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Introduction

Agriculture and economic growth are the subjects of this *World Development Report*. Because agriculture accounts for a large share of many developing countries' economies, success there will play a large role in determining the course of their national economies for decades to come. At the same time, policies that affect the national economy as a whole—for example, policies on exchange rates, trade regimes, or government spending—influence the performance of the agricultural sector. Within a country and throughout the interdependent economies of the world, better policies are needed to improve the allocation of resources and raise real incomes. In agriculture, using resources more efficiently would involve removing both the policy-induced biases that generally discriminate against production and trade in developing countries and the excessive subsidies that generate overproduction in industrial ones. In the wider economy, better resource allocation policies are needed to help developing countries adjust to changing external circumstances—a process which is essential for growth—and to correct certain deep-seated problems that have constrained economic growth in industrial countries.

The two parts of this Report explore these themes. Part I examines the way the world economy has performed since 1980 and looks at the prospects for the next ten years. It concludes that, although recent declines in interest rates and oil prices are likely to provide a stimulus to the world economy, further policy reforms at both the domestic and international levels are essential to take full advantage of this stimulus. At a less aggregate level, however, it is apparent that certain subgroups of developing countries—particularly the heavily indebted oil exporters and some of the low-income African countries—will continue to face a very difficult period of adjustment in the near term. For these countries, domestic policy reforms are necessary, but they are not sufficient: access to additional external resources and export markets will also be required.

Part II explores the connection between government policy and agriculture and emphasizes the interdependence of agricultural policies in different parts of the world. Public policies in both developing and industrial countries greatly influence the growth of agriculture and of rural incomes. This influence often extends far beyond national frontiers. What is perhaps most surprising is the fact that it is the developing world which, on the whole, discriminates against its farmers, even though they account for large shares of gross domestic product (GDP) and export earnings. And it is the industrial countries which provide subsidies to agricultural production, even though their farmers account for small shares of GDP and employment. The Report examines the potential gains to the world economy from removing these distortions and concludes with a discussion of the priorities for reform.

Prospects for the world economy

The world economy is entering the fourth year of its recovery from the deep recession of 1980–82. The output of the five largest industrial economies grew by 3.0 percent in real terms in 1983 and by 4.2 percent in 1984, and annual rates of inflation have fallen sharply. In developing countries the growth in output increased from 2.0 percent in 1983 to 5.4 percent in 1984. Yet growth, though sustained, has recently slowed. The five largest industrial economies saw their growth rates fall to 2.8 percent in 1985, and unemployment and real interest rates

have remained high. In developing countries growth slowed to 4.4 percent in 1985. Despite the recent declines in oil prices, real interest rates, and inflation, many developing countries continue to face serious problems that will constrain growth over the medium term.

These developments are the subject of Chapter 2, which explores the policies that have shaped the character of the world economy since 1980. It argues that, although many industrial countries have been successful in moderating the rate of monetary growth and thereby inflation, they have been less successful in pursuing a consistent fiscal policy. The increased acceptance of the view that high and uneven marginal tax-benefit rates distort incentives and entail efficiency losses has made governments understandably reluctant to increase tax rates. But social and political pressures have also made it difficult to curtail benefits or reduce total public expenditure. As a result, public sector deficits have not been significantly reduced and have remained large in absolute terms in the United States. This combination of monetary and fiscal policies was in large part responsible for the interest rate and U.S. dollar movements that occurred between 1980 and early 1986. The recent falls in the U.S. dollar and in interest rates reflect three developments: a renewed commitment to reduce the U.S. federal budget deficit, the decline in oil prices, and the coordinated actions of the Group of Five countries (France, the Federal Republic of Germany, Japan, the United Kingdom, and the United States).

While the movements in interest rates and the U.S. dollar imposed significant adjustment costs on many economies earlier in the decade, there were mitigating factors, the most important of which was the large U.S. trade deficit. This increased the growth in world trade, particularly in 1984, which greatly assisted outward-oriented developing countries. But the coexistence of large trade deficits and record high levels of unemployment in some industrial countries has had an unfortunate side effect: a marked increase in the pressure for more restrictions on international trade. Ironically, this pressure comes at a time when industrial countries are beginning to reap the benefits of the moderate progress they have made in reducing rigidities and distortions in their domestic factor and goods markets.

For developing countries, the first half of the 1980s was a period of adjustment to a rapidly changing world economy. The reforms they implemented to improve resource allocation and increase efficiency were necessary irrespective of developments in the world economy. But the magnitude of the changes in real interest rates, commodity prices, export markets, and net capital inflows led them to adjust quickly, which in some cases entailed high costs. Yet, those developing countries that maintained macroeconomic stability and implemented policies to make the best of the changing world economy have emerged with strong growth rates and bright prospects. Others, however, have found it difficult to restore growth. In many cases, inappropriate domestic policies that have misallocated resources and reduced efficiency over long periods of time have resulted in little, if any, increase in output. The developments in the world economy after 1980 exposed the underlying vulnerability of these economies and in some cases brought about a downturn in growth. Declining per capita incomes, which had until the early 1980s occurred mostly in sub-Saharan Africa, became more widespread, especially in Latin America. While growth did pick up in 1984, it has proved difficult to sustain.

It is clear that developing countries have, on the whole, made an effort to reform domestic policies and to adjust to the changing international environment. In addition, for most countries the recent declines in oil prices and real interest rates have created an external environment which will facilitate domestic reform efforts. For some countries, however, the slower growth in world trade (caused in part by protectionism), weak export prices, large repayment obligations on existing external debt, and the continued decline of net capital inflows threaten to overwhelm these gains. The heavily indebted oil-exporting countries will face a particularly difficult period over the next few years. Many developing countries will have difficulty in maintaining imports and domestic investment at the levels required to support growth over the medium term and service their external debt. A further reduction in per capita consumption levels will exacerbate political and social tensions in these countries and, as their imports contract, reduce the number of jobs in other countries.

Chapter 3 explores two divergent paths that the world economy might take during the next ten years. The High case illustrates what could happen with appropriate policies that build upon the stimulus given to the world economy by recent developments. The Low case presents the alternative outcome if policies dissipate the results of these developments. In the High case, industrial countries could increase their real GDPs by an annual

average of 4.3 percent, whereas in the Low case the rate of growth would be only 2.5 percent. For developing countries the divergence would be greater: 5.9 percent a year in the High case and 4.0 percent in the Low. It should be emphasized that these are not forecasts; they merely illustrate what might be achieved if certain policies are pursued.

For industrial countries the domestic policies needed to achieve the growth rates of the High case involve instituting stable monetary and fiscal policies, reducing price distortions, and introducing more flexibility into labor markets. Internationally, a concerted effort to reduce trade restrictions would be needed to increase world trade. Because industrial countries account for so large a share of world output, their policies will play a principal role in determining how the world economy performs. But this does not mean that developing countries cannot reap benefits by changing their own policies. On the contrary, it is their policies that will determine the extent to which they take advantage of, or offset, changes in the international economy over the medium term. If developing countries were to adopt policies that encourage domestic savings, increase the efficiency with which they use resources, and increase their links with the world economy, they could raise their growth rates significantly regardless of what the industrial countries do.

Nonetheless, the heavily indebted middle-income countries will need extra help over and above those policies to keep growth from stagnating and thus contributing to the instability of the world's financial markets. Additional assistance will also be required to reverse the decline in low-income African countries. Chapter 3 argues that a coordinated domestic and international effort is required to restore creditworthiness and growth, an effort in which the World Bank will play an important role.

Trade and pricing policies in world agriculture

The need to improve trade and pricing policies and to reform institutions is no less important in agriculture than in the economy as a whole. And success in agriculture will, in turn, largely determine economic growth in many low-income developing countries and help to alleviate poverty in rural areas, where most of the world's poorest people live.

Agriculture is the basic industry of the world's poorest countries. It employs roughly 70 to 80 percent of the labor force in low-income developing countries and about 35 to 55 percent in middle-income developing ones. It is also a main source of GDP, accounting for 35 to 45 percent of GDP in low-income developing countries (see Table 1.1). During the nineteenth century, almost all of today's industrial nations had roughly the same percentage of their labor forces engaged in agriculture that the low-income developing countries now have. Some countries, notably Italy and the U.S.S.R., had more than 70 percent of their labor forces engaged in agriculture well into the twentieth century. Today, the industrial countries of Western Europe and North America have less than 10 percent of their labor forces employed in agriculture, and the average for all industrial countries is now just 7 percent. Already, agriculture's share of GDP in all developing economies has fallen from 30 percent in the mid-1960s to about 20 percent in the early 1980s. Among industrial countries, agriculture accounts for a little more than 3

Table 1.1 Agriculture's share of GDP, employment, and exports, selected years, 1964–84
(percent)

	Share of agriculture in:					
	GDP		*Employment*		*Exports*[a]	
Country group	*1964–66*	*1982–84*	*1965*	*1980*	*1964–66*	*1982–84*
Low-income countries	42.8	36.3	76.0	72.0	58.6	32.8
Africa	46.9	41.3	84.0	78.0	70.7	68.4
Asia	42.5	35.7	74.0	71.0	54.0	25.9
Middle-income oil exporters	21.8	14.8	62.0	50.0	40.8	13.6
Middle-income oil importers, excluding major exporters of manufactures	25.2	18.0	63.0	53.0	54.2	44.8
Major exporters of manufactures	19.3	12.1	50.0	36.0	56.9	20.2
Developing countries	30.2	19.9	66.9	63.2	52.3	22.0
Industrial countries	5.1	3.1	13.7	7.1	21.4	14.1

Note: Data for developing countries are based on a sample of ninety countries.
a. Includes reexports.

Table 1.2 Agriculture's share of exports in developing countries, 1979–83

Country group	Countries with 30–60 percent share	Countries with 60–80 percent share	Countries with 80–100 percent share
Low-income countries	4	6	11
Africa	3	3	11
Asia	1	3	0
Middle-income countries	16	12	1
Oil exporters	1	0	0
Oil importers	11	11	1
Major exporters of manufactures	4	1	0
All developing countries	20	18	12

Note: Shares are the percentage of agricultural export earnings in total merchandise exports. Exports include reexports. Data are based on a sample of ninety developing countries.

percent of GDP and approximately 14 percent of exports.

The share of agriculture in national income generally declines as real per capita incomes rise, because as people's incomes increase, they spend a decreasing percentage on food. Also, as farmers increase the productivity of their land and labor, the share of a country's resources required to grow food for the rest of the population decreases. In low-income developing countries, a farm family provides enough food for itself and two other people; in most industrial economies, a farm family produces enough food for itself and as many as fifty other people.

For many developing countries, therefore, a healthy farm economy is connected with long-term development. It is also connected with short-term stability. Although agriculture's contribution to the export earnings of developing countries has fallen from about 52 percent in the mid-1960s, it still contributed 22 percent by the early 1980s. It was higher in low-income African countries and in those middle-income oil-importing countries that are not yet major exporters of manufactures. The importance of agricultural exports is brought out in greater detail in Table 1.2.

Food production

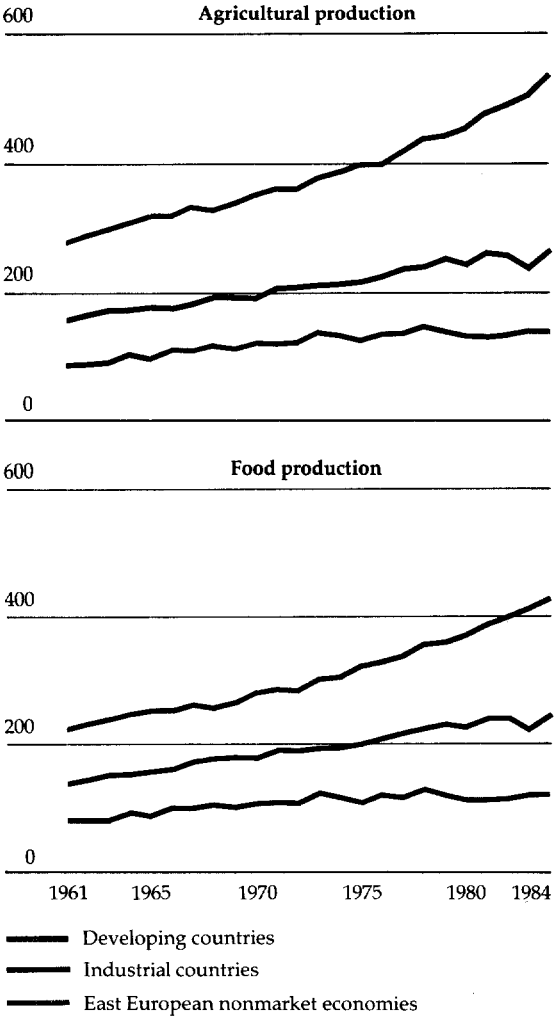
Agricultural output has grown rapidly in many developing countries during the past fifteen years. The growth in food production, which was faster in developing countries than in the industrial and East European nonmarket economies, was made possible largely by the Green Revolution (see Figure 1.1 and Table 1.3). This revolution began in the mid-1960s with the development of high-yielding varieties of wheat at the International Maize and Wheat Improvement Center (CIMMYT) in Mexico and of high-yielding varieties of rice at the International Rice Research Institute (IRRI) in the Philippines and the International Center for Tropical Agriculture (CIAT). The new seeds were so productive that they made it profitable for farmers to update their farming methods by using more fertilizer and other modern inputs and for both

Table 1.3 Growth of agricultural production by major commodity group, 1961–84
(average annual percentage change)

	Beverages		Food		Raw materials		Total agriculture	
Country group	1961–70	1971–84	1961–70	1971–84	1961–70	1971–84	1961–70	1971–84
Developing countries	−0.4	1.9	2.2	3.2	4.5	2.3	2.4	3.0
Low-income countries	1.9	1.2	1.3	3.2	5.7	3.8	1.9	3.3
Africa	2.3	−0.5	2.6	2.0	6.0	−1.8	3.0	1.2
Asia	1.2	3.6	1.2	3.4	5.7	4.3	1.8	3.6
Middle-income oil exporters	3.5	0.5	3.0	3.1	1.5	−0.9	2.7	2.2
Middle-income oil importers	−2.9	2.8	3.5	3.2	4.8	1.0	2.9	2.9
High-income oil exporters	−6.8	0.6	4.9	14.6	8.0	−0.5	5.0	14.1
Industrial market economies	0.9	0.4	2.9	2.1	−4.9	0.4	2.2	2.0
East European nonmarket economies	5.3	7.0	3.6	0.5	4.3	1.9	3.7	0.7
World	−0.3	1.9	2.7	2.4	2.2	2.0	2.5	2.3

Note: Data are weighted by the 1978–82 world export unit prices to permit cross-country comparisons. Growth rates are least-squares estimates. Beverages comprise coffee, cocoa, and tea. Food comprises cereals, sugar, meat, poultry, dairy products, roots and tubers, pulses, fruits, and vegetables. Raw materials comprise cotton, jute, rubber, and tobacco.
Source: Based on FAO data.

Figure 1.1 Trends in agricultural and food production, 1961–84



Note: Data are weighted by the 1978–82 world export unit prices. The decline in production in the industrial countries in 1983 was caused by a fall in U.S. output due to the effects of the acreage reduction program and a drought.
Source: Based on FAO data.

Table 1.4 Growth of cereal production in selected developing countries, 1971–84

Country group	*Average annual percentage change*
High performers	
Indonesia	5.2
Korea	5.0
Philippines	4.5
Pakistan	4.3
Low performers	
Gambia	−0.3
Haiti	−1.1
Zambia	−2.2
Ghana	−2.4

Source: Based on FAO data.

farmers and governments to invest more on improving irrigation. In India's Punjab, for example, thousands of irrigation wells were dug between 1967 and 1972, mainly by farmers. Fertilizer consumption rose from 0.76 million tons in 1966 to 2.38 million tons in 1972.

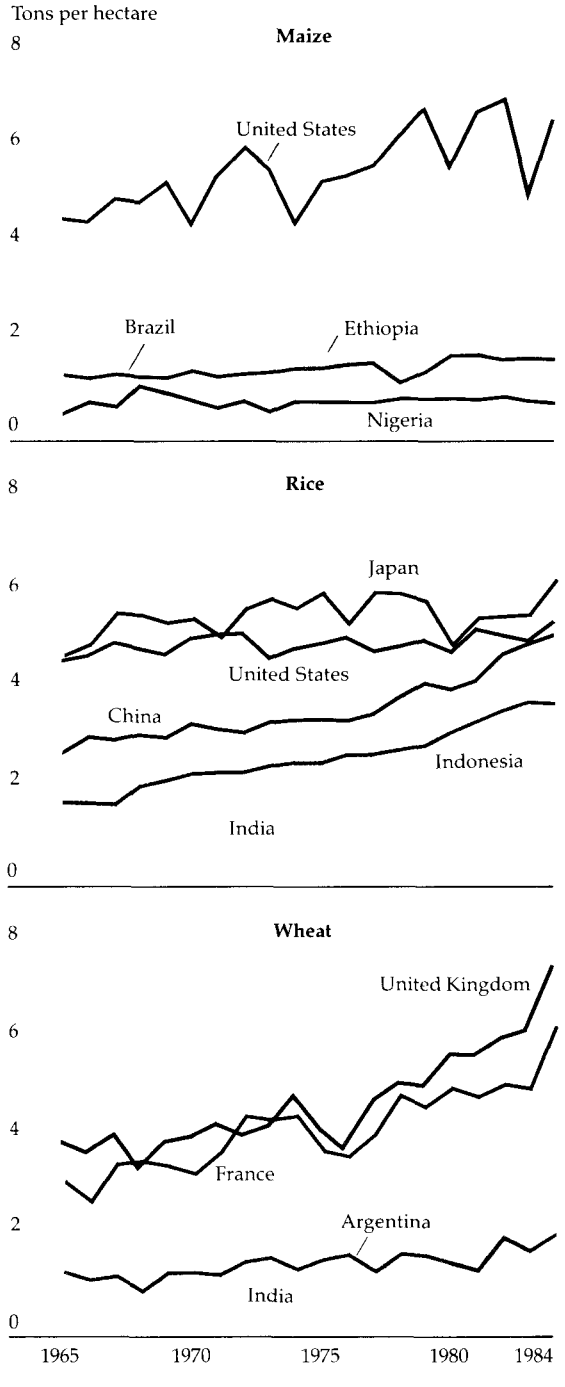
The combination of improved seeds, more fertilizer, and improved irrigation doubled yields on irrigated land in developing countries. China and India, the two most populous countries, expanded cereal production at the rate of 3.2 and 4.1 percent a year, respectively, both rates exceeding population growth. Some countries achieved even higher growth rates (see Table 1.4). But the Green Revolution was, for the most part, confined to irrigated land. It left some areas untouched, especially in Africa.

The ramifications of technological progress are great. The fact that some countries still lag far behind others in yields implies that there is great scope for future production increases on existing land (see Figure 1.2). More technological breakthroughs are possible. Biogenetic research is likely to lead to the development of new crop varieties that require fewer inputs and are more tolerant of pests, drought, and disease. As more research and investment take place in agriculture, the cost of producing food should continue to decline, as it has for more than a century.

Real wholesale prices of wheat, sugar, and maize (corn) from 1800 to 1985 and rice prices for a shorter period are shown in Figure 1.3. While the prices have fluctuated widely, the trend has clearly been downward since the mid-1800s. Even the soaring prices of the early 1970s were not extraordinary by historical standards. Maize prices have been in more or less continuous decline since World War II, owing to the introduction of hybrid varieties and their subsequent improvements. Despite a boom in the early 1970s, the price of rice is at its lowest level since 1900. These trends are a reminder that, for more than a hundred years, costs of agricultural production have fallen in real terms. It is also worth noting that the numerous periods of sharp price increases were of short duration, generally three years or less. Table 1.5 presents a broader summary of the price trends since 1950.

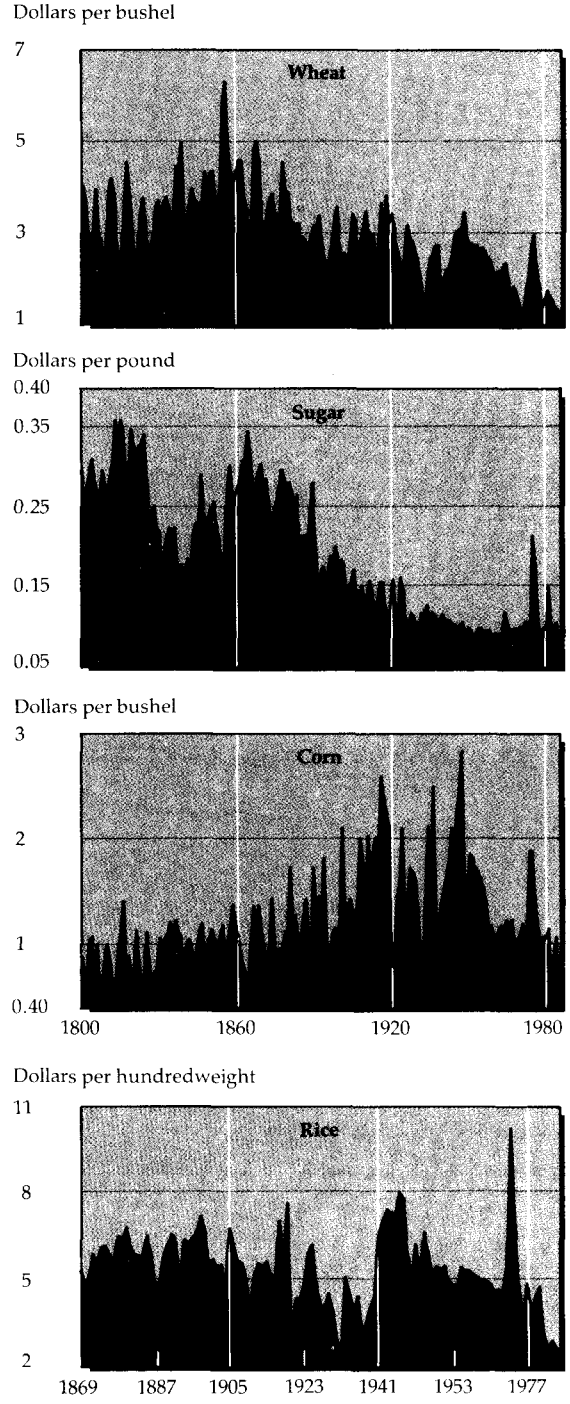
Robert Malthus had suggested in the early nineteenth century that the world would run short of food as population expanded faster than the capacity to produce food. The decline in real food prices

Figure 1.2 Grain yields in selected countries, 1965–84



Source: FAO.

Figure 1.3 Trends in U.S. real agricultural prices, selected years, 1800–1985



Note: Producer prices are deflated by the U.S. wholesale price index (1967 = 100). Corn prices before 1866 are estimates based on Virginia prices. Rice prices before 1904 are estimates based on New York prices. The broken line indicates data are not available.
Source: USDA *Agricultural Statistics*, various years; U.S. Bureau of the Census 1975, 1982, 1985; Strauss and Bean 1940; Peterson 1928.

Table 1.5 Real growth of commodity prices, 1950–84
(average annual percentage change)

Commodity	*1950–59*	*1960–69*	*1970–79*	*1950–84*
Total agriculture	−2.92	0.00	0.01	−1.03
Beverages	−2.08	−1.26	7.46	−1.13
Cereals	−3.84	2.72	−1.31	−1.30
Fats and oils	−3.73	−0.73	−0.81	−1.29
Raw materials	−2.51	0.50	−1.72	−1.08
Metals and minerals	0.08	6.12	−4.06	−0.09

Note: Data are deflated by the World Bank's manufacturing unit value (MUV) index. The MUV index is the c.i.f. index of U.S. dollar prices of industrial countries' manufactured exports to developing countries. Annual exponential growth rates were calculated using ordinary least-squares estimates.

since Malthusian times is, however, dramatic testimony to the ability of farmers to adopt new technologies for the benefit of all, especially those with the lowest incomes, as economic growth proceeds.

Malthusian pessimism still prevails about the prospects for food production in Africa. But if the prospects in that region seem poor, this is not because all possibilities of technological progress have been exhausted, but because the introduction of new technologies has barely begun. There is much need for better rural infrastructure and more research, especially on food crops. The coordination of research with extension services also needs to be improved. At the same time, farmers need better prices, easier access to inputs, and lower marketing costs. As discussed in Chapter 4, economic policies that discriminate against agriculture deter technological progress. Macroeconomic and sector-specific policies strongly influence the profitability of farming, the movement of labor and capital into, or out of, agriculture, and the pace at which new technologies are developed and adopted by farmers.

Malnutrition and famine

Although production of food has grown faster than population in developing countries, consumption of food has grown even faster because of imports. Food consumption in developing countries grew at 3.5 percent a year between 1971 and 1984, while population grew at 2.0 percent a year. In Africa, however, consumption grew at only 2.6 percent a year—which was less than the region's 2.8 percent annual growth in population. For the world's thirty-six poorest countries, twenty-six of them in Africa, the level of per capita food consumption declined by about 3.0 percent during the 1970s.

Precise estimates of the incidence of chronic malnutrition in developing countries are not possible, but by any account the problem is vast. A recent World Bank paper, *Poverty and Hunger: Issues and Options for Food Security in Developing Countries* (1986), put the number somewhere between 340 million and 730 million people—and that excluded China. Malnutrition poses a challenge for all low-income developing countries, large or small. Governments naturally want to take special measures to alleviate it—such as by providing cheap food for the poor, by income transfers, by aid relief efforts, or by other types of food and nutrition programs. But, beyond a certain point, these types of measures will reduce economic growth and make it harder to finance the measures the government wants. That point is soon reached in low-income countries with low rates of economic growth.

Developing countries—and the world in general—are justifiably concerned about malnutrition. The causes of widespread malnutrition, however, are often not the insufficiency of food production but, rather, poverty and uneven distribution of income. Special programs, if undertaken in a cost-effective manner, can alleviate malnutrition, but there is little hope that low-income developing countries will be able to make significant and sustained progress in reducing malnutrition unless they increase their rates of economic growth (see Box 1.1). The best policies for alleviating malnutrition and poverty are those which increase growth and the competitiveness of the economy, for a growing and competitive economy facilitates a more even distribution of human capital and other assets and ensures higher incomes for the poor. Progress in the battle against malnutrition and poverty can be sustained if, and only if, there is satisfactory economic growth.

With the terrible images of the African famine still fresh in mind, it is hard to believe that the occurrence of famine is declining. Yet, it is true. Until the twentieth century a famine was recorded nearly every year somewhere in the world, often

Box 1.1 Food security

A main message of this Report is that, in the long run, people can attain food security only if they have adequate incomes. Food security and policies designed to enhance it are the subjects of a recent World Bank study, *Poverty and Hunger: Issues and Options for Food Security in Developing Countries* (1986). Among its findings are:

- Food security is access by all people at all times to enough food for an active and healthy life. There are two kinds of food insecurity: chronic and transitory. Chronic food insecurity is a continuously inadequate diet caused by the inability to acquire food. It affects households that persistently lack the ability either to buy enough food or to produce their own. Transitory food insecurity is a temporary decline in a household's access to enough food. It results from instability in food prices, food production, or household incomes—and in its worst form it produces famine.
- Food security issues are important because improved nutrition is an investment in the productivity of a nation's population. Also, the adjustment measures countries undertake to improve economic performance are more likely to succeed if food security objectives are not compromised in the process.
- Problems with food security do not necessarily result from inadequate food supplies; they arise from a lack of purchasing power on the part of nations and of households. Food security can be ensured in the long run only by raising the real incomes of households so that they can afford to acquire enough food.

Poverty and Hunger discusses a variety of cost-effective ways to increase food security in the short term. Many measures to address chronic insecurity are fully compatible with efficient economic growth because they involve raising people's productive capacity. But others involve tradeoffs of one kind or another. However, as both that study and Chapters 4 and 5 of this Report point out, some of the measures that governments take to increase food security work against both economic growth and food security in the long run. Such measures include persistently overvalued currencies, large expenditures on consumer food subsidies, and costly storage facilities to hold excessive stocks of food grain. When tradeoffs are present, targeting food assistance to the most vulnerable groups is far more effective and less costly than other measures.

with death tolls which, even by modern experience, were distressingly high. More than 10 million people may have died from famines in Bihar, India, in the early 1770s, in eastern India in the late 1860s, and in northern China in the 1870s.

Although the world has suffered a dozen famines since 1940, all but a few were much smaller in scale than the famines of previous centuries. Moreover, while the Sahel famine in the early 1970s conformed to the popular image of crops withering in the dry land, leading to starvation, many of the famines since 1940 resulted from war or civil strife rather than from weather conditions or shortfalls in food availability.

The example of Africa and the memory of past famines should not divert attention from the striking success that the past quarter century has seen in preventing famine—particularly in India. Four factors have contributed to the success. First, the increase in international grain trade has meant that countries in need can import food more readily. Second, governments, assisted by the Food and Agriculture Organization (FAO) and other international agencies, have become more willing to provide early warnings of impending shortages. Third, countries have become better able to distribute food to drought-stricken areas and to provide the hungry with the means to acquire available food. Fourth, and most important, many governments have come to recognize that famine is a complex phenomenon. Economic policies—such as those on internal and external trade, producer prices, and methods of financing and distributing food—affect a country's vulnerability to famine (see Box 1.2).

Trade and prices

Despite the fact that the global food outlook is favorable, one cannot be sanguine about the state of world agriculture. The outlook could be much more favorable if trade and pricing policies were improved. Most agricultural goods are traded in world markets, providing all countries with opportunities to increase their incomes by specializing in products in which they have a competitive advantage. The strides made by developing countries in agriculture during the past few decades show that developing countries as well as industrial countries benefit from an efficient system of world trade. Yet, trade barriers in industrial countries have become more restrictive, and most develop-

ing countries pursue policies that inhibit the growth of agricultural output and of rural incomes. As a result, most of the world's food exports are grown in industrial countries, where the costs of food production are high, and consumed in developing ones, where the costs are lower.

So many developing countries depend on agricultural exports that what happens in world agricultural markets is critical. Between 1965 and 1970, world agricultural exports grew more slowly than those of any other major commodity group—the growth rate was only 3.21 percent a year compared with 8.46 percent a year for manufactured exports (see Table 1.6).

Since 1970 the growth of agricultural exports has increased while that of manufactured exports has slowed. Between 1971 and 1984, agricultural exports grew at 4.64 percent a year while manufactured exports grew at 4.78 percent. The growth of trade in food has been most rapid—5.27 percent a year. The developing countries have largely accounted for the rapid growth of food imports (see Figure 1.4). The middle-income developing countries accounted for 80 percent of the growth in developing-country imports between 1962 and 1984, although they account for only about one-third of that group's population. The fastest growth of food exports came from industrial countries.

Changes in the structure of food trade have been just as important as the expansion of food exports. As shown in Figure 1.4, food imports by the developing countries have surged since 1975 and by 1984 nearly equaled the level of food imports of the

Box 1.2 Adam Smith on the causes of famine and the modern evidence

Famine can be caused by a variety of factors. Drought, flood, war, inflation, sharp losses of employment—all these and other developments can deprive large parts of a population of the means to acquire adequate amounts of food. The complexity of famine was discussed illuminatingly by Adam Smith more than 200 years ago. Smith repudiated the then commonly held view that famine often results from manipulation of markets by traders. He argued that "a dearth never has arisen from any combination among the inland dealers in corn" (Smith [1776] 1976, bk. 4, chap. 5, p. 32). No less important, Smith analyzed the relation between a general economic decline—not specifically of food output—and the development of a famine. He discussed the role of wages and employment in providing subsistence and showed how starvation can be caused by declines in employment or in real wages.

In a situation of economic decline, he wrote, "the demand for servants and labourers" could go down sharply, and "many who had been bred in the superior classes, not being able to find employment in their own business, would be glad to seek it in the lowest," so that "the competition for employment would be so great in it, as to reduce the wages of labour to the most miserable and scanty subsistence of the labourer. Many would not be able to find employment even upon these hard terms, but would either starve, or be driven to seek a subsistence either by begging, or by the perpetration perhaps of the greatest enormities. Want, famine, and mortality would immediately prevail in that class, and from thence extend themselves to all the superior classes" (ibid, bk. 1, chap. 8, p. 82).

Smith's conclusions about the general economic causes of famine have been confirmed by recent studies of contemporary famines by Amartya Sen (1981, 1986). The economic processes through which different occupation groups establish their entitlements to food have to be closely examined to explain the economic changes that lead to "want, famine, and mortality," and Smith's reference to the economic means of subsistence (such as wages and employment) is particularly helpful. For example, in the Ethiopian famine of 1973, there was a crop failure in the province of Wollo, but no serious decline in total food availability for Ethiopia as a whole. The famine victims in Wollo lacked the economic ability to command food from elsewhere in Ethiopia (indeed, some food moved out of famine-stricken Wollo to the more prosperous parts of the country, particularly Addis Ababa and Asmera). Similarly, in the Bengal famine of 1943 and in the Bangladesh famine of 1974, declines in real wages and employment in the rural sector were the proximate causes, and there was no great reduction in food availability (in fact, total food per head was at a peak during the Bangladesh famine). In the case of the Bengal famine, the interprovincial trade barriers that prevented movements of food grains from other provinces to Bengal helped to worsen the famine.

Policies on famine require a many-sided economic analysis of the factors affecting the market entitlements of the vulnerable groups. They call for an understanding of the exact roles of production and trade of non-food items, as well as of food, and of the nature of government policy, including the negative role of arbitrary internal and external trade barriers and the positive contribution of income generation through public projects.

Table 1.6 Growth of world exports, 1965–84
(annual percentage change in constant 1980 prices)

Exports	1965–70 average	1971–84 average	1981	1982	1983	1984
Agriculture	3.21	4.64	7.33	−0.63	−0.31	7.18
Food	2.66	5.27	8.68	1.58	−0.05	7.79
Nonfood	4.33	3.00	3.71	−2.02	−1.08	5.39
Metals	9.65	4.90	−13.96	−6.39	4.59	4.87
Fuel	12.70	−3.25	−12.03	−7.23	−2.02	2.01
Manufactures	8.46	4.78	4.23	−2.40	4.81	11.15
Total	9.32	2.60	0.04	−3.07	2.61	8.55

Note: Exports include reexports. East European nonmarket economies are not included in this table. Growth rates were calculated using ordinary least-squares estimates.

industrial market economies. Food imports by the East European nonmarket economies also have grown. The food trade balance has shifted sharply against developing countries at a time of growing indebtedness and foreign exchange scarcities.

The changing pattern in food trade shown in Figure 1.4 has clearly been the most striking feature of world trade in agriculture in recent decades. It also explains the evolution of export shares. As shown in Table 1.7, the developing countries as a group have had only modest losses of export market shares in beverages and raw materials since the early 1960s, but their losses in market shares in food have been large.

These changes reflect not only population growth but also changing consumption patterns and economic policies in developing countries. The best example is the growing importance of wheat in the diets of poor people. Between 1964 and 1966 the developing countries' share of world wheat consumption was 39 percent; the average in 1979–81 was 49 percent. The growth of urbanization, the convenience of bread, and low international prices all contributed, as did overvaluations of exchange rates and urban food subsidies in many developing countries. Still another factor was the availability of food aid in some countries. In Bangladesh (then East Pakistan) in 1960, wheat consumption was less than 2 percent of total grain consumption. Because of the subsidized distribution of wheat from food aid, and also increased local production, wheat now constitutes about 20 percent of grain consumption. The increasing dependence on wheat and the inability to produce it economically in many countries means that it has to be imported in greater quantities. Between 1979 and 1981, wheat accounted for 59 percent of food grains imported into developing countries. While wheat consumption increased, consumption of coarse grains—maize, barley, and so on—mostly decreased as a portion of total cereal consumption. The exceptions were those rapidly growing developing economies where meat has become important in the diet. Hong Kong, the Republic of Korea,

Table 1.7 Export shares of major agricultural commodity groups, 1961–63, 1982–84
(percent)

	Beverages		Food		Raw materials		Total agriculture	
Country group	1961–63	1982–84	1961–63	1982–84	1961–63	1982–84	1961–63	1982–84
Developing countries	98.1	94.9	44.8	34.2	69.2	65.3	63.1	48.4
Low-income countries	27.6	23.8	9.0	3.6	15.6	13.6	15.1	8.3
Africa	19.6	15.8	1.5	0.3	6.0	4.9	6.9	3.5
Asia	8.0	8.0	7.5	3.3	9.6	8.7	8.0	4.8
Middle-income oil exporters	17.1	17.6	6.5	3.3	33.9	24.7	14.8	8.8
Middle-income oil importers	53.4	53.5	29.3	27.3	19.7	27.0	33.3	31.3
High-income oil exporters	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
Industrial market economies	1.7	4.7	46.2	62.7	23.5	24.0	30.5	47.9
East European nonmarket economies	0.2	0.4	8.9	3.0	7.3	10.7	6.4	3.6

Note: Data are weighted by the 1978–82 world export unit prices to permit cross-country comparisons. Beverages comprise coffee, cocoa, and tea. Food comprises cereals, sugar, meat, poultry, dairy products, roots and tubers, pulses, fruits, and vegetables. Raw materials comprise cotton, jute, rubber, and tobacco.
Source: Based on FAO data.

Malaysia, the Philippines, and Thailand increased their indirect consumption of coarse grains as feed to livestock and poultry.

These changes in the structure of consumption and trade have been heavily influenced by pricing and trade policies. Agricultural trade restrictions—at least among the industrial countries—have increased greatly. The levels of protection before World War I and during the 1920s and 1950s were modest in comparison, as discussed in Box 1.3. The unprecedented growth in exports of manufactures, first in Japan and recently in Hong Kong, Korea, and Singapore, was made possible by the creation of an open trading system. This has served the world well by stimulating economic growth in both industrial and developing countries. The opposite has occurred in agriculture. Interventions are almost universal, and much trade is managed by public sector agencies and marketing boards. Bilateral trade deals, food aid, and special preferences have further distorted trade flows in agriculture.

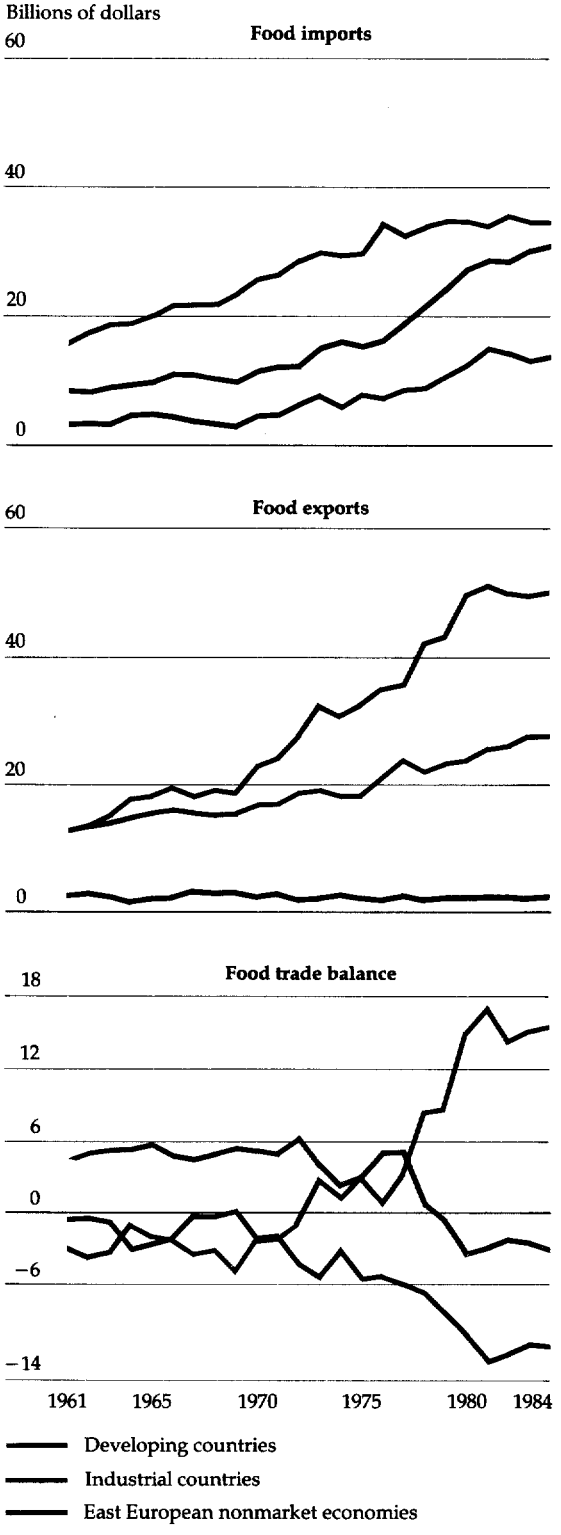
When domestic prices are kept below world prices at country borders, producers of import-competing products or of exports are taxed; similarly, when domestic producers get prices that are higher than border prices, they are supported. The ratio of domestic prices to border prices—or the nominal protection coefficient (NPC)—is thus a convenient indicator of policies that bear on trade.

The pattern of policies followed by industrial and developing countries is summarized in Figure 1.5, which is based on a large number of nominal protection coefficients for food and nonfood crops (including exports and imports). Developing countries clearly tend to tax agricultural commodities and thus encourage imports and discourage exports. The effect is often stronger than reflected in Figure 1.5 because of overvalued exchange rates. Industrial countries, in contrast, tend to support domestic production and thereby inhibit imports and encourage exports.

As this pattern suggests, the bias against agriculture in developing countries is exacerbated by the high levels of protection in the industrial ones. The industrial countries have erected high barriers to imports of temperate-zone products from developing countries and then have subsidized their own exports. The special trade preference schemes they have extended to many developing countries have not been a significant offset to their trade restrictions.

Policies in industrial countries affect the level, direction, and stability of world prices. A few de-

Figure 1.4 Trends in food trade and trade balance, 1961–84



Note: Imports and exports are volume data weighted by the 1978–82 world export unit prices.
Source: Based on FAO data.

veloping countries can also affect world prices of beverages, raw materials, and some foods. Collectively, the policies in developing countries can alter the world prices of temperate-zone products. The fact that both industrial and developing countries insulate domestic prices from world markets makes world prices more volatile than they would be otherwise. A principal theme of this Report is that a global perspective is necessary in examining the development and future growth of agriculture because the domestic agricultural policies and programs of various countries are interdependent.

Part II of this Report examines policies in developing and industrial countries and shows how they inhibit both economic and agricultural growth and delay the alleviation of malnutrition and pov-

Box 1.3 Agricultural protectionism in historical context

Governments have protected farmers for centuries. Since the beginning of industrialization, there has been only one brief interlude of free trade in agriculture in Europe. It began with the abolition of the Corn Laws by the United Kingdom in 1846 and by 1860 had spread throughout most of Western Europe. But free trade lasted less than two decades. During the next fifty years, only Denmark, the Netherlands, and the United Kingdom resisted the drift back to protectionism that culminated in the high tariff levels imposed during the Great Depression.

The protection of agricultural products before World War I and during the 1920s was still modest compared with that of the 1930s. Box table 1.3A shows a sample of estimated tariff levels for 1913, 1927, and 1931 for foodstuffs and manufactured goods. For Western Europe the tariff levels on foodstuffs in 1913 were roughly the same as those on manufactured goods. In 1927 they were only slightly higher. By 1931, however, tariffs on foodstuffs had soared above those on other commodities. In the extreme case of Finland, tariffs on agriculture were five times higher than those on semimanufactured goods. Germany's agricultural tariffs were four times higher than its industrial tariffs.

Levels of protection in the 1950s in Western Europe had been reduced to those of the 1920s. A decade later, however, they had substantially increased (see Box table 1.3B). The average level for the European Communities (EC) was more than three times what it had been a decade earlier, and in France and Italy the protection had almost returned to its level in 1931.

In East Asia no less than in Western Europe, the origins of agricultural protection go back beyond the recent past. In 1904, Japan imposed a tariff on rice imports. During the 1920s and 1930s it kept domestic prices high to encourage self-sufficiency. A measure of this protection was the difference between rice prices in Japan and Thailand. In the 1920s the price in Japan was three times higher than in Thailand, too great a variation to be explained by differences in quality. The

Box table 1.3A Estimated tariff levels in Europe as a percentage of border prices, 1913, 1927, and 1931

	Foodstuffs			*Semimanufactured goods*			*Industrial manufactured goods*		
Country	*1913*	*1927*	*1931*	*1913*	*1927*	*1931*	*1913*	*1927*	*1931*
Austria	. .	16.5	59.5	. .	15.2	20.7	. .	21.0	27.7
Belgium	25.5	11.8	23.7	7.6	10.5	15.5	9.5	11.6	13.0
Bulgaria	24.7	79.0	133.0	24.2	49.5	65.0	19.5	75.0	90.0
Czechoslovakia	. .	36.3	84.0	. .	21.7	29.5	. .	35.8	36.5
Finland	49.0	57.5	102.0	18.8	20.2	20.0	37.6	17.8	22.7
France	29.2	19.1	53.0	25.3	24.3	31.8	16.3	25.8	29.0
Germany	21.8	27.4	82.5	15.3	14.5	23.4	10.0	19.0	18.3
Hungary	. .	31.5	60.0	. .	26.5	32.5	. .	31.8	42.6
Italy	22.0	24.5	66.0	25.0	28.6	49.5	14.6	28.3	41.8
Poland	. .	72.0	110.0	. .	33.2	40.0	. .	55.6	52.0
Romania	34.7	45.6	87.5	30.0	32.6	46.3	25.5	48.5	55.0
Spain	41.5	45.2	80.5	26.0	39.2	49.5	42.5	62.7	75.5
Sweden	24.2	21.5	39.0	25.3	18.0	18.0	24.5	20.8	23.5
Switzerland	14.7	21.5	42.2	7.3	11.5	15.2	9.3	17.6	22.0
Yugoslavia	. .	43.7	75.0	. .	24.7	30.5	. .	28.0	32.8

Note: The numbers show the percentages by which domestic producer prices exceeded border prices.
Source: Based on Liepmann 1938, p. 413.

erty in the developing world. Chapters 4 and 5 review the scope in developing countries for improving agricultural policies and performance regardless of policy changes in industrial countries. These chapters show why and how the policies in developing countries have often discriminated against agriculture. The sources of bias include inward-looking development strategies and inappropriate macroeconomic and exchange rate policies. These chapters also show the importance of reforms in tax policies, price stabilization measures, marketing arrangements, and consumer

Republic of Korea, which was a part of the Japanese empire from 1919 to 1945, maintained the same level of protection.

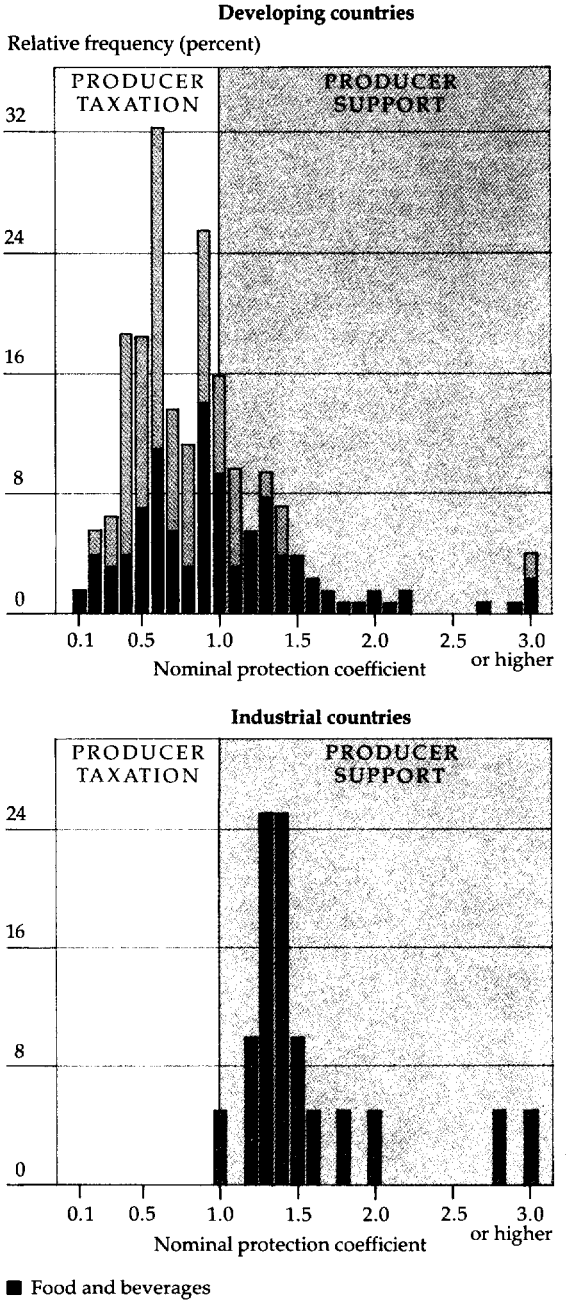
After 1945, Japan continued to protect its agriculture, but Korea, in its effort to industrialize, began to tax farmers. The level of taxation, however, was modest compared with the taxation rates in some low-income developing countries today. In the mid-1950s, domestic producer prices in Korea were about 15 percent lower than border prices. The level of protection in Japan during the late 1950s was more than 40 percent. Since then, both countries have dramatically increased agricultural protection. By 1965, Japan's level of farm protection had risen to 76 percent, while Korea, in less than two decades, had gone from taxing its farmers to substantially protecting them. On average, domestic producer prices in Korea exceeded border prices by 55 percent from 1970 to 1974 and by 166 percent from 1980 to 1982.

Box table 1.3B Estimated tariff levels as a percentage of border prices, 1956 and 1965–67

Country	*1956*	*1965–67 average*
Belgium	5	54
Denmark	3	5
EC	16[a]	52
France	18	47
Germany	22	54
Ireland	4	3
Italy	16	64
Japan	42[b]	76[c]
Netherlands	5	37
Sweden	27	54
United Kingdom	32	28
United States	2[d]	8[e]

Note: The numbers are calculated as in Box table 1.3A.
a. Excludes Denmark, Greece, Ireland, Portugal, Spain, and the United Kingdom.
b. Data are for 1955–59.
c. Data are for 1965–69.
d. Data are for 1955.
e. Data are for 1965.
Source: McCrone 1962, p. 51; Howarth 1971, p. 29; Saxon and Anderson 1982, p. 29; Honma and Hayami, forthcoming. The McCrone and Howarth estimates have been adjusted to measure protection in international prices instead of in domestic prices.

Figure 1.5 Nominal protection coefficients



Note: Data for developing countries are based on 189 NPCs for thirty-seven countries for 1979–81. Data for industrial countries are based on 20 NPCs for four countries for 1979–81.
Source: Based on FAO data.

and producer subsidies. Developing countries can greatly improve their prospects by changing their economic and institutional policies, as some of them have already done or are in the process of doing. The emerging trend toward policy reforms in developing countries is reviewed in Chapter 5.

Chapter 6 reviews policies in industrial countries and counts their costs and benefits domestically and internationally. Their policies are not only costly nationally, but are an important source of inefficiency in world agriculture. The chapter stresses the international consequences of the industrial countries' policies and the large potential gains to the world economy from more liberal trade and domestic policies in all countries.

The interactions between developing and industrial countries are shown to be of particular importance. In the short run, industrial countries and some developing countries are likely to gain most from free trade, but the gains should spread rapidly to other countries if they undertake appropriate economic policy reforms.

Chapter 7 looks at the major international initiatives that have been proposed or taken to increase the benefits of trade for developing countries—international commodity agreements, compensatory financing, special trade preferences, and food aid. It is argued that these types of initiatives address the symptoms rather than the problem itself, which is the inappropriateness of trade and domestic policies in both industrial and developing countries. The Report ends by summarizing in Chapter 8 the priorities for policy reforms.