



## *Paths to development*

Economic development is defined in this Report as a sustainable increase in living standards that encompass material consumption, education, health, and environmental protection. Development in a broader sense is understood to include other important and related attributes as well, notably more equality of opportunity, and political freedom and civil liberties. The overall goal of development is therefore to increase the economic, political, and civil rights of all people across gender, ethnic groups, religions, races, regions, and countries. This goal has not changed substantially since the early 1950s, when most of the developing world emerged from colonialism.

Thinking on development has undergone a sea change during the past forty years. The change is by no means total, nor is there universal agreement on what it takes for a country to develop. But the early faith in the ability of the state to direct development has given way to a greater reliance on markets. Inward-oriented strategies are more and more being replaced by outward-oriented ones. Discriminatory taxes on agriculture to fund industry are no longer the norm.

In recent years many countries have implemented market-oriented reforms. With these changes has come a growing recognition that development is a multidimensional process, within which price reforms, investment, and institution-building are complementary. Success depends on getting many things right.

Several countries have achieved rapid development in the postwar period. For the most part, they have two features in common: they invested in the education of men and women and in physical capital; and they achieved high productivity

from these investments by giving markets, competition, and trade leading roles. New ideas, progress in technology, and pressures to achieve efficiency thus were nourished by their economies.

The extent and efficiency of the state's involvement in the economy has been critical. One lesson is that it is better for the state to focus on areas where it complements and supports the private sector (by providing, for example, information, infrastructure, health, research, and education) than on areas where it supplants the private sector (by, for example, producing cement and steel, or running airlines and hotels). A second lesson is that the quality of government matters as much as the quantity. Many economic, sociopolitical, and historical factors play a role in government. History shows that civil and political liberties—goals in themselves—need not impede economic development. And in achieving several developmental goals, civil and political liberties appear to help.

### **The evolution of approaches to development**

Economists have traditionally considered an increase in per capita income to be a good proxy for other attributes of development. But the weakness of income growth as an indicator is that it may mask the real changes in welfare for large parts of the poor population. Improvements in meeting the basic needs for food, education, health care, equality of opportunity, civil liberties, and environmental protection are not captured by statistics on income growth.

Policymakers in most developing countries have long recognized that development encompasses more than rapid income growth. They have often

differed, however, about priorities. India's economic plans, for example, assumed that income growth by itself would fail to reach many of the poor. Much stress was placed on measures to tackle poverty directly. A different emphasis is seen in Malaysia's policy documents: "For operational purposes, therefore, rapid economic growth of the country is a necessary condition for the success of the New Economic Policy. It is only through such growth that the objectives of the NEP can be achieved without any particular group in Malaysian society experiencing any loss or feeling any sense of deprivation" (Malaysia 1973).

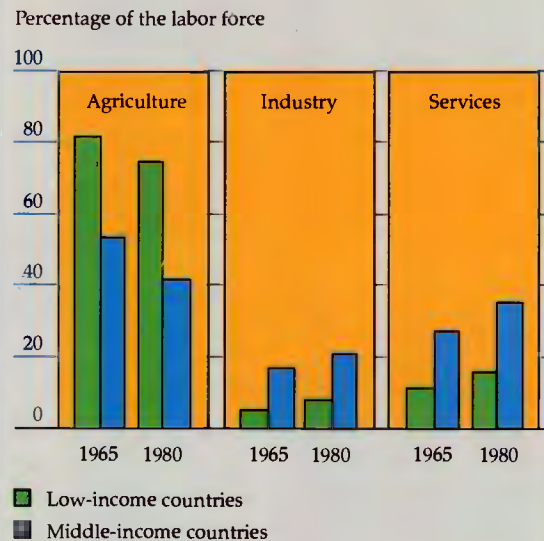
Although different cultures place different values on the various elements of development, broadly defined, most seek improvement in every dimension. Many of the indicators used to measure progress (infant mortality, school enrollment, gender equality in education, indexes of political freedom, and so on) are correlated with income per capita. But the correlation is imperfect. All these factors need to be assessed independently of economic growth.

#### *Structural transformation*

Development has almost always involved a shift in the sectoral composition of output. Agriculture's share in production and employment—which is typically high in the early stages—begins to decline, and that of manufacturing industry to increase. The share of the industrial sector in GDP in low-income countries increased from 27 percent in 1965 to 34 percent in 1988, whereas that of agriculture fell from 42 to 31 percent. There are similar shifts in the sectoral shares of employment (Figure 2.1), although agriculture remains the biggest employer in many developing countries. The next stage in this sectoral evolution is usually a shift toward services.

As in industrial countries, population growth in the countries now classified as developing was fueled first by rapidly falling mortality rates which were the result of better living conditions. Although rising incomes and falling mortality provide incentives for lowering fertility and slower population growth, this demographic transition does not always happen in an orderly way. The population of the developing world grows about 2 percent a year, which is more than twice the growth rate in industrial countries. This rate has declined somewhat in the 1980s from the previous two decades, but with important regional differences: East Asia has experienced a sharp decline; Sub-Saharan Africa, an increase.

**Figure 2.1 The sectoral distribution of the labor force, low- and middle-income developing countries, 1965 and 1980**



Source: World Bank data.

Rapid agricultural growth has generally been associated with successful industrialization and sustained gains in overall output and productivity. Growth in output and productivity are usually lower where agricultural growth is low. Of sixty-eight developing countries for which the World Bank has reliable data, thirty experienced agricultural growth rates of more than 3 percent a year during the past twenty-five years. All thirty had a GDP growth rate of at least 2.5 percent, and two-thirds of the countries whose agricultural sector grew fast also experienced very rapid economic growth (exceeding 5 percent).

Growth in agricultural yields has usually been essential for growth in agricultural output. Hence higher yields are also positively associated with growth in overall output (Table 2.1). Technological progress is one of the factors that have raised the productivity of land and labor, enabling a smaller agricultural labor force to meet the domestic and external demand for farm products. In order to speed the development process, some countries have implicitly or explicitly taxed agriculture as a means to promote industry. This has generally not worked well. Instead, policies consistent with rising agricultural productivity have proved a firmer foundation for industrialization (Chapter 4).

Falling costs in various industries have enabled countries to diversify their production structures, enter new production lines, and compete successfully in world markets. Rapidly growing urban centers are usually part of this pattern. In the industrial countries, nearly 80 percent of people live in urban areas. In the developing countries, the urban share of the population has doubled in the past thirty years to more than 40 percent. Government strategies have directly or indirectly affected this transition. Excessive industrial protection; import-substitution; and a pro-urban bias in pricing, taxes, and subsidies have often encouraged an inefficient pattern of production and urbanization. In many countries, pressures on urban infrastructure have increased without any corresponding economic gain.

#### *Changes in development thought*

When many developing countries achieved independence, their leaders were concerned with both political and economic development. Their political goal was national unity and identity. Their primary economic goal was the rapid structural transformation of backward agrarian economies into modern industrial ones.

The dominant paradigm of that time recognized four main issues in development, and recommended policies to address them:

- *Physical capital.* It was a goal of policy to increase saving and investment and thus the rapid accumulation of capital.

- *Agriculture.* The farm sector was seen as a source of resources for industrial investment. Policies to protect industry turned the terms of trade against agriculture.

- *Trade.* Policymakers felt that import substitution was necessary for development. It was also feared that integration with the global economy might destabilize development. The response usually was import protection.

- *Market failure.* It was assumed that in the early stages of development markets could not be relied upon, and that the state would be able to direct the development process.

The major development institutions (the United Nations and its agencies, including the World Bank, and several bilateral aid agencies that form part of Official Development Assistance) supported these views with varying degrees of enthusiasm. By the early 1980s the dominant paradigm had shifted.

**CAPITAL FORMATION.** A lack of physical capital, especially infrastructure, was initially thought to be the critical constraint on development (Mandelbaum 1945; Rosenstein-Rodan 1943; Nurske 1952; Lewis 1954, 1955). Domestic capital formation was a primary concern. As a leading development economist put it, the "central problem in the theory of economic development is to understand the process by which a community which was previously saving 4 or 5 percent of its income or less converts itself into an economy where voluntary saving is about 12 to 15 percent of national income or more" (Lewis 1954).

**Table 2.1 The growth of agricultural productivity and the nonagricultural sectors, 1960–88**

<i>Growth of agricultural yield per hectare</i>	<i>Average nonagricultural growth rate</i>				
	<i>More than 4 percent</i>		<i>2–4 percent</i>		<i>Less than 2 percent</i>
More than 2.5 percent	China Cameroon Egypt, Arab Rep. of Korea, Rep. of	Mexico Pakistan Panama Syrian Arab Rep. Turkey	Burundi Colombia Costa Rica	Hungary Nicaragua Philippines Yugoslavia	Liberia
1–2.5 percent	Brazil Côte d'Ivoire Congo	Indonesia Thailand	Bangladesh El Salvador Greece India Mali	Malawi Mauritania Morocco Sri Lanka Togo	Zambia
Less than 1 percent	Rwanda		Argentina Bolivia Ethiopia Nigeria	Peru Sudan Senegal Zimbabwe	Central African Rep. Tanzania Uganda Zaire

*Note:* The nonagricultural growth rate is calculated as the weighted average of the growth rates of industry and services, with the weights being the share of each in GDP. Calculations are from national accounts data for all countries for which data are available and for which the initial share of agriculture in GDP in the 1960s was more than 10 percent.

*Source:* World Bank data.

One influential model also stressed a foreign exchange constraint—that is, the difficulty of financing import needs by means of exports (Chenery and Bruno 1962; Little 1982; Bacha 1984). This so-called two-gap model of the domestic saving and foreign exchange constraints to growth guided external aid and lending agencies in judging the extra resources that developing countries would need to finance imports and investment.

Later the contribution that human capital makes to development came to be emphasized. The role of human capital was especially clear in the experience of the East Asian economies. They invested heavily in education and skills. Research on the productivity of education has elucidated the link between human capital and development (Schultz 1961; Becker 1964). Accumulation of human capital emerges from all this work as one of the most powerful engines of development.

**INCENTIVES FOR AGRICULTURE AND INDUSTRY.** Often, promoting industry meant neglecting agriculture—or worse. Two assumptions appeared to justify transferring resources, through implicit or explicit taxes, from the farm sector to industry. One was that the supply of unemployed or underemployed agricultural workers was abundant. The other was that farmers were unresponsive to changes in price. Together these implied that the loss of agricultural output caused by taxing the sector would be small. "If these surplus workers were withdrawn from agriculture and absorbed into other occupations, farm output would not suffer, while the whole new output would be a net addition to the community's income. The economic case for the industrialization of densely populated backward countries rests upon this mass phenomenon of disguised rural unemployment" (Mandelbaum 1945). But with time, the damaging effects of policies discriminating against agriculture have come to be widely recognized.

**FOREIGN TRADE.** For years the conventional wisdom was that trade had only a small and possibly detrimental role in development. The declining growth in trade volumes—3.5 percent a year from 1850 to 1913, which fell to 0.5 percent a year during the period 1913–48—and the worsening terms of trade for primary commodities seemed to mean that trade could not be relied on as a source of growth (Prebisch 1959; Singer 1949). An approach based on import-substitution would allow domestic industry to grow, conserve scarce foreign capital, decrease external dependency, and strengthen nationhood. Although domestic enterprises would

fail if exposed to international markets, protection would give them a guaranteed domestic market in which to grow; later they would be able to compete. The costs of this protection of infant industry in misallocated resources were perceived to be minimal; once the infants grew to adulthood, rapid learning-by-doing was expected to emerge and guide the economy to profitable growth.

In many countries the bias against exports was reinforced by the desire to achieve self-sufficiency in food, which was often a top priority. Rather few economists recognized the role of trade liberalization for development early on (see Haberler 1959), but with the accumulation of case study evidence this recognition spread (Balassa and Associates 1971; Krueger 1978).

**THE ROLE OF THE STATE.** The success of state planning in achieving rapid industrialization in the Soviet Union (for so it was perceived) greatly influenced policymakers in the 1950s. Its avowedly egalitarian character was also appealing. The staggering human costs of this transition became apparent only much later. Moreover, policymakers viewed the economic collapse of the Great Depression of the 1930s as evidence of widespread market failures. The subsequent recovery was attributed to government intervention (a view supported by the Keynesian revolution in macroeconomics). Government allocation of scarce resources and the rationing of essential consumer goods during World War II seemed to confirm the effectiveness of state intervention.

Domestic conditions at home in most developing countries also encouraged a major role for the state. Illiteracy was widespread, and many policymakers believed that development would have to be directed by "the best and the brightest." The idea that the state should occupy the "commanding heights" of the economy also began to take hold. Soon, along with redistributing assets and income, alleviating poverty, and meeting basic needs, the state became directly involved in producing goods for investment and consumption.

Even in the 1950s, some questioned whether the state was competent to do all this. "The adequate performance of these functions exceeds the resources of governments of all under-developed countries. . . . We are faced with the paradoxical situation that governments engage in ambitious tasks when they are unable to fulfill even the elementary and necessary functions of government" (Bauer 1958). The balanced growth approach "requires huge amounts of precisely those abilities which we have identified as likely to be very lim-

ited in supply in underdeveloped countries" (Hirschman 1958). But even the skeptics supported government involvement in production. The state was expected to initiate growth by creating incentives and pressures for further action, and then to stand ready "to react to, and to alleviate, these pressures in a variety of areas" (Hirschman 1958). Others went further: "Apparently, nobody in the advanced countries sees any other way out of the difficulties, which are mounting in the under-developed countries, than the socialistic one, however differently one's attitude may be towards the economic problems at home" (Myrdal 1956).

### *Growth theories*

Classical economic analysis envisaged that per capita output would be stationary as the rate of profit declined with diminishing improvements in productivity. The neoclassical tradition also incorporated the idea of falling marginal product of inputs, so that sustained growth was possible only through exogenous technological change (Solow 1957). If countries have access to the same technology, therefore, growth rates would be expected to converge across countries. The recent record of industrial countries offers support for convergence.

The growth rates of developing countries, however, have diverged (Chapter 1). At first look, this seems to be at odds with the expectation of convergence. But in practice, technological change has not been equal nor has it been exogenously transmitted in most developing countries, because of import and other restrictions. Furthermore, even if all economies have access to the same technology, national growth rates can differ if human capital and the incentives to adopt new technology differ across countries. The "new" growth theories note that technological change is endogenous, and that education and knowledge produce positive externalities or increasing returns (Romer 1986; Lucas 1988).

Accordingly, a big push in an economy open to foreign technology can yield large gains—an idea generally put forward early on. The Cambridge model of the 1940s and 1950s assumed that output would grow in proportion to reproducible inputs, or capital. Rosenstein-Rodan (1943) postulated the big push by which an economy propels itself into self-sustaining industrialization and rapid growth. Rostow (1960) envisaged a takeoff from a stationary state to per capita growth.

Thus investment policies that encourage externality-generating activities (improvements in edu-

cation) or introduce increasing returns (improvements in physical infrastructure) can be good for growth. Also important are complementary policies that facilitate the spread of knowledge and that permit free entry and exit of firms—and free mobility of people, capital, and technology.

### *Linkages in development*

Education, technology, and openness have complex relations to development. They enable economies to respond not only to price signals but also to new ideas. This link between knowledge and growth has been important in East Asia for the past forty years and in Scandinavia, especially between 1860 and 1950 (Box 2.1). It was recognized in the literature early on. "It is not enough that knowledge should grow; it should also be diffused, and applied in practice. The rate at which knowledge is taken up depends partly on the receptiveness of the people to new ideas, and partly on the extent to which institutions make it profitable to acquire and apply new ideas . . . New ideas will be accepted most rapidly in those societies where people are accustomed to a variety of opinion, or to change . . . A country which is isolated, homogeneous, proud, and authoritarian is by contrast unlikely to absorb new ideas quickly when it meets them" (Lewis 1955).

The green revolution in agriculture, which above all included the spread of new, high-yielding varieties of wheat and rice, is an example of the interaction between new technology and education. The new varieties were developed by scientists in Mexico and the Philippines with assistance from the Rockefeller Foundation. To gain access to these technologies, domestic economies needed to be receptive. In order for them to be absorbed, adapted, improved, and disseminated, domestic research and local technologies had to be strengthened. Countries in South Asia did these tasks reasonably well, and farm yields there doubled and tripled. Wealth and the ability to bear risk were important, but the most critical factor in adopting the technology was the ability of farmers to make use of new information.

Openness encourages the flow of technologies from industrial countries to developing countries; education encourages the adoption, adaptation, and diffusion of technology. Differences in the rate of technology adoption and economic growth among countries are in large part the result of differences in education. "The worldwide spread of modern economic growth has depended chiefly on the diffusion of a body of knowledge concern-



## Box 2.1 Scandinavian models of development

Denmark, Finland, Iceland, Norway, and Sweden have successfully combined private ownership and market competition with government actions—to ensure an egalitarian income distribution, provide insurance against loss of income caused by disabilities, and address market failures. These activities of government, which were of limited importance before World War II, expanded rapidly thereafter. The high spending of the welfare state required the high incomes of the postwar era.

### The early period: mid-1800s to World War II

The Scandinavian countries started industrialization in the mid-1800s and late 1800s. Security for property rights and trade reforms were important conditions for growth. Governments generally did not restrict the workings of the market, and financial institutions and ownership structures were allowed to develop with little state interference.

Literacy was already very high when industrialization began in the last century. Substantial attention was given to primary and general education, including women's education, as well as to technical and mercantile education in trade schools and universities. The government focused on building the infrastructure for development, which included legal and administrative frameworks and transport.

### The later period: after World War II

Scandinavia is rightly acclaimed for having reached an advanced phase of welfare. But some characteristics of

the welfare state have had costs that could have been avoided with difficult policies. First, in an attempt to keep down the cost of capital, financial markets were heavily regulated after the war. This, however, limited the access of smaller firms and entrepreneurs to capital. It has also discouraged the adaptation to the financial innovations abroad. (These markets were deregulated during the 1980s.)

Second, policies guaranteeing low unemployment and the public sector's larger and larger share in employment have in the long term seriously weakened the discipline of the market on union wage demands. This has resulted in high labor costs and lower profits and investment. Privatizing certain public services—now under consideration—may strengthen discipline in the labor market.

Third, the high marginal tax rates for most of the labor force are a burden on growth. In response, Sweden is embarking on a program of tax reform to alleviate the distortions in the choice between work and leisure and to shrink parallel, underground labor markets.

Scandinavia's pragmatic willingness to avoid conflict and to seek consensus in political and economic life has certainly shaped development there in important ways. Although it is impossible to say if the search for consensus has contributed much to growth, it has molded Scandinavia's special combination of private and public activity.

ing new production techniques . . . the more schooling of appropriate content that a nation's population had, the easier it is to master the new technological knowledge becoming available" (Easterlin 1981). Equally essential is the freedom of individuals and firms to borrow foreign technology, learn from foreign ideas, and buy foreign goods. The more open the economy, the greater the returns to education and to physical investments.

Another important link connects macroeconomic stability to the success of microeconomic policies. Countries with low inflation and sustainable external balances have been far more successful in achieving lasting growth.

Finally, human development and poverty alleviation, on the one hand, and economic growth, on the other, seem to reinforce each other. Human development and poverty alleviation have always been development goals in the eyes of policymakers and planners. Their methods, however,

have varied, and have ranged from government interventions to market solutions. Elements of both are needed: market-oriented policies to support growth, together with well-targeted social programs.

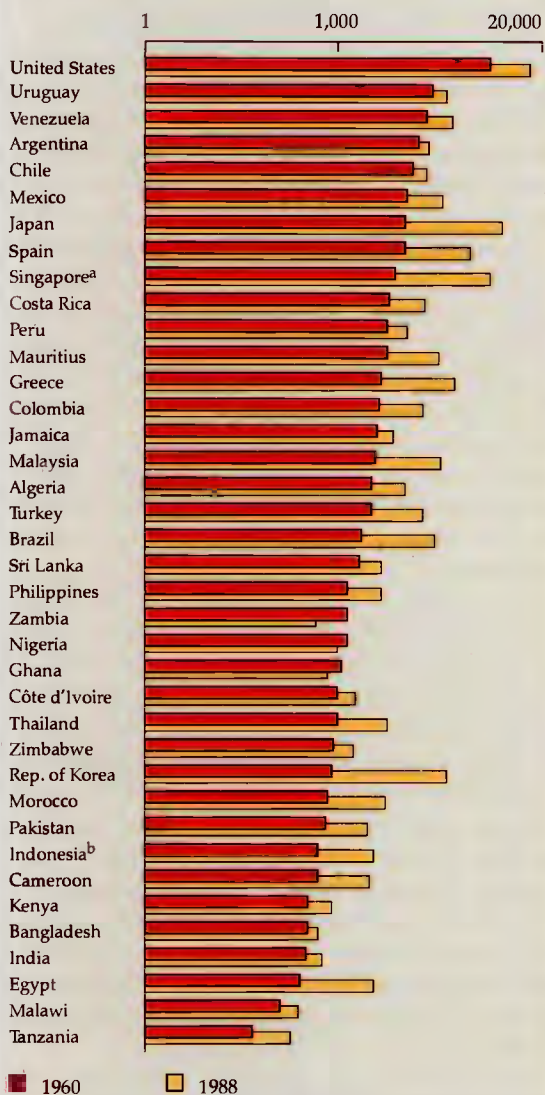
### *Aggregate outcomes in development*

Incomes and welfare have improved substantially in the postwar era. In low- and middle-income countries, output has grown at an average annual rate of nearly 5 percent since 1965, with output per capita growing at 2.5 percent. Social progress has also been strong. Secondary school enrollment has nearly doubled since 1965, to about 40 percent. Infant mortality seems to have fallen substantially, from an estimated 124 deaths per thousand births in 1965 to 72 in 1988.

Not all countries have achieved the same successes. The rate of GDP growth has varied substantially from region to region. Incomes im-

proved consistently in East Asia; performance also improved in South Asia, but more slowly and patchily. In other regions, income growth deteriorated. Since 1960, per capita real incomes have surged in Japan, the Republic of Korea, and Singapore; stagnated in Argentina, Jamaica, and Peru; and dropped in Ghana, Nigeria, and Zambia (Figure 2.2).

**Figure 2.2 Per capita income, selected countries, 1960 and 1988**  
(1985 PPP dollars)



Note: A logarithmic scale is used to facilitate comparison of countries with high and low per capita income. Countries were selected, based on data availability, to provide a balanced sample in terms of population size and regional distribution.

a. Data are for 1960 and 1985.

b. Data are for 1962 and 1988.

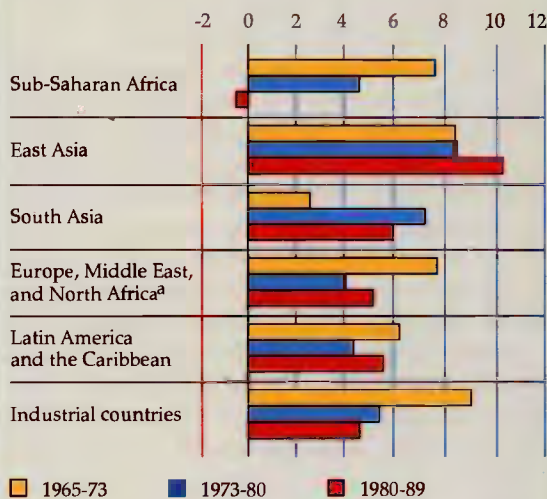
Source: Summers and Heston 1991.

The rates of saving and investment rose in many countries. India consistently saved more than 20 percent of its income in the 1970s and 1980s. In 1988, Brazil saved 28 percent of its income; China, 37 percent; Côte d'Ivoire, 22 percent; and Kenya, 22 percent. Investment as a share of income averaged 26 percent for developing countries in 1988. But again, country differences were substantial. Investment shares were about 4 percent in Bolivia, Sudan, and Zaire and about 30 percent in the Republic of Korea, Portugal, and Venezuela.

The growth of trade in low- and middle-income countries was strong as a whole; exports expanded by almost 5.3 percent during the period 1965-89. Brazil, China, Korea, and Turkey were among the strongest performers. But many countries fared poorly, particularly in Sub-Saharan Africa, where real exports plummeted in the 1980s (Figure 2.3). In all developing countries, the share of exports in output increased from about 13 to 23 percent in this period—a trend dominated by East Asia, where the share increased from 8 to 30 percent.

Government involvement in the economy also varied greatly. The share of public employment in the formal nonagricultural sector in 1980 was estimated to be more than 70 percent in Benin, Ghana, India, Tanzania, and Zambia, and less

**Figure 2.3 Estimated annual growth in real exports, selected groups of countries, 1965-89**  
(percent)



a. Excluding Iran and Iraq.

Source: World Bank data.

than 25 percent in Argentina, Guatemala, and Korea (Heller and Tait 1984). In some countries, public consumption has averaged more than 15 percent of output, which implies that the wages of public employees may have absorbed more than a third of nonagricultural output.

### *Highlights of economy experiences*

Much can be learned about the effectiveness of different development strategies from the experiences of individual economies. The following paragraphs highlight the recent stories of development in China, India, Nigeria, Brazil, Argentina, Malaysia, Sri Lanka, Korea, other East Asian newly industrializing economies, and the OECD economies. The subject of regional variations in income within economies is also raised.

- *China.* From 1950 to 1978 the Chinese economy was centrally planned in most respects. The defects of such a highly centralized administrative system became clear, despite the progress in infrastructure and resource mobilization, "it makes productive enterprises subordinate to administrative organs . . . [and] involves excessive command planning from above and is too rigid" (Hsu 1982). So structural reforms were introduced in 1978. The most striking were rural reforms that introduced price and ownership incentives to farmers. Real farm prices have increased by 50 percent, and the agricultural growth rate rose from 2.5 percent in 1965–78 to 7.2 percent in 1978–88.

- *India.* The government has been actively involved in the production process, regulating "the scale, technology, and location of any investment project other than relatively small ones . . . a chaotic incentive structure and the unleashing of rapacious rent-seeking were the inevitable outcomes" (Srinivasan 1990). This extensive government involvement was accompanied by macroeconomic stability in the 1960s and 1970s, but growth was slow nonetheless. During the period 1960–79, the growth of per capita income averaged 1 percent a year. Absolute poverty declined from about 55 percent in the early 1960s to only 45 percent in the mid-1980s. Since the late 1970s, some industries have been deregulated. The exchange rate, whose real value relative to the dollar was the same in 1955 and 1980, has depreciated in real terms. These partial reforms contributed to an acceleration in the per capita growth rate to about 3 percent in the 1980s.

- *Nigeria.* A telling statistic about this oil exporter is that its per capita growth rate, which av-

eraged 1.1 percent a year in the period 1960–73, declined 2.8 percent a year after the oil price increase of 1973. Public spending was largely responsible for the decline. Between 1973 and 1981, public employment tripled from 0.5 to 1.5 million. Government expenditure rose fivefold between 1972 and 1974 and accounted for almost 80 percent of total oil revenue. Public investment increased from 5 percent of GDP in 1974 to 17 percent in 1977, and accounted for more than half of total investment in that year. The budget turned from surplus to a deficit averaging 24 percent of retained revenue in 1975–78 (Bevan, Collier, and Gunning, forthcoming).

- *Brazil.* This country is often cited as an example of the success of good import substitution policies. For almost three decades (between 1960 and 1987) its average growth rate was an impressive 6.6 percent a year. What is revealing about the miracle years of 1967 to 1979, however, is that rapid growth was preceded and accompanied by economic reform. Before 1967, classic stabilization measures (tight credit and budget controls) were applied to bring down inflation. In 1967, a new tariff law reduced protection to domestic manufacturing from 58 to 30 percent. In 1968, a crawling peg exchange rate replaced the multiple exchange rate system. These policies produced a surge in export volume of more than 10 percent a year between 1964 and 1980, and an annual rate of growth of 9.4 percent (Maddison and Associates, forthcoming).

- *Argentina.* At the turn of this century, Argentina's per capita income was comparable to those of Australia and Canada. But since the 1940s the country has suffered chronic macroeconomic instability and slow growth. Inflation and repeated failures to stabilize the financial environment have discouraged domestic savings and investment. Without macroeconomic stabilization, Argentina has had difficulty adjusting to shocks to its terms of trade, a problem compounded by high levels of protection. These continuous macroeconomic failures largely explain the decline in Argentina's growth rate, which has fallen from an average of 4 percent a year in the period 1960–73 to 0.8 percent in 1973–87.

- *Malaysia and Sri Lanka.* In 1960, these two countries had similar per capita incomes, education levels, infant mortality rates, ethnic diversity, and economic structures. Since then they have followed different development strategies. Even after the reforms of 1978, Sri Lanka remained less open than Malaysia. Agricultural taxation has been



lower in Malaysia too: taxation of rubber exports has averaged less than 30 percent, compared with more than 60 percent in Sri Lanka. During the period 1960–78, Malaysia grew at 7.0 percent and Sri Lanka at 4.4 percent. Productivity growth has averaged 1.5 percent in Malaysia and 0 percent in Sri Lanka. Between 1960 and 1988, infant mortality rates dropped from an estimated 70 per thousand in both countries, to about 15 in Malaysia and about 30 in Sri Lanka. The share of the poor in Malaysia's population is estimated to have been reduced from about 37 percent in 1973 to 15 percent in 1987; in Sri Lanka it fell from 37 to 27 percent between 1963 and 1981.

- *Republic of Korea.* Undoubtedly, this economy is an example of spectacularly rapid development. But analysts differ as to the causes. The growth rate during the period 1960–87 in Korea was 9.0 percent. Social indicators have also improved rapidly. Korea continued its import substitution approach in the 1960s. A strong export drive was also launched in the 1960s. After experiencing economic difficulties in the late 1970s, Korea pursued a more and more liberal approach in the 1980s. During the period 1960–87, the annual growth of total factor productivity (TFP) was an estimated 1.7 percent in Korea. Income distribution compares very favorably with that of other developing economies, though it is estimated to have worsened.

- *Other East Asian economies.* The economies of Hong Kong and Singapore have also achieved enviable success. So has Taiwan, China, which during the period 1960–87 grew 9.5 percent. This economy opened up early, initiating new policies in 1958–59 that "reversed the import-substitution strategy [and] reoriented the economy to the world market" (Myers 1990). Income distribution compares favorably with that in other economies, and it has improved.

The government of Singapore has been considerably more interventionist than the government of Hong Kong. During the period 1960–87, growth rates were 8.8 percent in Singapore and 8.6 percent in Hong Kong, whereas productivity grew by 1.7 percent in Singapore and by 3.1 percent in Hong Kong.

These East Asian economies have performed exceedingly well for long periods of time. Although they differ in many important respects, they all share several features: high and rising levels of education, and an outward orientation. But these economies raise important questions about the proper roles of state and market. Hong Kong followed a relatively free-market approach.

The other economies were relatively more interventionist. Japan and Korea followed policies of protection for infant industries and of credit subsidies. Why, in these cases, did interventionist policies succeed when they so often failed elsewhere? Some economists argue that intervention worked because markets were still freer than in other economies. Some go so far as to argue that intervention set the East Asian economies back, that they would have done even better without it. Other economists say that the secret is to intervene competently. But this begs the key question: what is the difference between competent and incompetent intervention?

The issue remains controversial, but three propositions now command quite wide support. First, government intervention in these economies was subjected to international competition and market-related checks and balances. These governments did not avoid the discipline of market forces. When protection failed, it was promptly removed—difficult to do, and most unusual. Second, governments were careful to offset the bias against exports that is usually a feature of trade protection. Their trade regimes, in other words, remained highly outward-oriented. Third, intervention in the market in these East Asian economies was, in an overall sense, more moderate than in most other developing economies. These and other institutional features seem to distinguish the East Asian economies, including Japan (see Box 2.2). Interventions in trade and industry are further discussed in Chapter 5.

- *OECD countries.* During the past three decades, the OECD countries have experienced solid growth, averaging about 3 percent a year, and with less country-by-country variation than among the developing countries (Harberger 1984). The fastest-growing advanced economy has been Japan; its output increased by 6.5 percent a year between 1965 and 1980. Two features of this experience stand out: first, rapid technological progress, supported by a strong outward orientation; second, a rise in saving rates, supported by moderate fiscal policies. Often the government's budget was in surplus. This stimulated saving and investment and created opportunities to cut taxes. Germany's postwar growth (3.5 percent during the period 1965–80) was export-oriented, with low inflation and a realistic exchange rate that ensured international competitiveness. By and large, organized labor supported the government's growth-oriented policies. Economies of scale, learning by doing, and the restructuring of industry led to

## Box 2.2 What's behind the Japanese miracle?

Exceptional investments in people, physical assets, and technology are generally considered the main reasons for Japan's success, as elaborated on elsewhere in this Report. The institutional and policy factors that created the climate for these large investments and their productivity are still debated.

### The bureaucrats?

Some see the Japanese miracle as the result of bureaucrats in the Ministry of International Trade and Industry (MITI) guiding firms' production and investment decisions. Since the 1930s at least, Japanese bureaucrats have influenced manufacturers' decisions. They have eased their access to capital and to foreign technology. They have granted subsidies, trade barriers, and tax breaks. They have formulated plans to allocate production. And they have sanctioned cartels. As industrial consultants who can persuade their clients to follow their advice, MITI's officials have a close relationship with manufacturers.

### The size of interventions?

By any measure—the size of government expenditures or taxes, government-induced macroeconomic disturbances, controls on prices, the role of state-owned enterprises in manufacturing, or restrictions on private

sector activities—the role of government in Japan's economy is small. Moreover, of the nearly half million Japanese manufacturing firms in the 1950s, most were small and medium-size—accounting for half the value added in manufacturing (60 percent in the late 1970s).

### Institutions?

Traditional Japanese views on rights and appropriate behavior have affected the resolution of conflicts—and the relations between workers and managers, between large firms and subcontractors, and between government agencies, producers, and producers' associations. For example, norms of behavior toward authority, which encourage a free flow of information between workers and supervisors, and a consensus-building approach in conflict resolution have allowed better quality control in mass assembly.

### All three

Each explanation probably captures an aspect of reality. But it is difficult to draw lessons for other countries from an institutional explanation of Japan's success—except to note that bureaucrats did not try to fight market trends. Instead, they tried to anticipate those trends, and they retreated when they were wrong. The market was a disciplining factor.

rapid advances in productivity. In Britain, economic growth in the 1960s and 1970s was slower because of high inflation, troubled labor relations, an overvalued exchange rate, frequent balance of payments problems, low corporate profits, and too little investment. Growth improved during the 1980s.

- *Regional differences in income within countries.* Data on average incomes for countries conceal regional variations in incomes, especially in large countries. Variations in *nominal* income, or output, per capita originating from region to region are substantial in several large countries, including Brazil, China, India, Indonesia, and Nigeria (see the maps for examples). Differences in expenditures, as well as differences in *real* terms—that is, after correcting for regional price differences—are expected to be less (see below). Within China, the per capita nominal income in the eastern region (which contains 29 percent of the population) was estimated to be 50 percent higher than in the southern region (43 percent of the population) in

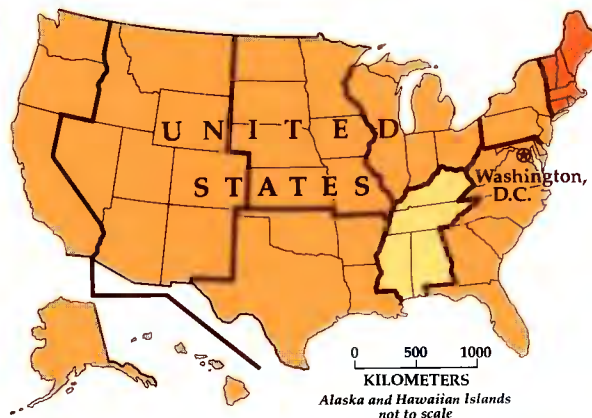
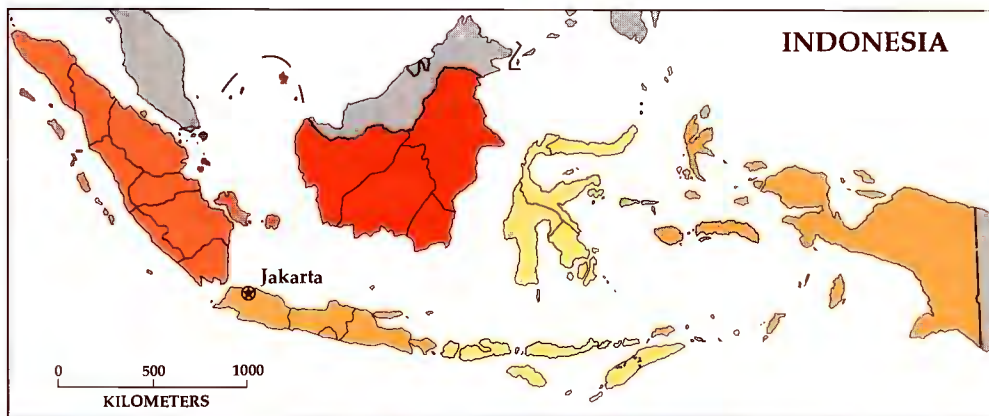
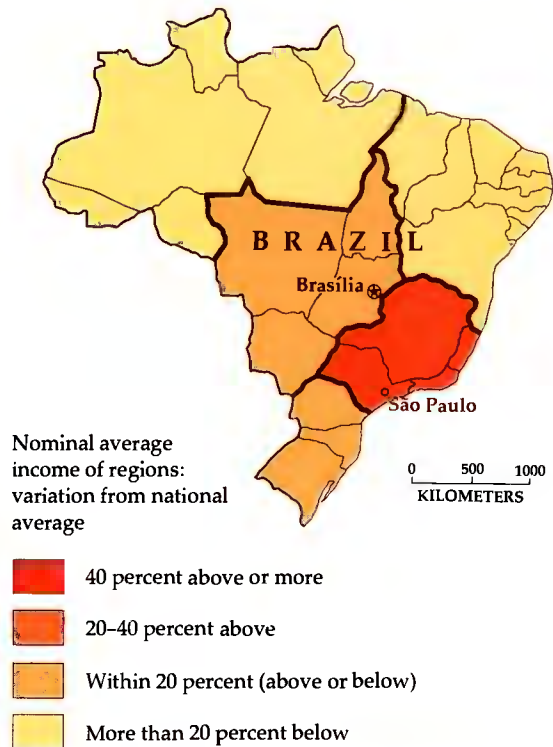
1987. The average per capita income in the western region of India (14 percent of the population) was about 60 percent higher than in the eastern region (22 percent of the population) in 1986–87. In Indonesia, the per capita output in Sumatra (20 percent of the population) was estimated to be 36 percent more than in Java (60 percent of the population) in 1988. According to available data, this difference is virtually eliminated if income from oil is excluded, or if expenditures are compared. Within Nigeria, the eastern region was estimated to have a 70 percent higher per capita income (also including oil income) than the northern region in 1981.

Variations in nominal income, however, are biased upward because costs of living are typically higher in the wealthier regions. But data for cost of living adjustments are scarce. Where the adjustments were possible, in the case of Brazil, differences do diminish (in real terms). In 1980 the southeastern region of Brazil (with about 40 percent of the people) had an estimated per capita nominal income more than three times that of the

northeastern region (30 percent of the people). According to an estimate for 1975, when measured in *real terms*, the southeastern region's income was twice, rather than three times, that of the northeastern region.

The evidence from industrial countries shows smaller regional differences in nominal terms. In the United States, the Middle Atlantic region (15 percent of the population) had a 16 percent higher nominal per capita income in 1988 than the South Atlantic region (17 percent of the population). The differences were estimated to have narrowed in the past three decades. Adequate comparisons of trends in regional inequalities in the developing countries, however, are constrained by lack of data; the available data do not show any clear reduction in regional inequalities.

The various economy experiences, though highly suggestive, need to be analyzed more carefully if they are to yield systematic evidence. A larger number of countries must be compared with



Note: Regional estimates include income from oil production, especially important in Indonesia and Nigeria.

Sources: Indonesia income data from Biro Pusat Statistik 1989; Nigeria data from World Bank; Brazil data from IBGE 1987; United States data from U.S. Department of Commerce, Bureau of the Census 1990.

### Box 2.3 Total factor productivity in economic growth

An important advance in economics of the past fifty years has been to identify and measure total factor productivity, which measures changes in output per unit of all inputs combined. Before, most analysis of productivity focused on the growth of labor productivity, and to a lesser degree, on the growth of the average productivity of capital.

Observe the following differences. The total output of the United States in the first part of the twentieth century grew at about 3 percent a year. Its capital stock also grew at about 3 percent, whereas the labor input (measured in worker-hours) grew at only about 1 percent a year. In the capital-labor mix, capital accounted for about one-third, and labor, two-thirds. So inputs were rising about 1.7 percent a year: two-thirds times 1 percent plus one-third times 3 percent. Total factor productivity, or the residual, thus accounted for 1.3 percent in output growth: 3 percent (the rate of growth of output) minus 1.7 percent (the growth rate of inputs).

The early calculations of total factor productivity for different countries led to the conclusion—surprising at the time—that about half of growth in output was due to the residual, which was quickly baptized as technical change. What makes up the residual? Technological innovations have no doubt generated some improvements in total factor productivity. But the main additional element is in the quality of labor. If the additions to the labor force are more productive than the existing force, they will add more to output than they would

under the formula based on labor's share. And the extra contribution from upgrading the quality of labor ends up in the residual.

Adjusting for labor quality makes it easy to identify the residual with technical change—defined very broadly. Technical change includes such obvious innovations as the mechanical cotton picker, the pneumatic tire, the hand-held calculator, the personal computer, the fork-lift truck, and the containerized shipping system.

But technical change also includes numerous ways of reducing real costs. These costs may fall as more discipline is instilled in the work force by a more demanding manager—or as the work force becomes more productive because a too-demanding manager has been fired. An assembly line might be made more productive simply by straightening it out—or a farm by introducing a different fertilizer. Productivity may also be increased by, for example, installing a facsimile machine, closing down unprofitable branches, or buying longer-lasting tires for trucks.

The way to understand more about what makes up the residual is to study the growth of total factor productivity in detail—product by product, industry by industry, sector by sector. Even with close study not every source of cost reduction can be identified, but the most important ones surely can. This identification alone reveals the kaleidoscopic sources of growth encompassed in the residual.

one another in an econometric framework that ensures consistency of treatment. Then it may be possible to infer the factors that fuel development.

#### The determinants of the growth of income

Comparative studies were pioneered by the International Labour Organisation in the early 1970s (Meier and Seers 1984), in the trade studies of Little, Scitovsky, and Scott (1970), and by studies done under the sponsorship of the National Bureau of Economic Research (Bhagwati 1978; Krueger 1978). Since then, further studies have accumulated rapidly. They include recent work at the World Bank (where five large multicountry studies have covered approximately sixty countries), other agencies of the United Nations, and the World Institute for Development Economics Research.

Two of the main conclusions of this body of research are as follows. First, sustained development in many countries, notably the Scandinavian

countries after 1870 and the East Asian economies after World War II, can be largely explained by education (and the associated quality of institutions) and by policies promoting outward orientation and competition. Outward orientation boosts growth and productivity. Import substitution policies have generally had disappointing results. Protected infant industries have rarely grown up, while the anti-export bias from protection has impeded the growth of exports. Further, these policies have lowered agricultural incentives. Second, severe and prolonged macroeconomic imbalances hurt investment and growth. Private investment is hampered because public borrowing and debt crowd it out and investors are uncertain about the future of the economy.

Another method of analyzing the growth process is to estimate the contribution that capital and labor make to growth. Patterns of experience across countries can be examined through a comparative study of large groups of countries and of econometric analyses of the data derived from



them. One result applies to both industrial and developing countries. The sum of the contributions of the factors of production fails to account for overall growth. The so-called residual in the estimated production function, or total factor productivity, accounts for the rest. It captures the efficiency with which inputs are used (Box 2.3).

The empirical literature on the determinants of economic growth in industrial countries is voluminous (Denison 1962; Jorgensen and Griliches 1967; Maddison 1981). Similar work for developing countries has been less comparable, however, because of data problems. Data on inputs are generally unavailable. Estimates of human and capital stock are vital for this sort of analysis.

For this Report, a consistent set of data for output, capital stock, labor force, arable land, and years of education of the working population has been constructed. For GDP growth, national accounts data have been used. Their limitations need to be borne in mind (Box 2.4). Estimates of physical and human capital were prepared for sixty-eight countries. The group includes some of what are now high-income countries (Japan, Greece, Spain, and Portugal), but none of the results is sensitive to their inclusion. Of the other countries, twenty-seven are in Africa; fifteen in Latin America; nine in East Asia; eight in Europe, the Middle East, and North Africa; and four in South Asia.

#### *The contribution of capital and labor*

For the sample of developing countries used, the estimated elasticity of output to capital for the 1960–87 period is about 0.4; for every 1 percent

capital increases, output increases by about 0.4 percent. Under assumptions of perfect competition in product and factor markets, this elasticity reflects the share of capital in the economy. For industrial countries, this share has indeed been estimated at between 0.25 and 0.4 percent. The estimated elasticity of output to labor is about 0.45 percent. This elasticity is somewhat lower than that of industrial countries; estimates for the United States put the figure between 0.6 and 0.75 percent. The much lower levels of education in developing countries probably account for much of this difference.

#### *The contribution of education*

Many studies document the high returns on investment in education. In past studies of growth, education has been roughly proxied by literacy rates, or by primary school enrollment ratios. Research for this Report suggests that increasing the average amount of education of the labor force by one year raises GDP by 9 percent. This holds for the first three years of education; that is, three years of education as compared with none raises GDP by 27 percent. The return to an additional year of schooling then diminishes to about 4 percent a year—or a total of 12 percent for the next three years. These results are consistent with earlier studies.

Almost everywhere, growth rates fell after 1973 (Table 2.2). Two possible causes were examined: slower growth of inputs, particularly capital, and slower growth in the efficiency with which the inputs were used. Slowing growth of the capital

**Table 2.2 The growth of GDP, inputs, and TFP**  
(percent)

Region, group, or economy	GDP			Capital			Labor			TFP		
	1960–73	1973–87 <sup>a</sup>	1960–87 <sup>a</sup>	1960–73	1973–87 <sup>a</sup>	1960–87 <sup>a</sup>	1960–73	1973–87 <sup>a</sup>	1960–87 <sup>a</sup>	1960–73	1973–87 <sup>a</sup>	1960–87 <sup>a</sup>
<i>Developing economies</i>												
Africa	4.0	2.6	3.3	6.3	6.3	6.3	2.1	2.3	2.2	0.7	–0.7	0.0
East Asia	7.5	6.5	6.8	9.8	10.7	10.2	2.8	2.6	2.6	2.6	1.3	1.9
Europe, Middle East, and North Africa	5.8	4.2	5.0	7.7	7.5	7.6	1.4	1.9	1.7	2.2	0.6	1.4
Latin America	5.1	2.3	3.6	7.4	5.6	6.3	2.5	2.8	2.6	1.3	–1.1	0.0
South Asia	3.8	5.0	4.4	8.0	7.2	7.7	1.8	2.3	2.1	0.0	1.2	0.6
Sixty-eight economies	5.1	3.5	4.2	7.4	7.1	7.2	2.2	2.4	2.3	1.3	–0.2	0.6
<i>Industrial economies</i>												
France	5.5	2.1	3.9	5.7	3.8	4.8	0.4	–1.0	–0.2	2.3	0.9	1.7
Germany <sup>b</sup>	4.3	1.8	3.1	5.3	3.0	4.2	–0.3	–0.9	–0.6	1.9	0.9	1.4
United Kingdom	3.3	1.3	2.4	3.6	2.6	3.1	0.1	–0.5	–0.2	1.7	0.6	1.2
United States	3.7	2.2	3.0	3.8	2.8	3.4	1.8	1.9	1.8	1.0	–0.1	0.5

Note: Estimates for developing countries are based on a sample of sixty-eight economies; see the technical note at the end of the main text.

a. Until 1985 for industrial economies.

b. The Federal Republic of Germany before reunification with the former German Democratic Republic.

Sources: World Bank data; Boskin and Lau 1990.



## Box 2.4 Measurement informs policy—or does it?

The demand for economic data in policy analysis has intensified since Simon Kuznets pioneered national income accounting in the 1920s. With Keynes's macroeconomic models and Leontief's input-output models, the data, analytical tools, and computing capabilities have mushroomed. But serious problems of data and measurement still plague quantitative economic analysis.

### Dubious quality

In many countries, estimates of agricultural production are not based on reliable estimates of crop area and yields. Estimates of industrial production are based on partial coverage of enterprises, ignoring for the most part small-scale production units. Measures such as national savings, investment, and consumption are indirectly estimated, derived as the difference between two other magnitudes, which are themselves subject to error.

There are serious gaps in the data on literacy, school enrollment, poverty levels, and nutritional levels. Reliable estimates of life expectancy at birth—based on recent censuses—and measures of births and deaths are only available for thirty countries for the years after 1980 (Box table 2.4). Only twenty-seven countries have series for more than one period. Thus, most of the available estimates are based on assumptions about mortality.

### Poor comparability

GDP measures pose important problems in comparability across countries and over time. Among the major hurdles are price changes accompanying quality changes, changes in relative prices, the choice of base periods, and the extent of coverage of economic activity. The conventional use of official exchange rates introduces biases during periods of volatile exchange rates. Purchasing power parities (PPPs) generally yield a more accurate measure of output by comparing the value of a specified basket of goods and services in the domestic market, expressed in national currency, with the value of the same basket in foreign currency.

Own-account consumption and subsistence production are often inadequately measured, if at all. Even

with imputations, the pricing of such volumes is less than satisfactory. Multiple exchange rates, enforced through rationing or other means, distort GDP measures because the prices used do not reflect true values. Parallel or underground market activities lead to incentives for evading taxes; these activities are not captured fully in GDP. If the share of such activities in measured GDP changes over time, estimated growth rates based on measured GDP will be off the mark.

Externalities associated with resource overuse and environmental degradation present another difficult issue for proper accounting. If an economy overuses its environmental resources and if market prices do not fully reflect this use, conventional GDP measures overstate the capability of the economy to sustain the flow of goods and services.

### Tenuous policy inferences

Can we infer, from an observed positive association between policies and performance, that performance responds to policy? Econometric tests of causality often cannot be applied with the available data—not to mention the complex problems of interpreting the results of such tests or of drawing statistical inferences from them. Policy conclusions based on analyses of meager data sets can be seriously biased. Ultimately, it is a matter of judgment whether an observed association between policy and performance is causal or simply the result of both being driven by a third set of unobserved (or latent) variables.

### Implications for analysis

These cautionary remarks should not lead us to abandon quantitative analysis. Nor do they relieve us of the responsibility of deriving policy lessons from such analysis. We have no serious alternative to empirically based analysis for policymaking. Judgments will have to be made. And insights from analytical descriptions of economic history will have to be combined imaginatively with purely econometric analysis. This Report reflects the results of such an effort. Although there can be no finality about its conclusions, it does represent a careful assessment of the available evidence.

**Box table 2.4 The availability of relatively reliable data for selected social indicators in developing economies**

(number of countries or areas)

Region, total number of economies	Number with data on life expectancy at birth				Number with data on infant mortality rate				Number with data on probability of dying by age 5			
	Total	Before			Total	Before			Total	Before		
		1975	1975–79	1980–		1975	1975–79	1980–		1975	1975–79	1980–
Africa, 50	16	9	4	3	36	11	10	15	35	12	10	13
Latin America, 27	24	5	3	16	26	1	3	22	26	2	4	20
Asia and Oceania, 40	20	1	8	11	27	3	9	15	27	3	10	14
Total, 117	60	15	15	30	89	15	22	52	88	17	24	47

Source: United Nations 1990c.

stock is not, it seems, to blame. It grew on average by slightly more than 7 percent a year before and after 1973. Even in Africa, the rate of capital formation was 6.3 percent a year in both periods.

With certain technical caveats, if input growth was broadly unchanged in the second period and output growth declined, then growth in the productivity of input use must have fallen. The data support this view—strikingly so (Table 2.3). Variations in productivity growth reflect changes in resource allocation, technologies, and dynamic comparative advantage. Slower TFP growth points to diminishing advances in technology, fewer improvements in the efficiency of input use, or both.

Since 1960, growth in productivity has accounted for a relatively small proportion of output growth for most developing countries. The exception is East Asia, where the share is more than 25 percent. For the industrial economies, productivity growth has been much more important. A recent study of the United States suggests that technical progress alone accounts for more than 50 percent of output growth since 1945 and labor force growth for 27 percent (Boskin and Lau 1990). Another draws this conclusion: "a major difference between [developing and developed countries] seems to be that growth in the former is largely accounted for by the accumulation of inputs rather than the growing efficiency in their deployment" (Chenery and Srinivasan 1988).

The small role that productivity growth plays on average in developing countries is unlikely to be explained by lower rates of technological change. In East Asia, productivity increased at 2.6 percent a year for the period 1960–73, about the same as in the industrial countries. The importance of productivity growth, despite its small share, is indicated by the fact that differences in it account for more than half of the variation in growth rates across countries. Economic policy, as this Report will explain, goes a long way to explain these differences.

The association between productivity growth and aggregate growth is strong and positive (Figure 2.4). It holds across regions and in different periods. In the period 1973–87, the average decline in growth rates (about 1.5 percent) is exactly matched by the decline in TFP growth (Table 2.2). Historical data for Japan also support this strong association between economic growth and productivity growth (Ohkawa and Rosovski 1973). During periods of rapid growth, such as 1912–18 or 1931–38, TFP grew as well (at 2.1 percent a year in the period 1912–18 and at 3.8 percent a year in

**Table 2.3 Percentage share of output growth accounted for by factor input growth, sample of world economies, 1960–87**

<i>Region or group and period</i>	<i>Capital</i>	<i>Labor</i>	<i>TFP</i>
<i>1960–73</i>			
Africa	59	22	17
East Asia	50	16	35
Europe, Middle East, and North Africa	51	10	38
Latin America	55	20	25
South Asia	81	20	0
Total	56	18	26
<i>1973–87</i>			
Africa	92	37	–27
East Asia	62	17	20
Europe, Middle East, and North Africa	68	19	14
Latin America	94	51	–48
South Asia	55	19	24
Total	76	28	–6
<i>1960–87</i>			
Africa	73	28	0
East Asia	57	16	28
Europe, Middle East, and North Africa	58	14	28
Latin America	67	30	0
South Asia	67	20	14
Total	65	23	14
<i>Selected industrial countries, 1960–85</i>			
France	27	–5	78
Germany <sup>a</sup>	23	–10	87
Japan	36	5	59
United Kingdom	27	–5	78
United States	23	27	50

*Note:* For economy classifications and estimates, see the technical note at the end of the main text.

a. The Federal Republic of Germany before reunification with the former German Democratic Republic.

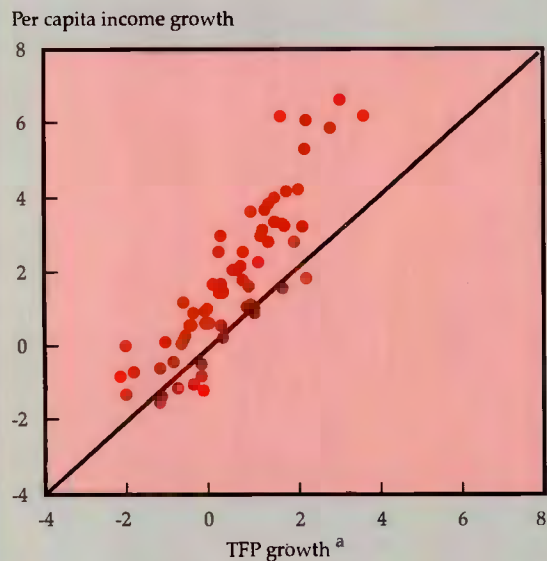
*Sources:* For developing economies, World Bank data. For industrial economies, Boskin and Lau 1990.

1931–38). During periods of slow growth, productivity stagnated or declined (it fell by 0.2 percent during the period 1918–31). In the period 1960–73, output grew at 9.2 percent and productivity at 3.4 percent. In the period 1973–87, output grew at 3.7 percent and productivity at 0.8 percent.

#### *The contribution of domestic policy*

Policies can affect both the quantity of inputs and their productivity. A policy of import substitution, for example, may increase investment but decrease efficiency and technological progress, and hence productivity. It can be argued that an import tariff has only a once and for all effect on efficiency and does not affect the rate of technical progress.

**Figure 2.4** The average annual growth of per capita income and productivity, selected economies, 1960-87  
(percent)



a. The unexplained residual of GDP growth after controlling for growth in conventional inputs (labor, capital, land).  
Source: World Bank data.

Alternatively, it has been claimed that tariffs make it harder to adopt new technology and therefore slow the growth of productivity. Theory, therefore, is ambiguous. Evidence from country studies brings out the aspects of policy that affect productivity, which are further discussed in Chapters 3 and 7. Three suggestive overall findings are mentioned here.

First, the contribution of additional education in raising total output and productivity has already been noted. In addition to this effect, the level of education (as opposed to changes in the kind of education) of the population also seems important. A three-year-higher initial level of education is associated with an increase of 0.4 percent in the annual growth rate (or 11 percent extra output during a twenty-seven-year period).

Second, openness and competition are associated with growth in productivity. This holds for the various measures of openness used in this Report, including the two used in this chapter: movements in the domestic prices of traded goods toward international prices, and changes in trade shares. The more detailed review in Chapters 4

and 5 confirms this positive association between openness and competition, on the one hand, and growth, on the other. Other studies have found similar results.

Third, macroeconomic instability diminishes the return on investment and the growth of output, as country studies have suggested (see Chapters 4 and 6). This is only weakly supported by one proxy used in the cross-country estimation, the foreign exchange premium. Finally, the data suggest that an increase in the share of government consumption in GDP results in a decline in productivity growth later on. This is consistent with the results of other studies (Barro, forthcoming).

The evidence suggests that good policies—assumed to be reflected by alternative measures—and investments, both physical and human, are complementary. Both better policies and more education contribute to growth. Furthermore, they seem to interact. Thus, the effect on growth of better policy and more education together is greater than that of each separately (Table 2.4). Similar results are obtained for changes in education and for investment.

These results appear fairly robust for alternative groupings of countries and measures of policy. The variables under consideration may not be independent sources of good performance; causality has not been established, and variables omitted from the analysis may be affecting the results. But the evidence still suggests that simultaneous efforts to improve policy and to augment human and physical capital can have exceptionally high returns.

#### *The effects of external factors*

The terms of trade facing developing countries, growth in the OECD countries, international interest rates, and capital flows are just some of the external factors that can affect development. The importance of these factors for the aggregate prospects for development is discussed throughout this Report (see Chapters 1, 5, 6, and 8; also see Dell and Lawrence 1980). But can they account for differences in performance among individual countries? A study of thirty-three developing countries did not find a statistical association between differences in growth rates and the magnitude of external shocks (Mitra and Associates 1991).

Capital flows are another external factor that affects development. Concessional aid is an important source of financing for low-income countries, and its volume makes a difference to these coun-

**Table 2.4 Interaction of policy with education and investment, 1965–87**

<i>Interacting variables</i>	<i>Average GDP growth</i>	<i>Average TFP growth</i>	<i>Probability of higher than median GDP growth</i>	<i>Probability of higher than median TFP growth</i>
<i>Policy "distortion"<sup>a</sup> and education<sup>b</sup></i>				
Low distortion and high education level	5.5	1.40	63.7	53.9
Low distortion and low education level	3.8	0.25	52.0	49.9*
High distortion and high education level	3.8	0.00	35.7	38.1
High distortion and low education level	3.1	-0.40	42.0	46.0*
<i>Policy "distortion"<sup>a</sup> and change in education<sup>c</sup></i>				
Low distortion and high rate of increase in education	5.3	1.30	57.0	54.3
Low distortion and low rate of increase in education	4.0	0.40	55.1	48.8*
High distortion and high rate of increase in education	3.5	-0.16	35.0	39.7
High distortion and low rate of increase in education	3.4	-0.19	39.2	44.7*
<i>Policy "distortion"<sup>a</sup> and investment<sup>d</sup></i>				
Low distortion and high investment	5.2	0.91	73.6	56.5
Low distortion and low investment	3.5	0.75	35.6	46.4*
High distortion and high investment	4.6	0.07	53.8	44.0
High distortion and low investment	2.6	-0.36	26.7	41.2*

*Note:* All results are significant at the 5 percent level unless marked with an asterisk (\*), in which case they are not significant.

a. High distortion here is reflected by a foreign exchange premium of more than 30 percent; low distortion, a premium of 30 percent or less. See the technical note at the end of the main text.

b. Education is measured by the average years of schooling, excluding postsecondary schooling, of the population age fifteen to sixty-four. High education is defined here as more than 3.5 years; low education, 3.5 years or less.

c. Five-year increase (above or below the median).

d. Investment rate as a share of GDP (above or below the median).

*Sources:* For foreign exchange premium, International Currency Analysts, Inc., various years. For all other variables, World Bank data.

tries. At the same time, the efficiency with which aid is used matters, and improvements in both the quality and quantity of aid are needed. Efficiency, in turn, depends on the policies of lenders and borrowers alike (Box 2.5). Overall assessments of aid effectiveness are inconclusive, but country studies yield four important lessons that can strengthen the effectiveness of aid. First, aid often serves multiple objectives. When it is determined primarily by political considerations, special care is needed to ensure that its economic effects are satisfactory. Second, foreign assistance can reinforce good domestic policies as well as bad ones, and in the final analysis, efforts to support good policies are crucial. Third, a country's capacity to absorb aid depends on its human, financial, and administrative capabilities. Strengthening these capabilities must be a priority. Fourth, stability in the volume of funding and transparency of conditions on the aid help its recipients put it to better use.

### Components of overall development

Meeting basic needs is an important part of economic development. The governments of many developing countries have made it a priority. India's first prime minister, while introducing the country's third five-year plan in 1960, stated: "It is said that the national income over the First and

Second Plans has gone up by 42 percent and the per capita income by 20 percent. A legitimate query is where has this gone . . . I can see that people are better-fed and better clothed, they build brick houses . . . But some people probably have hardly benefited." (India 1964). Meeting basic needs requires both economic growth and a range of well-targeted social programs.

Several studies using household data show that social spending can significantly improve the welfare of households. Yet only a few studies have examined the effects of social spending using aggregate data. It would be especially helpful to know whether social spending or overall growth in incomes was the more effective way to improve social welfare. Several indicators are typically used to measure welfare: life expectancy, infant mortality, and school enrollment, none of which is devoid of drawbacks.

Data for public expenditures, income growth, and the educational status of adult females were examined for their effects on infant mortality and secondary school enrollment. The results from these cross-country analyses are mixed (Chapter 3). Evidence in this Report and in other studies stresses the importance of well-designed social spending for development. Greater efficiency in the delivery of services and more accurate targeting are recurring themes (Sen and Drèze 1990).



## Box 2.5 The contribution of aid

### When aid can be ineffective

Sometimes aid can permit countries to postpone improving macroeconomic management and mobilizing domestic resources. External agencies continued to provide aid to Tanzania while the country experimented with disastrous rural policies and institutions. The ready availability of foreign assistance to Pakistan—largely for political reasons—enabled it to postpone fiscal reform. Sometimes aid can strengthen lobbies that have a strong vested interest in a distorted policy framework and so make policy reform more difficult.

Aid at times can replace domestic saving and flows of trade, direct foreign investment, and commercial capital as the main sources for investment and technology development. Several countries have allowed food aid to depress agricultural prices. They have also postponed critical investments in rural infrastructure and ignored the need to build agricultural institutions.

Aid is sometimes turned on and off in response to the political and strategic agenda of bilateral funding agencies, making resource flows unpredictable. This resource instability can result in interruptions in development programs, as in Egypt, India, and Pakistan.

Uncoordinated and competing bilateral agencies can transfer incompatible technologies and deliver conflicting projects and advice. These problems of bilateral aid arise partly from the widespread practice of tying aid to the purchase of equipment, shipping, and technical advice from agency sources, which substantially reduces net resource transfers. In Pakistan, for example, the cost of using agency shipping lines to transport aid-funded procurements (often a substantial proportion of total project costs) was 50–115 percent higher than the cheapest alternative.

Swings in policy advice from funding agencies can add to the cost of aid for developing countries. Many recipients, advised to dismantle industrial protection and marketing boards, complain that agencies had encouraged these strategies in the 1960s and 1970s, when import substitution and regulation were in vogue. Agencies can often adjust rapidly to the changing thinking on development, but recipients of aid need more time to adjust because of their weak administrative structures.

### When aid is effective

Aid improves the credibility of economic reform by providing assistance in the design of reform packages and by holding down the cost. Structural adjustment lending has triggered and helped sustain reforms in many countries that have been committed to reform, including Chile, Mexico, and Turkey. In the Republic of Korea, the infrastructure and education projects of the 1950s helped the economic takeoff that followed the reforms of the early 1960s. Humanitarian relief is another unassailable reason for aid.

Aid provides external resources for investment and finances projects that could not be undertaken with commercial capital because of debt overhang or a long project gestation period. Aid discussions also inform industrial countries about reforms in developing countries. This knowledge improves the developing countries' access to capital and direct foreign investment and, as in the cases of Korea, Malaysia, and Thailand, helps them become commercial borrowers.

Project assistance helps expand much-needed infrastructure—roads, railways, ports, and power generating facilities. It also builds technical expertise in project evaluation, monitoring, and implementation. Aid also contributes to personnel training and institution building (for example, in Korea, Pakistan, Thailand, Colombia, and Mexico). In addition, information on best practices—such as Bangladesh's Grameen Bank, Bolivia's Emergency Social Fund, and Jamaica's Food Stamp Scheme—helps recipients tailor practices to their circumstances and avoid mistakes.

Domestic policies, institutions, and administrative capacity also vitally affect the success of project aid. An excellent example of their contribution to the effectiveness of project aid is the green revolution in South Asia in the 1960s. It was successful both because of technology transfers; research, and infrastructure financed by aid and because of the responsiveness of domestic institutions.

Aid can support better economic and social policies. External aid and finance agencies are more and more sensitive to a project's effects on the environment and on social conditions. The emphasis on policies has also resulted in successful programs to reduce poverty, for example, in Bolivia, Côte d'Ivoire, and Malaysia. In Pakistan, concern with low achievements in education and health is prompting more lending for human resources to complement efforts to alleviate poverty.



The results are quite clear about the importance of educating women. The educational status of adult women is by far the most important variable explaining changes in infant mortality and secondary school enrollments (see Figure 2.5). An extra year of education for women is associated with a drop of 2 percentage points in the rate of infant mortality. Household-level studies have reported even larger reductions of 5–10 percentage points.

As noted at the outset, overall development includes more than economic variables: it includes noneconomic features which enrich the quality of life. Some noneconomic variables are associated with economic development, although lines of causation are generally difficult to establish. For example, some of the economic and social indicators discussed above are positively associated with noneconomic components of development, such as civil and political liberties (Box 2.6).

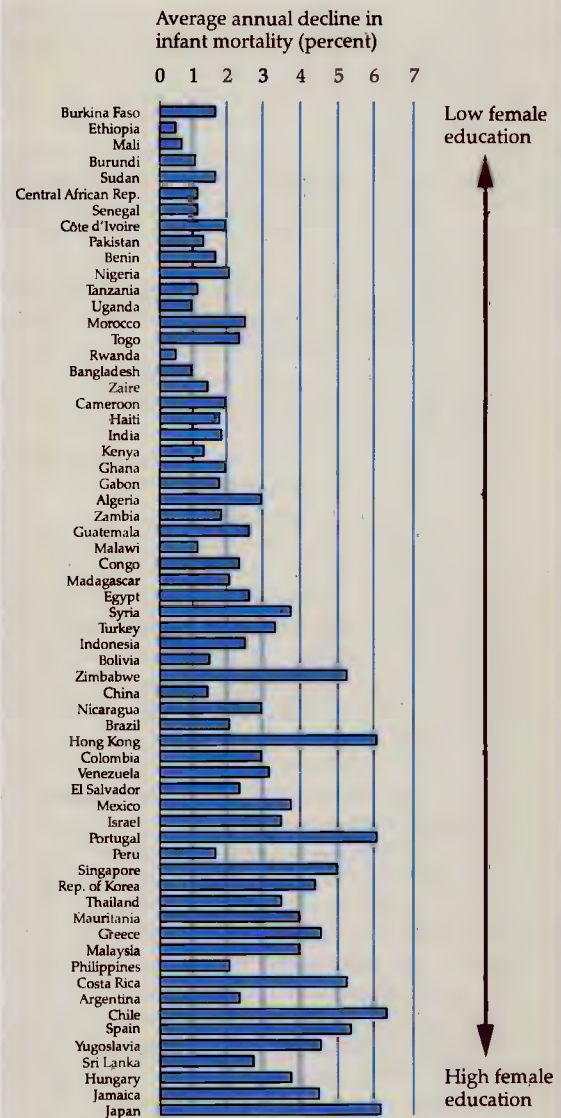
Equity is a separate concern in its own right. It has two aspects: income distribution and the incidence of poverty. There is no clear link, in either direction, between growth and changes in income distribution (see Chapter 7). But economic growth is strongly associated with a reduction in the incidence of poverty. A review of twenty developing countries found that growth was associated with an improvement in absolute poverty in all but one country (and the exception had negative per capita growth during the period considered). Lal and Myint (in preparation) find the same effect in their detailed country studies. *World Development Report 1990* also found strong evidence that growth reduces absolute poverty.

### The way forward

Perhaps the clearest lesson from work on development during the past thirty years is that there is a premium on pragmatism and an open mind. Ideas that were once the conventional wisdom, and which guided governments and multilateral institutions in forming their approaches to development, have now been largely set aside. New ideas stress prices as signals; trade and competition as links to technological progress; and effective government as a scarce resource, to be employed sparingly and only where most needed.

In development, generalizations can be as rash as unbending commitments to theories. Quantitative evidence of the sort reviewed in this chapter is suggestive, but no more. There is no magic cure for economic backwardness. There is more than one way to succeed—if only because there are

**Figure 2.5 Female educational attainment and decline in infant mortality, selected economies, 1960-87**



Note: Economies are listed in ascending order by level of female education, defined as the average years of schooling, excluding postsecondary schooling, of females age fifteen to sixty-four. For the method of estimation, see the technical note at the end of the main text.

Source: World Bank data.

many different sorts of success. And success needs to be evaluated according to the various dimensions of development, not just income growth.

The fastest-growing economies of the sixty-eight analyzed are the four newly industrializing economies of East Asia. The best performer in terms of

## Box 2.6 Noneconomic components of development: liberties

What connection, if any, is there between economic development and liberties, one of the noneconomic components of overall development? One possibility is that a free press and open public debate might expose actions by the government or the private sector that might otherwise hold development back. A free press and expanding flow of information often spur social and economic progress. India's free press can plausibly be credited with preventing famines, because it forced the government to act promptly. But it can also be said that freedoms in general make it harder for government to take tough but necessary decisions. The latter view is often advanced to explain the success of countries such as the Republic of Korea (with its "good" authoritarian rule) in contrast to countries such as India (where liberties and policy weaknesses may have gone together).

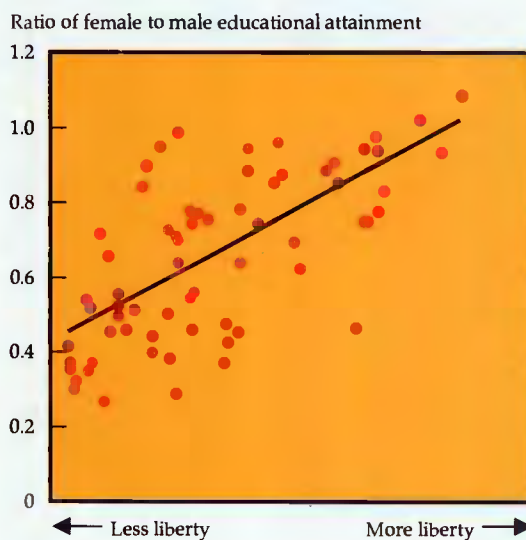
To examine this further, data on political and civil liberties were taken from *Freedom in the World* (Gastil 1989). This survey has been undertaken every year but one since 1973. It ranks countries according to thirty specific tests under two criteria: political rights, defined as "rights to participate meaningfully in the political process"; and civil liberties, or the "rights to free expression, to organize or demonstrate, as well as rights to a degree of autonomy such as is provided by freedom of religion, education, travel, and other personal rights." The resulting index is highly correlated with another constructed by Humana (UNDP 1991). All such measures are crude. They cannot support firm conclusions. However, the results are interesting. There is a strong relation between income growth, education levels, and declines in infant mortality; between female-education levels, and changes therein, with infant mortality decline; and between political and civil liberties and achievements in male and female education and infant mortality decline (Box table 2.6).

The results of regression analysis do not go as far as to suggest that liberties contribute positively to income growth, but they imply that they do not hold growth back. Some studies find that the relationship between freedom and growth is ambiguous (Grier and Tullock 1989). Dasgupta (1990) reports a clearer effect for 1970-80, finding that "political and civil rights are pos-

itively and significantly correlated with real national income per head and its growth." Scully (1988) also reports a positive effect.

Finally, after controlling for income growth and regional effects, liberties appear to be strongly and positively associated with measures of welfare improvements such as women's education, overall education, and infant mortality declines (Box figure 2.6). These results do not show the lines of causation, but they suggest that these important components of overall development go together.

**Box figure 2.6 The association between political and civil liberties and women's education, selected economies, 1973-86**



Note: Data are period averages for a sample of sixty-seven economies; data for 1974 were unavailable. Educational attainment is defined as the average years of schooling, excluding postsecondary schooling, of the population age fifteen to sixty-four. For the method of estimation, see the technical note at the end of the main text.

Sources: For data on political and civil liberties, Gastil 1987; for data on education, World Bank.

**Box table 2.6 Correlation matrix for measures of overall development, 1973-87**

Measure	1	2	3	4	5	6	7	8
1. Growth	1.00	0.30	0.12*	0.23	0.31	0.42	0.37	0.19*
2. Decline in infant mortality <sup>a</sup>		1.00	0.27	0.41	0.29	0.67	0.71	0.59
3. Change in education			1.00	0.92	-0.18*	0.30	0.25	0.32*
4. Change in female education				1.00	0.22	0.52	0.48	0.28
5. Change in female-male education gap					1.00	0.55	0.56	0.39
6. Education level						1.00	0.98	0.57
7. Female education level							1.00	0.63
8. Political and civil liberties								1.00

Note: Numbers are period averages; data are for a sample of sixty-eight economies. All correlation coefficients are statistically significant at least at the 10 percent level, except for those marked with an asterisk (\*).

a. Because of low data quality, these data cover only the period 1973-84.

Sources: For political and civil liberties, Gastil 1989. For others, World Bank data.

progress on infant mortality is Chile, along with Japan. Jamaica and Japan score highest on education (although Costa Rica and Venezuela are better with regard to gender equality). Costa Rica, along with Japan, ranks highest in political and civil liberties. Some of the poorest performers in the economic sphere also fared badly in some of the non-economic aspects.

The statistical research therefore shows that the various measures of development are linked, more closely in some cases than in others. But there are always exceptions. If indicators are ranked, then Algeria, Brazil, and Gabon are in the top one-third ranked by income, but half way down the rankings for infant mortality and education. Pakistan also scores well on income growth, but consider-

ably less well on gender equality in education. In a spirit of pragmatism and open-mindedness, it is right to conclude that income growth has been overemphasized as a measure of welfare, but also that income growth usually does not militate against success in the other dimensions.

The challenge for governments is to translate the broad lessons of development experience into policies that work. To help in this task, the next four chapters of this Report examine different areas of policy—human capital, domestic markets, foreign trade, and macroeconomic policy—in detail. In each case the Report asks: What have governments done, and what appears to have worked best?