket Productivity: A Survey and a Reappraisal." Philadelphia, Pa.: University of Pennsylvania. Mimeographed.

———. 1995a. "Intra-Household Allocation of Resources: Is There a Gender Bias?" In *Sex Differentials in Infant and Child Mortality*. New York: Population Division, United Nations.

———. 1995b. "The Impact of Distributive Policies, Governmental Expenditure Patterns and Decentralization on Human Resources." Philadelphia, Pa.: University of Pennsylvania. Mimeographed.

Behrman, Jere, and Anil Deolalikar. 1991. "The Poor and the Social Sectors during a Period of Macroeconomic Adjustment: Empirical Evidence for Jamaica." *World Bank Economic Review* 3, no. 2: 291–313.

Behrman, Jere, and Barbara Wolfe. 1987. "How Does Mother's Schooling Affect the Family's Health, Nutrition, Medical Care Usage and Household?" *Journal of Econometrics* 36, nos. 1–2: 185–204.

Berry, Albert, and Jaime Tenjo G. 1998. "Trade Liberalization, Labor Reform, and Income Distribution in Colombia." In *Poverty, Economic Reforms and Income Distribution in Latin America*, ed. Albert Berry. Boulder, Colo.: Lynne Rienner Publishers.

Birdsall, Nancy. 1985. "Public Inputs and Child Schooling in Brazil." *Journal of Development Economics* 18, no. 1: 67–86.

Birdsall, Nancy; David Ross; and Richard Sabot. 1995. "Inequality and Growth Reconsidered: Lessons from East Asia." *World Bank Economic Review* 9, no. 3: 477–508.

Boyd, Derick. 1988. "The Impact of Adjustment Policies on Vulnerable Groups: The Case of Jamaica, 1973–85." In *Adjustment with a Human Face*, ed. Giovanni Andrea Cornia, Richard Jolly, and Frances Stewart. Vol. 2, *Country Case Studies*. Oxford: Clarendon Press.

Coppin, Addington. 1995. "Women, Men and Work in a Caribbean Economy: Barbados." *Social and Economic Studies* 44, nos. 2 & 3: 103–24.

Cornia, Giovanni Andrea, and Frances Stewart. 1987. "Country Experience with Adjustment." In *Adjustment with a Human Face*, ed. Giovanni Andrea Cornia, Richard Jolly, and Frances Stewart. Vol. 1, *Protecting the Vulnerable and Promoting Growth*. Oxford: Clarendon Press.

Duarte y N., A. E. P. 1996. "Legal Reform in Mexico and Its Effects on Women, 1984–94." In *Changing Structure of Mexico: Political, Social, and Economic Prospects*, ed. Laura Randall. New York: M.E. Sharpe.

Economist Intelligence Unit (EIU). 1991. *Country Profile: Mexico, 1991–92*. London: EIU.

———. 1997a. *Country Profile: Jamaica, Barbados, 1997–98*. London: EIU.

———. 1997b. *Country Profile: Venezuela, 1997–98*. London: EIU.

———. 1998a. *Country Profile: Brazil, 1998–99*. London: EIU.

———. 1998b. *Country Profile: Chile, 1998–99*. London: EIU.

Fei, J. C. H.; Gustav Ranis; and Frances Stewart. 1985. "Towards Viable Balanced Growth Strategies: A Locational Perspective." Paper prepared for the United Nations Industrial Development Organization.

Figueroa, Adolfo. 1995. "Peru: Social Policies and Economic Adjustment in the 1980s." In *Coping with Austerity: Poverty and Inequality in Latin America*, ed. Nora Lustig. Washington, D.C.: Brookings Institution.

Figueroa, Adolfo; Teofilo Altamirano; and Denis Sulmont. 1996. *Social Exclusion and Inequality in Peru*. Geneva: International Institute for Labor Studies.

Friedmann, Santiago; Nora Lustig; and Arianna Legovini. 1995. "Mexico: Social Spending and Food Subsidies during Adjustment in the 1980s." In *Coping with Austerity: Poverty and Inequality in Latin America*, ed. Nora Lustig. Washington, D.C.: Brookings Institution.

Golbert, Laura, and Emilio Tenti Fanfani. 1994. "Poverty and Social Structure in Argentina: Outlook for the 1990s." Democracy and Social Policy Series, Kellog Institute, Working Paper no. 6. Notre Dame, Ind.: University of Notre Dame. Spring.

Habibi, N. C.; D. Miranda Huang; V. Murillo; and Gustav Ranis. 1999. *Decentralization in Argentina*. YCIAS Working Paper. New Haven, Conn.: Yale University.

Holder, Carlos, and Ronald Prescod. 1989. "The Distribution of Personal Income in Barbados." *Social and Economic Studies* 38, no. 1: 87–113.

Immink, M., and F. Viteri. 1981. "Energy Intake and Productivity of Guatemalan Sugarcase Cutters: An Empirical Test of the Efficiency Wage Hypothesis." *Journal of Development Economics* 9, no. 2: 251–87.

Inter-American Economic and Social Council. 1974. *Situation, Principal Problems and Perspectives for the Economic and Social Development of Barbados*. Washington, D.C.: Organization of American States General Secretariat.

International Monetary Fund (IMF). Various years. *Government finance Statistics Yearbook*. Washington, D.C.: International Monetary Fund.

Klugman, Jeni. 1994. "Decentralization: A Survey of the Literature from a Human Development Perspective." Human Development Report Office Occasional Papers no. 13. New York: United Nations Development Programme.

Langer, Ana, and Rafael Lozano. 1996. "The Health of Women in Mexico: Current Panorama and Future Prospects." In *Changing Structure of Mexico: Political, Social, and Economic Prospects*, ed. Laura Randall. New York: M.E. Sharpe.

Londoño de la Cuesta, Juan Luis. 1997. "Social Rifts in Colombia." *CEPAL Review*, no. 61: 19–40.

Lo Vuolo, Rubén. 1995. "The Welfare State in Contemporary Argentina." Democracy and Social Policy Series, Kellog Institute, Working Paper no. 2. Notre Dame, Ind.: University of Notre Dame. Spring.

Lundahl, Mats. 1996. "Income and Land Distribution in Haiti: Some Remarks on Available Statistics." *Journal of Interamerican Studies and World Affairs* 38, no. 2/3: 109–26.

Maddison, Angus, et al. 1992. *The Political Economy of Poverty, Equity and Growth: Brazil and Mexico*. New York: Oxford University Press, published for the World Bank.

Marquez, Gustavo. 1995. "Venezuela: Poverty and Social Policies in the 1980s." In *Coping with Austerity: Poverty and Inequality in Latin America*, ed. Nora Lustig. Washington, D.C.: Brookings Institution.

Marquez, Gustavo, et al. 1993. "Fiscal Policy and Income Distribution in Venezuela." In *Government Spending and Income Distribution in Latin America*, ed. Ricardo Hausmann and Roberto Rigobon. Washington, D.C.: Inter-American Development Bank.

Marshall, Adriano. 1998. "State Intervention, the Labor Market, and Inequality in Argentina." In *Poverty, Economic Reforms and Income Distribution in Latin America*, ed. Albert Berry. Boulder, Colo.: Lynne Rienner Publishers.

Nissen, Hans-Peter, and Friedrich Welsch. 1994. "Part 2—Venezuela." In *The Political Feasibility of Adjustment in Ecuador and Venezuela*, by Alain de Janvfy, et al. Paris: Organisation for Economic Co-operation and Development.

Prud'homme, Rémy. 1995. "The Dangers of Decentralization." *World Bank Research Observer* 10, no. 2: 201–20.

Psacharopoulos, George; Samuel Morley; Ariel fiszbein; Haeduck Lee; and Bill Wood. 1997. *Poverty and Income Distribution in Latin America: The Story of the 1980s*. Washington, D.C.: World Bank.

Raczynski, Dagmar. 1988. "Social Policy, Poverty, and Vulnerable Groups: Children in Chile." In *Adjustment with a Human Face*, ed. Giovanni Andrea Cornia, Richard Jolly, and Frances Stewart. Vol. 2, *Country Case Studies*. Oxford: Clarendon Press.

Raczynski, Dagmar, and Pilar Romaguera. 1995. "Chile: Poverty, Adjustment, and Social Policies in the 1980s." In *Coping with Austerity: Poverty and Inequality in Latin America*, ed. Nora Lustig. Washington, D.C.: Brookings Institution.

Ranis, Gustav, and Frances Stewart. 1994. "Decentralization in Indonesia." *Bulletin of Indonesian Economic Studies* 30, no. 3: 41–72.

Ranis, Gustav; Frances Stewart; and Alejandro Ramirez. 2000. "Economic Growth and Human Development." *World Development* 28, no. 2: 197–219.

Riveros, Luis A. 1998. "Chile's Structural Adjustment: Relevant Policy Lesson's for Latin America." In *Poverty, Economic Reforms and Income Distribution in Latin America*, ed. Albert Berry. Boulder, Colo.: Lynne Rienner Publishers.

Selowsky, Marcelo. 1981. "Nutrition, Health and Education: The Economic Significance of Complementarities at an Early Age." *Journal of Development Economics* 9, no. 3: 331–46.

Selowsky, Marcelo, and Lance Taylor. 1973. "The Economics of Malnourished Children: An Example of Disinvestment in Human Capital." *Economic Development and Cultural Change* 22, no. 1: 17–30.

Sen, Amartya. 1984. "Rights and Capabilities." In *Resources, Values, and Development* by Amartya Sen. Cambridge, Mass.: Harvard University Press.

Stone, C., and Stanislaw Wellisz. 1993. "Jamaica." In *Five Small Open Economies*, ed. Ronald Findlay and Stanislaw Wellisz. Oxford: Oxford University Press.

Strauss, John. 1986. "Does Better Nutrition Raise Farm Productivity?" *Journal of Political Economy* 94, no. 2: 297–320.

Streeten, Ptreeten; Shahid Javed Burki; Mahbub ul Haq; Norman Hicks; and Frances Stewart. 1981. *First Things First: Meeting Basic Needs in the Developing Countries*. New York: Oxford University Press.

Thomas, Duncan. 1990. "Intrahousehold Resource Allocation: An Inferential Approach." *Journal of Human Resources* 25, no. 4: 635–64.

United Nations Development Programme (UNDP). 1991. *Human Development Report, 1991*. New York: Oxford University Press.

———. 1995. *Human Development Report, 1995*. New York: Oxford University Press.

van Ginneken, Wouter. 1980. *Socio-Economic Groups and Income Distribution in Mexico*. London: Croom Helm.

Webb, Richard Charles. 1977. *Government Policy and the Distribution of Income in Peru, 1963–1973*. Cambridge, Mass.: Harvard University Press.

Wolgemuth, J. C.; M. C. Latham; A. Hall; and D. Crompton. 1982. "Worker Productivity and Nutritional Status of Kenyan Road Construction Laborers." *American Journal of Clinical Nutrition* 36, no. 1: 68–78.

World Bank. 1987. *Haiti: Public Expenditure Review*. Washington, D.C.: World Bank.

———. 1988. *Argentina: Social Sectors in Crisis*. Washington, D.C.: World Bank.

———. 1993. *Caribbean Region: Access, Quality and Efficiency in Education*. Washington, D.C.: World Bank.

———. 1994a. *Peru—At the Crossroads: Building a Modern State*. Economic Report no. 11943-PE. Washington, D.C.: World Bank.

———. 1994b. *Poverty in Colombia*. Washington, D.C.: World Bank.

———. Various years. *Trends in Developing Economies*. Washington, D.C.: World Bank.