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12979
April, 1994

Global Economic Prospects

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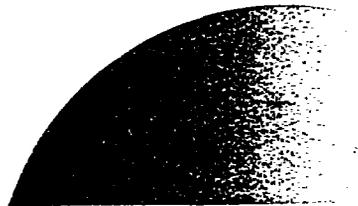
Developing Countries

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A W O R L D B A N K B O O K

1994

**Global
Economic
Prospects**
AND THE
**Developing
Countries**



**The World Bank
Washington, D.C.**

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First printing April 1994

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ISBN 0-8213-2570-1
ISSN 1014-8906

Library of Congress catalog card number: 91-644001 (serial)

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Preface



This edition of *Global Economic Prospects and the Developing Countries* is the fourth in the annual series of World Bank staff reports analyzing the global economic prospects for development. As in previous editions, the report deals with international economic links in the world economy, with an emphasis on the effect of the external environment on developing countries.

Last year's *GEP* focused on international finance, and the 1992 report highlighted international trade in manufactures. The current edition gives special attention to *international trade in commodities*, a subject of central importance to many developing countries. Commodity exports continue to be a large compo-

nent of total exports from developing countries, especially for Sub-Saharan Africa and Latin America, and the sharp decline in commodity prices in the 1980s has important implications for the prospects of these regions.

The first chapter of the report deals with global conditions and prospects for the developing countries. Chapters 2 and 3 examine the trends in international commodity markets and the implications of commodity dependence for growth and development in low-income countries.

This report is a product of the staff of the World Bank International Economics Department.

Abbreviations, acronyms, and data notes



CAP	Common agricultural policy (in the EU)	IBRD	International Bank for Reconstruction and Development (World Bank)
CFA	Communauté financière africaine	IDA	International Development Association
CFF	Compensatory Finance Facility of the IMF	IFC	International Finance Corporation
CGIAR	Consultative Group on International Agricultural Research	IMF	International Monetary Fund
CMEA	Council for Mutual Economic Assistance	LIBOR	London Interbank Offer Rate
EC	European Community	LIPPs	Low-Income Primary Producing Countries
ECA	Europe and Central Asia	MFA	Multi-Fiber Arrangement
EU	European Union (formerly the EC)	MFN	Most favored nation
FSU	Former Soviet Union	MUV	Manufactures unit value (index)
G-5	France, Germany, Japan, United Kingdom, and United States	NAFTA	North American Free Trade Agreement
G-7	Canada, France, Germany, Italy, Japan, United Kingdom, and United States	OECD	Organization for Economic Cooperation and Development
GATT	General Agreement on Tariffs and Trade	OPEC	Organization of Petroleum Exporting Countries
GDP	Gross domestic product	SPA	Special Program of Assistance for Africa
GNP	Gross national product	TNCs	Transnational Corporations
		UNCTAD	United Nations Conference on Trade and Development

The term "developing countries" as used in this study refers to all low- and middle-income economies.

Data notes

The tables on pages 88-91 classify economies by income, region, export category, and indebtedness.

The following norms are used throughout:

- Billion is 1,000 million.
- In general, data for periods through 1992 are actual; data for 1993 are estimated; and data for 1994-2003 are projected.

Summary



In the first three years of the 1990s, economic performance was very uneven across the developing world. The transition economies of Eastern Europe and Central Asia experienced large declines in output, and Sub-Saharan Africa continued to suffer negative growth in real income per capita. In contrast, and despite recession and slow output expansion in the major industrial countries, growth of GDP and exports accelerated in Asia and Latin America. This was due mainly to better domestic policies, coupled with benefits from low international real rates of interest and a surge in private capital flows.

As economic recovery spreads from the United States to the rest of the G-7 (and with low interest rates, low inflation, and substantial capital flows expected to continue), most developing countries can on balance expect a marked improvement in the international economic environment over the coming decade. Growth in world trade is likely to increase with the recent successful conclusion of the Uruguay Round of trade talks and the North American Free Trade Agreement, and commodity prices are projected to stabilize after more than a decade of decline.

Along with continued domestic policy reforms, these more favorable global economic conditions place many developing countries in a good position to accelerate growth. Economic performance will continue to be disparate, however. Persistent high growth is likely in East Asia, while only marginal improvements in per capita income and consumption are expected in Sub-Saharan Africa. Moreover, the risks of a less favorable international economic environment remain significant. The low-case scenario presented here postulates that failure to raise public savings in industrial economies through credible fiscal consolidation could raise interest rates, lower growth, and accentuate protectionist pressures within major trading blocs. That would virtually halt growth in Latin America and Sub-Saharan Africa, the two regions most exposed to external risks. Because of much uncertainty surrounding policy developments in Eastern Europe and the former Soviet Union, the prospects for this region remain the most fragile and subject to the largest risks.

Improved external environment

The expected economic growth of industrial countries between 1994 and 2003 remains low in comparison to past trends, reflecting concerns about structural impediments in some of them; but the negative effects this may have on the export prospects of developing countries are likely to be offset by four other favorable developments (table 1).

- First, international real interest rates are likely to stay low in the wake of continued fiscal consolidation in major industrial countries. Forecast to be about two percentage points below the average of the 1980s, lower interest rates, if sustained for five years, are expected to add half a percentage point to the annual GDP growth of developing countries. As important, inflation in industrial countries is likely to remain low. Large hikes in nominal interest rates, such as those preceding the debt crisis of the 1980s, are unlikely in this environment. This increases the chances that the growth in world economic activity underpinning the projections is sustainable.
- Second is the likelihood that the record surge in private capital flows to creditworthy middle-income developing countries will be sustained. But these flows, which reached an estimated US\$113 billion in 1993, are known to be sensitive to changes in investor confidence. They can reverse direction in some countries if financial markets sense a faltering in recipient countries' commitment to policy reforms. Moreover, the surge in private flows has bypassed most low-income countries. These countries will continue to find external finance scarce in relation to their needs, as more low-income countries vie for a pool of concessional resources that has remained stagnant in real terms.
- Third is the projected higher growth of world trade, underwritten by the successful conclusion to the Uruguay Round and the start-up of

The international economic environment is expected to improve compared to the last twenty years.

Table 1 Global conditions affecting growth in the developing countries
(average annual percentage change except LIBOR)

<i>Indicator</i>	<i>1974–80</i>	<i>1981–90</i>	<i>1991–93 Estimate</i>	<i>1994–2003 Forecast</i>
Real GDP in the G-7 countries	3.3	3.2	1.2	2.7
Inflation in the G-7 countries ^a	10.0	4.6	3.3	2.7
World trade	5.4	4.9	3.3	5.9
Nominal LIBOR (6 months)				
US\$	9.5	10.0	4.5	5.8
DM	—	6.7	8.6	6.1
Yen	—	4.8	5.1	5.1
Price indices (US\$)				
Export unit value of manufactures (MUV) ^b	11.4	3.4	2.0	2.2
Price of petroleum ^c	26.7	-6.7	-12.5	1.9
Non-oil commodity price ^c	-1.5	-6.3	-5.5	0.9

a. Consumer price index in local currency, aggregated using 1988–90 GDP weights.

b. Data for the G-5 (France, Germany, Japan, U.K., and U.S.) weighted by their exports of manufactures to developing countries.

c. Based on World Bank indices and deflated by the export price of manufactures.

Source: World Bank data; March 1994 baseline forecast.

the North American Free Trade Agreement. Most estimates show the Uruguay Round agreement contributing about a 1 percent annual gain to world income over the next ten years, ranging from US\$200 billion to US\$300 billion a year (in 1992 dollars). East Asian countries stand to gain the most from higher world trade; the lowest gains are likely to go to commodity exporters in Sub-Saharan Africa.

- Fourth is the projected stabilization of real commodity prices.¹ Since 1980, the index of real commodity prices has fallen by more than half, causing economic hardship to low-income primary producers. Real commodity prices are expected to stabilize over the next few years, partly because of supply cutbacks but also in response to the cyclical recovery in industrial countries. But this stabilization is at a historic low level in many cases. Moreover, the commodity price forecast is beset with uncertainty generated by the turmoil in the former Soviet Union, which is the world's largest producer of crude oil and several metals and minerals and an important importer of food and other soft commodities.

At the same time, outcomes among developing countries are likely to diverge because of uneven integration with the world economy through the normal trade and financial

flows and because of differences in domestic stability, both political and economic (table 2). Political and macroeconomic stability, together with trade and exchange-rate reforms that build strong links with the global economy, have increasingly become necessary conditions for success. This has been amply demonstrated by the marked shift of export market shares in favor of countries in East Asia and a few successful reformers in other regions over the past twenty years. Per capita incomes in these countries appear set to converge with those in the industrial world and diverge from those in the rest of the developing world. Burgeoning private capital flows since 1990 have been directed mainly to some twenty, mostly middle-income, countries in Latin America and East Asia. Despite setbacks, economic reforms could continue to spread and consolidate in other countries, for example, in South Asia and Eastern Europe, creating new poles of growth but also increasing global competition for trade and capital.

Attracting resources in a more competitive world will become harder in countries where domestic economic and political stability are not well entrenched and where integration with world markets for goods and capital is inadequate. There are several such countries in Sub-Saharan Africa, which is also a region wracked by civil strife and with comparatively low levels of human and physical capital. The prognosis for overall growth in this region is sobering.

Growth prospects seem bright for most of the developing world, but economic performance is likely to remain uneven across developing regions.

Table 2 Developing regions: growth of real GDP
(percentage changes per year)

Developing region	Trend 1974-90	Recent estimates 1991-93	1994-2003	
			Forecast	Low case
All developing countries	3.4	0.9	4.8	3.6
Sub-Saharan Africa	2.1	1.7	3.9	2.4
Middle East and North Africa	0.9	3.0	3.8	3.2
Europe and Central Asia (ECA)	3.1	-9.8	2.7	1.5
South Asia	5.0	3.5	5.3	4.2
East Asia	7.3	8.3	7.6	7.1
Latin America and the Caribbean	2.5	3.2	3.4	0.8
<i>Memorandum item</i>				
All developing countries, excluding ECA	3.5	4.6	5.2	4.0

Source: Table 1-4, chapter 1.

Continued turmoil in some countries of Eastern Europe and the former Soviet Union makes growth prospects for this region especially uncertain as well.

The downside risks associated with this international economic outlook are less than they were before the completion of the Uruguay Round but are nevertheless significant. They stem primarily from the possibility that supply-oriented reforms may falter in the industrial countries in trade, fiscal, and labor market policies. This could lead to higher-than-expected nominal and real interest rates in addition to lower terms of trade for primary producers and less favorable market access for most developing countries. A less favorable, low-case scenario for industrial country growth such as this would adversely affect countries in Latin America currently receiving large private capital inflows, as well as low-income commodity producers in Sub-Saharan Africa. Even if progress on trade barrier reduction is slowed or reversed, developing countries in East Asia are likely to show the greatest resilience.

Commodity dependence and economic growth

The less-than-promising outlook for low-income commodity exporters, especially in Sub-Saharan Africa, raises the questions of whether and to what extent the structure of the world's commodity markets or trends in international commodity prices are responsible. Production and trade of primary commodities have not grown as fast as world income because of the low income elasticity of demand for

most primary commodities, especially food, and the declining intensity of use of metals and agricultural raw materials in the industrial economies. But demand has also grown rapidly for some primary commodities, such as shrimp, fish, fresh fruit, and vegetable oils. As incomes have risen, expenditure patterns have changed, benefiting some producers and hurting others.

Given the importance of trends in international commodity markets to low-income primary producing countries, chapters two and three of the report focus on this issue and reach the following five conclusions.

First, although world demand for most primary commodities tends to grow slowly, some countries with large primary commodity sectors have managed to maintain impressive growth rates over long periods. Some of today's successful developing countries (Chile, Malaysia, Thailand) with diversified exports and production were once heavily dependent on primary commodities. Evidence suggests that total factor productivity growth in agriculture can be as high as in manufacturing, if not higher. The sharp decline in agricultural employment in most industrial countries also provides powerful testimony to support this view. The experience of these industrial and developing countries (from Great Britain in the latter half of the eighteenth century to Malaysia in the latter half of the twentieth) suggests that successful diversification away from commodities tends to be triggered by productivity increases in the primary commodity sectors. Evidence shows that growth and

diversification are closely related (figure 2-1). In the more successful economies, sectoral transformation has been marked by rapid growth in agriculture, usually surpassed by even faster growth in manufacturing.

What lessons does this hold for low-income primary producers for whom the pressures to diversify production and exports are likely to be greater in the coming decade than before? Almost paradoxically, it appears that they can promote diversification in production by using market-friendly policies that help *expand* efficient production in the primary sectors. But these countries (most in Sub-Saharan Africa) tend to have the lowest GDP growth, the highest incidence of poverty, and the fastest growing populations in the developing world. Their low levels of human and physical capital will probably prevent them from replicating the success of the East Asian or Latin American commodity exporters. There is little doubt, however, that they have the potential to improve upon their own past performance by emphasizing increased efficiency in commodity production and export.

Second, the so-called "adding-up problem" in primary commodities is pronounced only for coffee, cocoa, and tea, but the appropriate policy response for commodity producers is to improve efficiency in production, processing, and marketing. The adding-up problem (where the expansion in exports of a commodity by a country lowers the world price so as to reduce net revenues) is pronounced for only a few commodities. Even then, exporters that have promoted production and marketing efficiency have done better than those that have curtailed production with a combination of explicit and implicit export taxes. Moreover, attempts by groups of countries to coordinate export volumes through export quotas or taxes have tended to fail, sometimes spectacularly. Even OPEC, the only example of such a cartel that can be considered successful, has found it difficult to ensure cooperation among its relatively few producer members. The market power of the group has also been constrained by the expanded production of nonmembers and the high price elasticity of demand for oil in the long term.

Third, commodity price shocks have a marked impact on the economic performance of primary commodity exporters. The volatility of the aggregate commodity price index is almost twice as large as that of manufactures, and it is not unusual for commodity exporters to suffer adverse terms-of-trade shocks equal to several

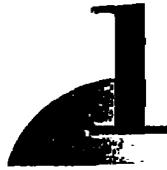
percentage points of GNP in a given year. Instability is most serious for countries that depend on a few commodities. Many commodities (for example, perennial crops) tend to exhibit long periods of high prices followed by equally long periods of depressed prices. The successful management of commodity price risk could have considerable significance for the growth prospects of commodity exporting economies.

Fourth, formal stabilization schemes can reduce price instability for long periods but tend to fail or collapse, leaving severely depressed prices in their wake. Domestic stabilization schemes easily become hidden subsidies, are expensive to administer, and can create heavy demands on government budgets. By definition, they fail to transfer risk to the world market where it can be carried more easily. Internationally coordinated schemes are prone to failure, too, because of the difficulty in forecasting commodity prices and because of the diverging interests of members with different production costs, market shares, consumption preferences, funding capabilities, and reliance on revenues from the commodity in question.

And fifth, market-based risk management instruments, despite several limitations, offer a promising alternative to traditional stabilization schemes. Over-the-counter contracts, such as commodity swaps and commodity-linked debt, can accommodate the hedging needs of most commodity-exporting countries. In addition, forward, options, and futures contracts can provide risk protection tailored to each country and its producers or consumers. Although such contracts tend to be short term, rolling them over can provide commodity exporters a substantial measure of stabilization. Use of these instruments among developing-country governments and traders is not widespread, partly because of a lack of familiarity, but also because of restrictive domestic regulations in many developing countries. In addition, many developing-country governments and corporations are effectively excluded from using over-the-counter commodity-linked financial instruments because of a lack of international creditworthiness. But innovative collateral and guarantee arrangements can partially overcome such constraints.

Note

1. Defined as the dollar prices of non-oil commodities exported by developing countries relative to dollar prices of exports of manufactures from industrial countries.



Global conditions and prospects for the developing countries

News during the past few years has been dominated by recession and slow growth in most industrial countries. At the same time, however, Asia and Latin America have grown at a rate well above the average for the past two decades. The analysis in this chapter suggests that this good growth performance is unlikely to be temporary or soon reversed. In other parts of the developing world, growth has proved more elusive. For example, GDP fell in Eastern Europe and Central Asia over the last three years, and per capita incomes in Sub-Saharan Africa continued to decline. Although the analysis suggests that economic performance in these regions can be expected to improve as well, it also highlights the many sources of uncertainty in the international economic environment that could jeopardize such an outlook.

Economic activity in industrial countries and world trade fell short of expectations in 1993—one reason why future trends now suggest marginally less real growth in industrial countries (and less inflation) than expected a year ago.¹ Projections for U.S. interest rates over the next decade have also been revised downward relative to those forecast a year ago in real (inflation adjusted) terms. Given the sound current growth of the U.S. economy, lower interest rates probably represent to a great degree the financial effects of the government's commitment to reduce structural budget deficits over time. This action to raise public savings, along with the successful conclusion of the Uruguay Round of GATT, raises expectations of growth in most developing countries, particularly in view of the associated rise of private capital flows to a large number of middle-income developing countries (box 1-1).

The expected stabilization of real commodity prices also seems more likely.² Trends in these prices were unusually negative in the 1980s, when the U.S. deficit was mounting and money was tight. Partly for macroeconomic reasons, a reversal of this pattern over the next decade is expected,³ which is already foreshadowed by lower stocks in some commodity markets.

World growth, only 1.1 percent a year in 1991–93 (implying stagnation in per capita terms), seems set to recover to more than 3 percent a year in 1994–2003 (table 1-1). There are two caveats: much of this acceleration is accounted for by Eastern Europe and the former Soviet Union where the timing of economic stabilization is highly uncertain; and although growth in Sub-Saharan Africa is expected to accelerate, per capita incomes until the year 2000 will be well below the level reached in 1980. Even so, world growth at 3.2 percent would be about the same as in the 1980s, thanks mainly to the economies of the developing world, which are, in aggregate, growing faster than those of the major industrial countries.⁴

Uncertain global environment for developing countries

By quantifying assumptions about industrial countries, a consistent set of global conditions for the baseline forecast of growth in developing countries can be articulated (table 1-2). This focuses on five channels through which impulses in the global economy tend to be transmitted to developing countries—economic activity in industrial countries, inflation and interest rates, capital flows, commodity prices, and world trade—although this single set of global conditions represents only one of many possibilities.⁵

Economic activity in industrial countries

The foundation of any view of the global external environment for developing countries will be a forecast of economic activity in the major industrial countries and the policies underpinning that forecast (box 1-2). Much uncertainty exists about the timing and speed of economic recovery in industrial countries. A recent rush of confidence in the U.S. economy has not yet banished worries in Europe and Japan that stagnation may be protracted. However, a new Japanese stimulus package consisting of tax cuts and

Box 1-1 Growth is in the eye of the beholder

There are various ways to aggregate GDP growth rates to arrive at a world growth rate; the appropriateness of the method of aggregation depends on the purpose of the analytical exercise. Two aggregations of particular importance are income-weighted and population-weighted growth rates.¹

The standard way of computing the growth rate of aggregate GDP for a number of countries is equivalent to weighting the individual country growth rates by their income. This rule of aggregation treats each additional dollar equally; it does not distinguish between the additional dollar accruing to a more populous but poorer country and that accruing to a less populous but richer one. Thus, such a growth rate does not measure the change in the income of a typical individual.

A population-weighted growth rate, on the other hand, treats the income growth of each person equally. Here, each country's growth rate is weighted by its population. Income-weighted and population-weighted aggregations differ to the extent that the distribution of income among countries differs and to the extent that the growth experience of the relatively better off countries differs from that of relatively poorer countries.

The figure shows the two growth rates for low- and middle-income countries, excluding Eastern Europe and the former Soviet Union. All through the 1980s and into 1992-93 the population-weighted growth rates of GDP were considerably higher than the income-weighted growth rates of GDP. The annual average growth rate during 1981-93 was 3.6 percent with income weights and 5.5 percent with population weights. The main factors contributing to the differences were the high growth rates achieved by China, which is both low income and populous, and the low (sometimes negative) growth rates of many of the middle-income countries, especially the highly indebted countries in Latin America and the Caribbean.

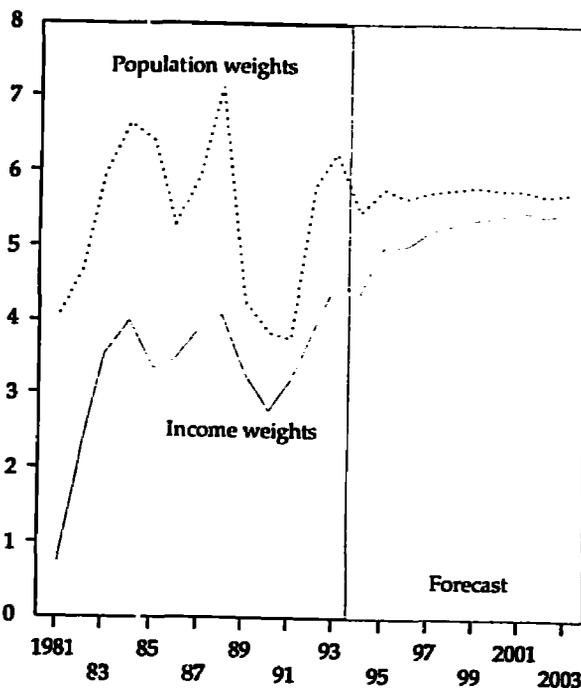
In terms of total income, the 1980s would appear to be years of retrenchment for the development process. Judged by the improvement in the income of the typical individual in the developing world, however, the 1980s would be rated successful years. More than a third of the population of the developing world saw their income increase by two-thirds over the decade.

In the coming decade the two growth rates are likely to come closer to each other gradually, with the poorer and more populous countries still registering somewhat higher growth rates on average. The projected average annual growth rate for 1994-2003 is 5.2 percent with standard weights and 5.7 percent with population weights. As the relatively poorer, but more populous, countries grow at a higher rate, the disparity in the distribution of population and income levels among developing countries diminishes.

Population-weighted GDP growth is higher than the standard measure.

Average GDP growth of all developing countries other than Eastern Europe and the former Soviet Union

Percentage change a year in real GDP



Source: World Bank data; March 1994 baseline forecast.

Also, as China attains a more sustainable growth rate and the erstwhile indebted middle-income countries regain their potential for growth, the growth differential between them declines.

There are other ways of aggregating GDP growth rates, depending on the purpose. For example, purchasing power parity-adjusted income-weighted GDP growth rates can be used to reflect better the importance in the world economy of nontraded sectors in developing countries.² Similarly, import-weighted GDP growth rates are appropriate to measure the market of the typical exporter in the world, a region, or a country. For exporters of a given country, these world growth rates can be refined further to reflect commodity as well as geographic market compositions.

1. For detailed discussion, see World Bank 1991, Appendix B; Kakwani 1991; and Dhareshwar forthcoming.

2. The prices of services tend to be lower in developing countries than in industrial countries because wages tend to be low and services are largely nontraded.

The slowdown in world output trends is likely to be reversed, and prospects for many developing countries, including low-income primary producers, are more favorable than in the 1970s and 1980s.

Table 1-1 World growth summary
(percentage changes per year in real GDP^a)

Regions	1966-73	1974-80	1981-90	Estimates 1991-93	Forecasts 1994-2003
World total	4.9	3.5	3.3	1.1	3.2
High-income countries	4.7	3.2	3.2	1.2	2.7
OECD countries	4.6	3.2	3.2	1.1	2.7
Non-OECD countries	8.6	7.8	5.3	5.5	5.7
Developing countries	6.4	4.8	3.5	0.9	4.8
East Asia	8.0	7.0	7.9	8.3	7.6
China	8.9	6.3	9.9	11.2	8.5
South Asia	3.6	3.9	5.6	3.5	5.3
Sub-Saharan Africa	5.0	3.0	1.9	1.7	3.9
Latin America and the Caribbean	6.8	4.8	2.0	3.2	3.4
Europe and Central Asia (ECA)	7.0	4.5	2.3	-9.8	2.7
Middle East and North Africa	7.0	4.6	0.4	3.0	3.8
<i>Memorandum items</i>					
Developing countries, excluding ECA	6.4	4.8	3.6	4.6	5.2
Low-income primary producers ^b	4.2	3.9	4.6	3.7	5.0
in Africa	4.7	2.7	1.9	2.8	3.5

a. Measured at market prices and expressed in 1987 prices and exchange rates.

b. See box 1-8 for the definition.

Sources: OECD National Accounts Statistics; World Bank data and staff estimates for non-OECD countries; March 1994 baseline forecast.

With the exception of growth in the large industrial countries, the international economic environment for developing countries is expected to improve.

Table 1-2 Global conditions affecting growth in the developing countries
(average annual percentage change except LIBOR)

Indicator	1974-80	1981-90	Estimates 1991-93	Forecasts 1994-2003
Real GDP in the G-7 countries	3.3	3.2	1.2	2.7
Inflation in the G-7 countries ^a	10.0	4.6	3.3	2.7
World trade	5.4	4.9	3.3	5.9
Nominal LIBOR (6 months)				
US\$	9.5	10.0	4.5	5.8
DM	—	6.7	8.6	6.1
Yen	—	4.8	5.1	5.1
Price indices (US\$)				
Export unit value of manufactures (MUV) ^b	11.4	3.4	2.0	2.2
Price of petroleum ^c	26.7	-6.7	-12.5	1.9
Non-oil commodity price ^c	-1.5	-6.3	-5.5	0.9

a. Consumer price index in local currency, aggregated using 1988-90 GDP weights.

b. Data for G-5 (France, Germany, Japan, U.K., and U.S.) weighted by these countries' exports of manufactures to developing countries.

c. Based on World Bank indices and deflated by the manufactures unit value (MUV).

Sources: World Bank data; March 1994 baseline forecast.

Box 1-2 Do industrial countries still matter to developing countries?

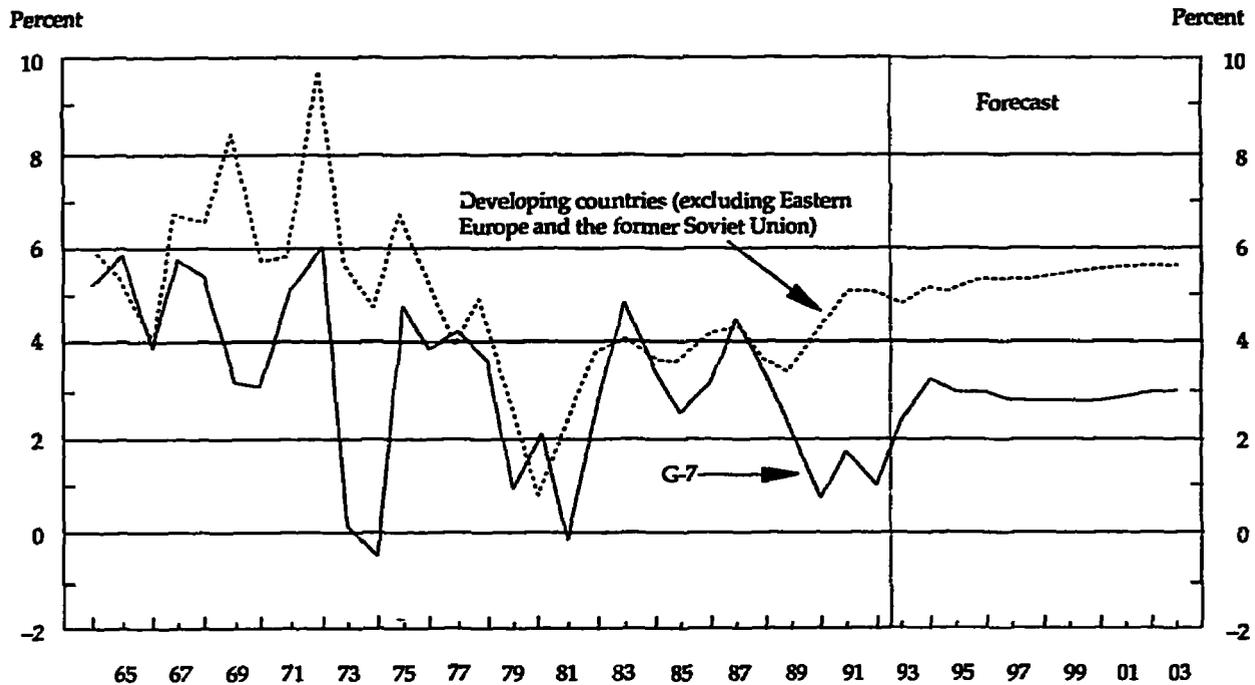
The gap between the aggregate growth rates of industrial and developing countries that has emerged since 1989 raises the question of whether the economic performance of industrial countries still matters to developing countries as much as it once did (box figure 1). In fact, the evidence points in the opposite direction. Trade links between developing and industrial countries have intensified over the years. The openness of developing countries (the ratio of exports to GDP) has grown by a third since 1988. Moreover, exports from developing

countries (excluding exports from the formerly planned economies) to industrial economies as a ratio of developing-country GDP increased from 10 percent in 1988 to 12.6 percent in 1992.

Although links between the two groups of countries have intensified, three factors account for a rise in the trend growth rate of developing countries in recent years. First is the growing share of East Asian GDP in the aggregate GDP of developing countries; about half the acceleration of developing-country growth since 1990 is due

The developing countries' lead in growth may continue to widen after 1995.

Box figure 1 Growth of GDP: Developing countries and the G-7, 1965-2003



Note: Because no attempt is made to project short-term variance similar to that observed in history, the forecasts convey only a sense of the expected trends of growth.

Source: World Bank.

additional public spending was approved in early 1994. Near-term rates of growth in developing-country export markets (the G-7 countries still account for about 65 percent of developing-country exports) are thus quite uncertain. In the United States, which accounts for 25 percent of developing-country exports, the recovery appears to be strong; but in Europe and Japan, which account for another 40 percent, the news is less favorable. The World Bank's forecast assumes that, in the aggregate, G-7 growth will average 2.1 percent in 1994 and 3.1 percent in 1995, a slow recovery by historical standards.

Despite some strengthening in the second half of 1993, economic growth in industrial countries is estimated to have been just 1 percent in 1993. The hoped-for recovery in Japan did not occur, and the data for continental Europe show stabilization of activity at a depressed level but no clear evidence of an upturn. Some research suggests that slow growth in Europe in recent years reflects hardy structural impediments to growth (not just cyclical factors) partly masked by the temporary rise of German demand associated with unification (Dadush and Riordan 1994).⁶ By contrast, recovery appears to have

to East Asia, primarily China, where growth has averaged above 10 percent a year in the past four years.

Second, some countries in Latin America recovered after 1989 as they implemented policy reforms and stabilization programs. The debt crisis receded, interest rates fell, and large private capital flows resumed. The region's growth rate accelerated from 1.7 percent in 1980-88 to 2.1 percent in 1989-92.

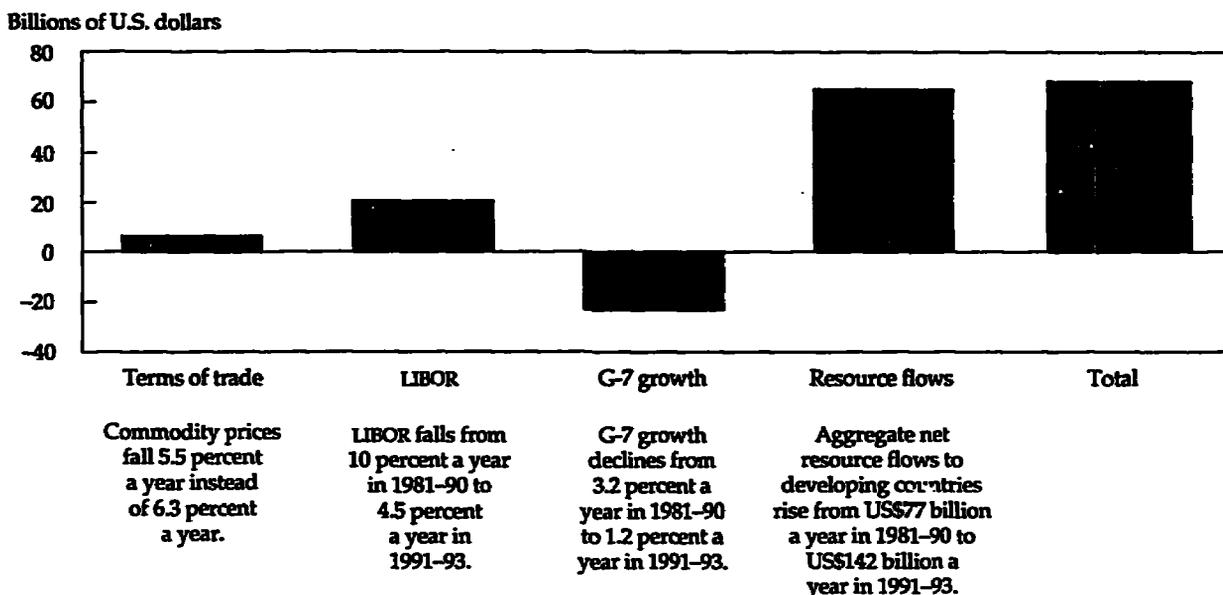
Similarly, policy reforms have been sweeping other parts of the developing world. Export performance and GDP growth rates have improved, in part because better macroeconomic management and more realistic trade and exchange-rate policies have restored international competitiveness.

Third, although industrial-country growth and imports continue to be an important determinant of growth in developing countries, private capital flows and confidence in developing countries' policies have become equally critical links. For developing countries, the combined favorable effect of lower international interest rates, a slower decline in terms of trade, and, most important, a rise in private capital flows more than offset the adverse effect of lower growth in major industrial economies.

These factors together helped improve the balance of payments of developing countries by US\$65 billion, equivalent to about 1.5 percent of their GNP and about 8 percent of imports in 1991 (box figure 2).

Although the low growth of industrial countries has affected the balance of payments of developing countries adversely, improvements in other external factors have more than compensated.

Box figure 2 Effect of alternative external factors on the balance of payments of developing countries, 1991-93 vs. 1980-90



Source: World Bank.

strengthened in 1993 in Canada and the United States, while moderate growth resumed in the United Kingdom and Australia.

The extension of the World Bank's baseline view of growth in high-income countries to 2003 assumes that policies declared by the major countries will be pursued with reasonable success toward solving structural problems and reducing unemployment while keeping inflation low. Estimates of potential growth in the G-7 economies over the medium term are 2.5 percent on average.⁷ Actual growth rates from 1994 to 2003 are likely to exceed this because of

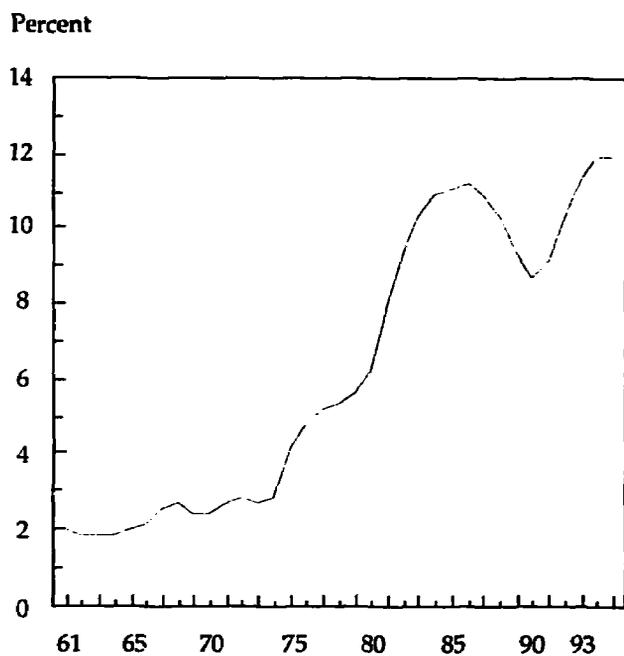
present spare capacity and policies to increase supply. Specifically, the figure assumed for high-income OECD countries is 2.7 percent a year (table 1-1).

Unemployment is rising in the European Union. It will peak at more than 12 percent (in 1995) compared with 2 percent thirty years ago (figure 1-1). Pressure to increase labor mobility across industries has never been higher, and improving the functioning of the European labor market is at the top of the European Union's agenda for structural reform.

Also high on the agenda in Europe are policies for fiscal consolidation and harmonization, targeting the

Labor market slack in the EU has never been greater.

Figure 1-1 Unemployment rate in the European Union
(common national definitions)



Source: OECD Economic Outlook and Labor Force Statistics Yearbook.

uniform 3 percent ceiling on general government deficits agreed at Maastricht in 1991. Arguably, no structural issue facing the OECD is more fundamental to development than reversing the declining trend of savings rates in OECD economies—a goal toward which present fiscal plans are oriented. Simultaneous pursuit of this target in Europe and successful implementation by the U.S. government of the Omnibus Budget Reconciliation Act of 1993 could have substantial and lasting effects on world real long-term interest rates and equity prices, reducing the cost of capital and promoting growth through both demand and supply channels (McKibbin 1994).⁸

With reasonable success in pursuing supply-enhancing structural reforms in areas of labor, fiscal affairs, and trade (and barring adverse supply shocks), high-income OECD countries should be able to grow at an average 2.7 percent a year in 1994–2003, with moderate inflation, when viewed in the perspective of trends since 1950 (figure 1-2).⁹ This picture of comparative stability can be seen as favorable to long-run savings and investment globally. These assumptions are uncertain, of course, because of domestic and international factors. Risks, there-

fore, need to be assessed along with the most likely outcome.

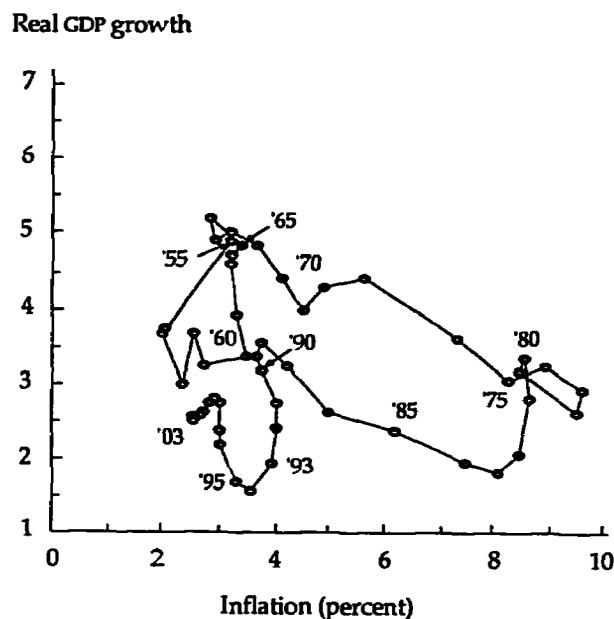
Inflation and interest rates

Low inflation in the major countries, expected to be less than 3 percent, is an important factor underpinning growth in the decade ahead (table 1-2). Low inflation risk helps to keep nominal interest rates low—below 6 percent for short-term LIBOR in dollars and yen and close to 6 percent in Deutsche marks once a more normal yield curve in Germany is re-established. These expectations for interest rates mean that anticipated growth in the major countries, being within supply constraints, is likely to be sustained without a monetary crunch in the foreseeable future. Maintaining these expectations through expert monetary management will be crucial for sustaining higher private capital flows to some developing countries.

The implied short-term interest rates, net of inflation, are less than 3 percent on average over 1994–2003. While this is higher than recent cyclically depressed levels (by about one percentage point for

Compared to previous decades, the next decade will be one of relatively low growth and low inflation in the industrial economies.

Figure 1-2 Phases of growth and inflation in the industrial economies, 1950–2003
(percentages, five-year moving averages)



Source: World Bank.

major currencies in 1993), the forecast would be about two percentage points below levels in the 1980s. This difference corresponds well with the results of some model simulations of the effects of planned fiscal consolidation in Europe and America.

A lowering of two percentage points in real interest rates sustained for five years (1993–97) could add 0.6 percentage points to the annual GDP growth of developing countries during this period, with the effect in each country depending directly on indebtedness and per capita incomes (Petersen and Srinivasan 1994). The growth effect could be as much as 1 percent a year for Latin America and parts of Sub-Saharan Africa. These effects depend upon assumptions about the credible execution of fiscal policies, however, and are therefore subject to some uncertainty.

Capital flows

Since 1990, private capital flows to developing countries have increased by more than 150 percent to reach an estimated US\$113 billion. In constant dollars, this matches the level attained in the early 1980s before the onset of the debt crisis. In 1992–93, private flows exceeded official flows, and in the composition of private flows there has been a strong shift to nonbank sources, including transnational corporations (investing directly), managed portfolio investments, money market instruments, pension funds, and insurance company funds.

But are these increases in private flows transitory, or are they likely to be more enduring than were the debt flows from commercial banks in the 1970s? If they prove to be more enduring, this would be another condition favorable to better medium-term growth in the developing countries. Some features of the increased private flows and of the international financial environment (structural and cyclical) suggest that high flows could be sustained:

- *First*, direct investment, which constitutes almost 50 percent of all net private flows to developing countries, is probably less volatile than other capital flows.
- *Second*, developing-country securities are currently underrepresented in the portfolios of industrial-country investors, given the big diversification benefits and high risk-adjusted returns that these securities offer. If recipient countries persist in policy reforms, a gradual rebalancing of these growing portfolios could increase private capital flows significantly. At the same time, however, policy setbacks in one or more of the recipient countries could potentially trigger a crisis of confidence that could prove contagious for other recipient countries.

Portfolio equity finance, a small but increasingly important part of private capital flows, would be especially prone to this “bandwagon” effect.

- *Third*, the creditworthiness of the major recipient countries is better now than it was during 1982–87 after the debt crisis (table 1-3). For eighteen countries that account for more than 90 percent of recent private capital flows to developing countries, the median ratio of debt service to exports improved from 29 percent in 1982–87 to 22 percent in 1990–92, mainly as a result of debt relief and lower interest rates. But for growing economies attracting non-debt generating flows, the degree of sustainable reliance on external sources of capital may be better signaled by the asymptotic liability-export ratio (table 1-3).¹⁰ One of the rules of thumb often used in creditworthiness analysis is that this ratio should be less than 2. The median of this ratio for the eighteen countries was 1.65 for 1982–87. This almost halved to 0.89 in 1990–92, reflecting a sizable increase in the growth of exports and a reduction in current account deficits. Five of the eighteen countries show ratios that are above the benchmark of 2, however.¹¹

Although not likely at present, a sharp rise in international short-term interest rates would have a substantial adverse impact on the creditworthiness of some countries (Fernandez-Arias 1994). Upward

Major recipients of private capital inflows have gained in creditworthiness.

Table 1-3 Some indicators of creditworthiness during and after the debt crisis: selected countries^a (ratio)

	<i>Debt-service to export ratio</i>	<i>Debt to export ratio</i>	<i>Asymptotic liability-export ratio^b</i>
Current (1990–92)	0.22	1.75	0.89
Height of debt crisis (1982–87)	0.29	1.86	1.65

a. Eighteen countries that attracted more than 1 percent of the total net flow of private capital to all developing countries; these eighteen account for more than 90 percent of the flow. The data values are medians for the group.

b. The liability-export ratio toward which a country would converge if it were to maintain an export growth rate and current-account deficit-export ratio at the average levels in the period.

Source: World Bank.

interest rate shocks of three to four percentage points in any year (as deviations from a three-year moving average), have not been unusual in the past twenty years (figure 1-3). A three percentage point rise in the six-month U.S. dollar LIBOR (other things equal) would raise the debt-service ratio of eight of the eighteen countries above 25 percent.

Important, too, would be the cause of any rise in interest rates. If it were the result of a deterioration in inflationary expectations following an oil price shock (as happened in 1974) or of a sudden tightening of monetary policy (as happened in the period preceding the debt crisis), the interest rate shock would be compounded by adverse shifts in export volumes and in the terms of trade. Such shocks seem unlikely now, and the probability of a second debt crisis in this sense is remote. A second possibility is that higher interest rates could result from a sharp, investment-led recovery in the industrial countries; in this case, the creditworthiness of developing countries might not suffer at all in the short run, as the adverse interest rate effects on their debt and balance of payments positions could be mitigated by higher exports and higher commodity prices. The chance of this happening is also small. If higher interest rates were caused by a sustained lowering of world savings rates, there could be a gradual undermining of the creditworthiness of developing countries, reducing capital flows despite small differences in the growth of export markets. The probability of this milder malaise is considerable.

Commodity prices

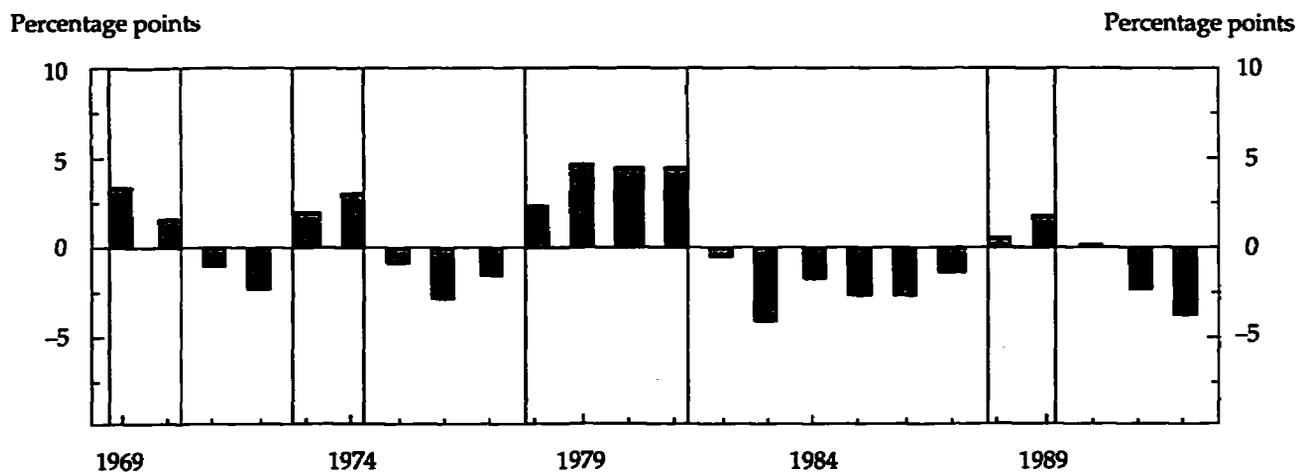
In a sharp departure from the gradual trend decline of real commodity prices since the beginning of the century (box 1-3), these prices more than halved between 1980 and 1993. The price drop was evident for a wide range of commodities, with the notable exception of timber (figure 1-4).

More than three-quarters of the decline in the aggregate index is attributable to the price fall in agricultural commodities. Part of the explanation for this unusual decline lies with sluggish demand in industrial countries, especially during the early 1980s and so far in the 1990s. But the major cause lies in sharp increases in the aggregate supply of commodities on world markets, with the growth rate of supplies four times as high as in the 1970s. Most of this increase did not come from the developing world or the highly indebted countries, however, as some analysts have argued. In fact, about three-quarters of the incremental supply of commodities came from high-income countries. The volume of agricultural exports in particular increased rapidly from Western Europe and from the East Asian developing economies (Reinhart and Wickham 1994).

An increase of 10 percent in aggregate commodity prices over the past eighteen months, however, suggests that the sharp downtrend of the 1980s may have bottomed out, at least temporarily. In February 1994, beverage prices were up 33 percent over April 1993, metals and minerals prices up 8 percent from their

Upward interest rate shocks of three to four percentage points have not been unusual in the last twenty years.

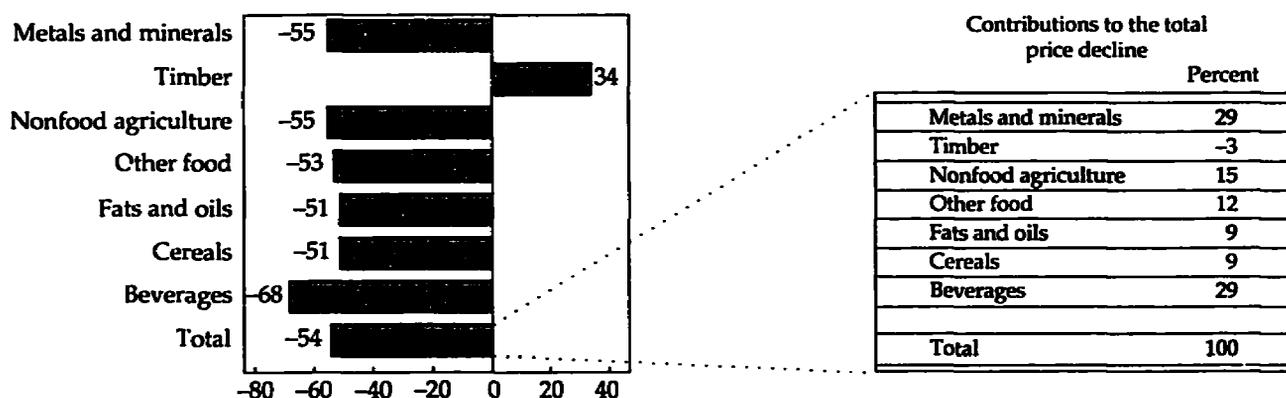
Figure 1-3 Shocks to interest rates, 1969-92
(based on six-month U.S. dollar LIBOR)



Source: World Bank.

Real prices of all major commodity groups, except timber, have fallen more than half since 1980.

Figure 1-4 Changes in real non-oil commodity prices, 1980-93 (percent)



Source: World Bank.

November 1993 level, and food prices 25 percent above their June 1993 level.

Medium-term changes in real commodity prices are likely to be relatively favorable compared to prices in the recent past. Real oil prices are projected to rise by almost 2 percent a year and real non-oil commodity prices by roughly 1 percent a year in 1994-2003 (table 1-2). Roughly two-thirds of the rise projected in the aggregate non-oil commodity price index is attributable to the improved outlook for beverages, and another one-third is due to a cyclical recovery in metal prices. The magnitude of these improvements would be greater if allowance were made for improvements in the quality of manufactures and for other factors (box 1-3). In any event, the projections imply slightly upward trends in the barter terms of trade for both oil and non-oil commodity exporters, a distinct improvement from past experience (figure 1-5).

This expected improvement is due to better macroeconomic conditions (recovery from recession, with low inflation and low interest rates, plus robust world trade). In commodity markets, beverage prices are expected to recover, especially coffee, partly through cutbacks in capacity (already reflected in falling stocks). Nonfood agricultural prices will tend upward because of reduced supply (rubber and timber, for example) as well as growing demand. The Uruguay Round should lower agricultural support levels in industrial countries, reducing declines in food prices despite continuing productivity gains in cereals, fats, and oils. The overall projected increase in commodity prices is heavily dependent on in-

creases in the prices of beverages, which account for approximately two-thirds of the increase, and of metals and minerals, which account for almost the remaining third. The demand for metals and minerals is expected to be strengthened by economic recovery. In petroleum, the restoration of Iraqi output and additions to capacity are not likely to augment supply by more than the recovery of demand in the former Soviet Union (FSU) and rapidly growing demand in other developing countries.

Like all macroeconomic forecasts, commodity price projections are uncertain. For virtually every major commodity, a declining trend in the future cannot be ruled out (figure 1-6). The biggest new source of uncertainty in world commodity markets is the outlook for export supplies from the former Soviet Union (box 1-4). The FSU is a major producer and consumer of many commodities that are important in world trade. Future export supply from this source depends on the speed of normalization of the FSU's production and domestic use of these commodities.

Any recovery of real oil prices from their present trough will tend to be constrained until the year 2000 by surplus capacity in OPEC countries. Moreover, beyond 2000, prices could decline again, due to more efficient energy use as well as continued technical progress in petroleum extraction and distribution. Oil demand is projected to increase moderately over the next few years, with most of the increase coming from developing countries (including the FSU). But capacity additions and eventual restoration of Iraqi output should be sufficient to prevent any major

Box 1-3 Is the estimated trend in real commodity prices biased downward?

The trend in the real commodity price index is usually taken as the trend in the price index of commodities *relative* to that of manufactures. Thus, whether the trend is downward or upward depends as much on the price index of manufactures as on that of commodities.

A recent detailed study of the manufactures price index (measured as an index of the unit values of manufactured exports from industrial countries) found that its long-term trend rate has been overestimated by roughly one percentage point a year because of the failure to take into account three important adjustments (Lipsey forthcoming). The first adjustment is for quality improvements: it is estimated that they alone could account for a reduction in the manufactures price index of about half a percentage point a year between 1900 and 1992.

The second adjustment has to do with the price of manufactures exported to developing countries, which has risen less rapidly than the price of all exports of manufactures from industrial countries; if this adjustment were made, it would account for another reduction of 0.1 percent a year.

The third adjustment concerns the composition of manufactures exports to developing countries, which

has shifted toward higher-quality items *within product categories*, and this accounts for a further 0.4 percent reduction a year.

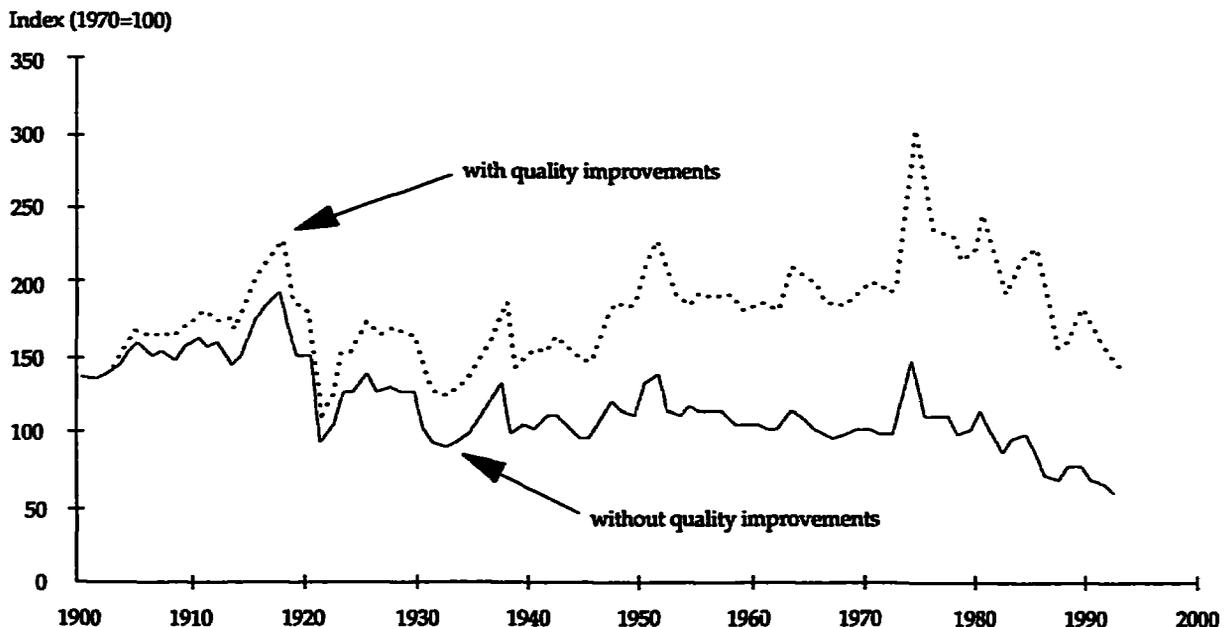
Together these adjustments more than outweigh the estimated trend decline in the real price index for all commodities (figure).

Are corresponding adjustments needed for *commodity* prices? No, because prices quoted for primary commodities are usually for specific grades and categories that have altered little over the decades—for example, prime washed arabica coffee; or government standard, 5 percent broken, white, milled, Thai rice; or grade A, minimum 99.9935 percent purity copper cathodes and wire bar shapes; or thermal, 12,000 BTU/lb, less than 1 percent sulfur, 14 percent ash Australian coal. Thus, a quality improvement in a commodity export usually means a change in its grade category, and the price index continues to cover the originally specified commodity.

One implication of this analysis is that the small upward trend in real commodity prices now expected (using the regular MUV index) may be understated for these statistical reasons by as much as one percentage point a year.

When adjustments are made for quality improvements in manufactures (among other things), the trend for real commodity prices remains more or less stable in the long term.

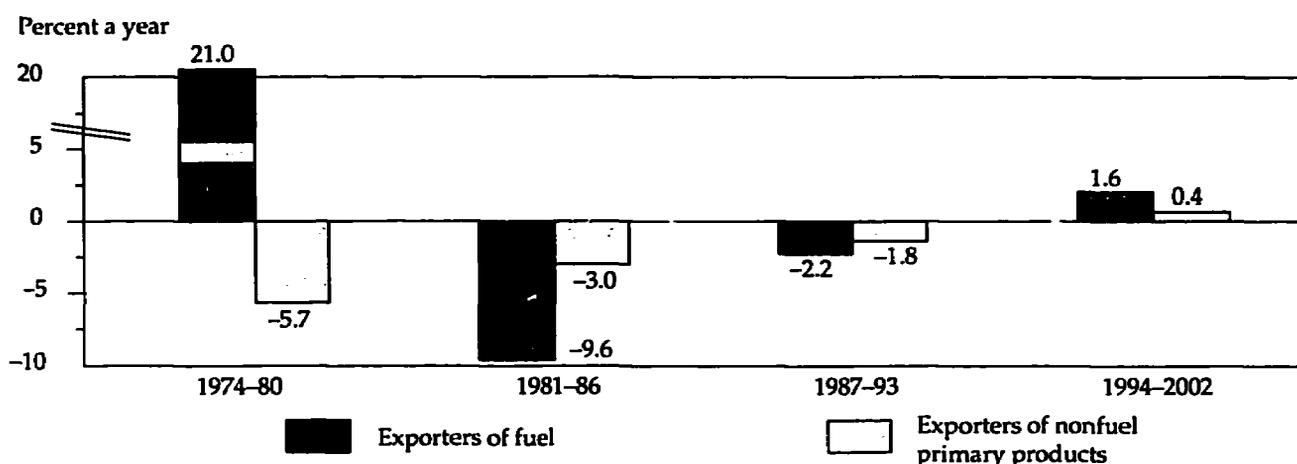
Long-term trend in real commodity prices, 1900–92
(with and without adjustments in the manufactures price index)^a



a. Assumes that the estimated annual average adjustment of 1 percent a year applies equally in each year.
Source: World Bank.

Primary exporters' terms of trade are expected to stabilize.

Figure 1-5 Changes in the terms of trade



Source: World Bank.

sustained increase in prices. The world's oil market has become more competitive and sophisticated since the 1970s, with major oil producers reluctant to restrict supplies to achieve short-term price gains at the expense of long-term market prospects. Although a rising share of world oil production will be in the Middle East, the effect of any unexpected disruptions in oil supply on prices is likely to be of a shorter duration than the supply shocks of the 1970s.

Historically low prices of *tropical beverages* in the past few years have reduced current investments in new tree plantings, and the long lag between new plantings and production would suggest that these prices are likely to strengthen in the coming years. Stocks are already declining, and demand is expected to increase in the decade as economic growth increases. Between 1993 and 2000, coffee prices are projected to rise by nearly 50 percent, cocoa prices by almost 25 percent, and tea prices by about 6 percent. Despite these rebounds, the index of beverage prices will likely not reach its 1989 level and will be less than half its peak in 1984.

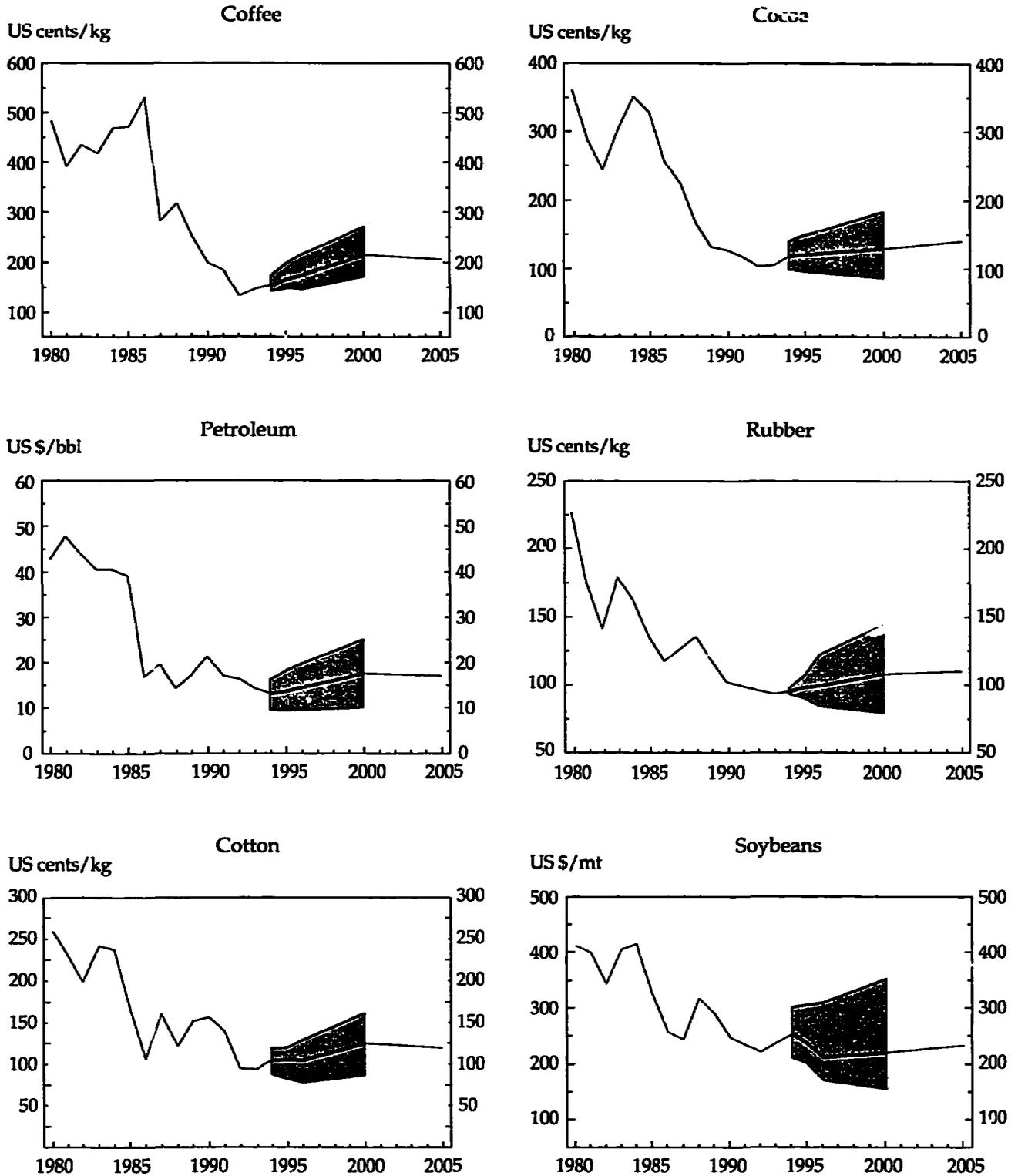
Prices of *nonfood agricultural* products such as cotton, rubber, and timber are also expected to rise. In Eastern Europe and the FSU, where demand fell by 50 percent over the past three years, some recovery of demand is projected. Rubber will be in reduced supply, as will timber products worldwide because of environmental restrictions on logging and less availability of timber. Cotton prices are projected to rise as demand picks up with the recovery, but price increases for cotton will remain modest because of competition from synthetics.

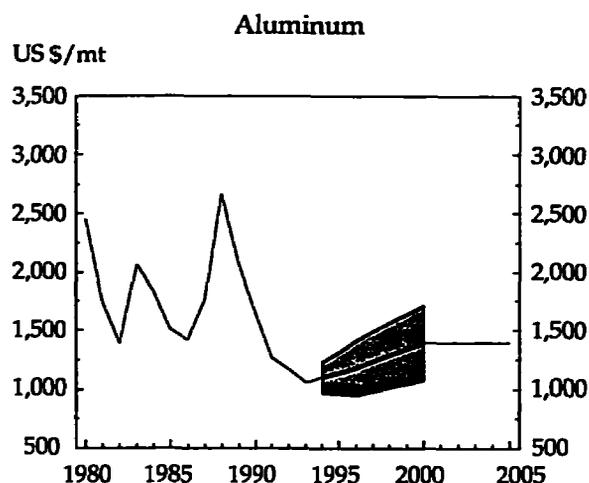
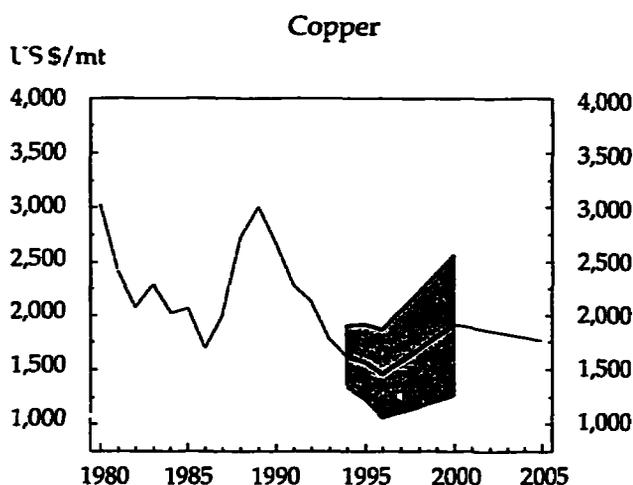
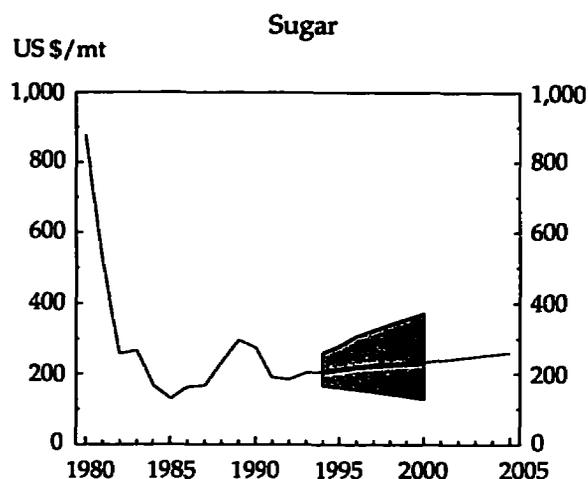
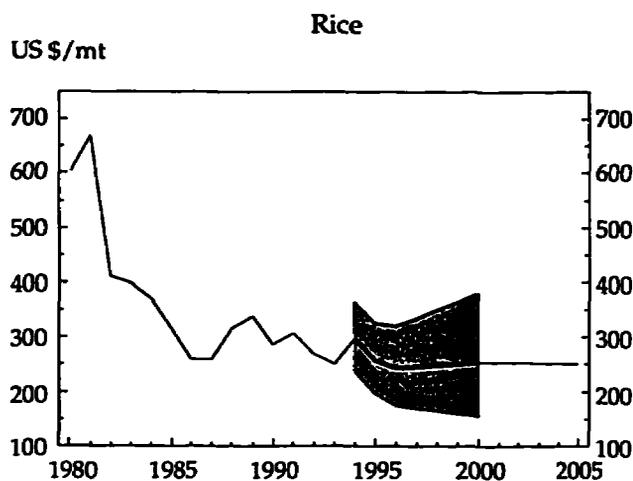
On the other hand, the trend in real *food* prices will be relatively flat from 1993 to 2000, following the sharp declines of recent years. Cereal prices are projected to decline by 3 percent, fats and oils to *decline* by 1 percent, and other food items to decline by 1 percent. A more significant recovery in food prices seems precluded by continued weak growth of import demand (as major population centers become more self-sufficient in food) and large surplus capacities in major exporting countries (despite some impact from the Uruguay Round). In cereals, for example, the major exporting countries have idle capacity equal to roughly 125 million tons at 1990 trend yield levels, compared with world trade in cereals of 200 million tons in 1990. Food grain yields kept growing throughout the 1980s despite record low prices. Similarly, continued productivity gains in palm oil production in Indonesia and Malaysia and rising soybean production in Argentina and Brazil will exert downward pressure on the real prices of fats and oils. Despite these declines, the income terms of trade for these producers could rise as productivity growth continues to outstrip the decline in international prices.

Following a cyclical recovery, prices of *metals and minerals* (in real terms) may end the decade up 13 percent from their 1993 levels. Within the aggregate, aluminum, copper, lead, nickel, tin, and zinc are projected to have rising prices, while that for iron ore is projected to decline. After a drop of 38 percent in the metals and minerals index since the recent high in 1989, mine output has fallen for some base metals, including lead, nickel, tin, and zinc. In the longer run,

Commodity prices are expected to stabilize in the coming year

Figure 1-6 Prices of major commodities, forecast and 70 percent probability range
(price in constant dollars)





Source: World Bank.

declining intensity in the use of metals in industrial countries, together with high productivity growth in metals production, will keep real metals prices from rising substantially.

The increase in real commodity prices projected to the year 2000 is not sustainable, being heavily dependent upon slow supply response in tropical beverages and a cyclical recovery in the prices of minerals and metals. After 2000, the prices of these commodities are projected to decline slightly (figure 1-6). The overall real price of non-oil commodities, as conventionally measured, is projected to resume a gradual, long-term decline.

World trade

With GDP in high-income countries (including some fast-growing non-OECD economies) rising at 2.7 percent, world trade is expected to grow in volume at a

robust 5.9 percent in 1994–2003, and developing-country exports will tend to rise about 0.5 percentage points faster. World trade growth may well exceed 6 percent in the later years of this period, as activity in Europe and Japan recovers and new trade agreements are phased in.

The projected acceleration in world trade is partly due to the beneficial impact of the recently concluded Uruguay Round Agreement of GATT. With the information available, it is difficult to estimate the magnitude and timing of the gains accruing from the Uruguay Round. Studies by the GATT Secretariat suggest that the Uruguay Round will increase merchandise trade by 12 percent by the year 2005 (or roughly US\$750 billion in 1992 dollars) over the level that would exist if trade were to grow at its average for 1980–91 (4.1 percent). The largest increases are likely to occur in clothing (60 percent); textiles (34 percent); agricultural, forestry, and fishery products (20 per-

Box 1-4 Impact of changes in the former Soviet Union on international commodity markets

Before its dissolution, the FSU loomed large as a producer of primary commodities. It was the largest producer in the world of gas, oil, steel, nickel, and copper (for which it shared first place with Chile). Yet its role in the world's commodity markets was not commensurately large. High and wasteful domestic consumption and special arrangements with former members of the CMEA absorbed a sizable chunk of its energy and raw materials production. Nevertheless, the FSU was an important supplier of some raw materials to world markets, notably cotton (20 percent of global exports), iron ore (16 percent), crude oil (11 percent), timber (10 percent), manganese ores (8 percent), and phosphate rock (8 percent). It was also a large buyer of food from the rest of the world—roughly US\$20 billion a year—mostly sugar and grains.

At the time the Soviet Union disintegrated into its 15 successor republics, analysts widely believed that Russia, the biggest net exporter of natural resources in the FSU and relieved of its former commitments to its CMEA partners, would significantly expand primary commodity exports to world markets. But the neglect of maintenance, insufficient capital investment, and excessive mineral exploitation based on outdated technologies meant that neither production nor exports could be

sustained. These supply problems were made worse by the collapse of the Soviet central production and distribution system, labor unrest in some mines and industries, and frequent interruptions in power supplies. The one commodity for which exports surged from the FSU was aluminum. Despite falling world prices, FSU aluminum export volume increased by 130 percent between 1990 and 1992, increasing their market share substantially from the 8 percent held in 1990. This recently led to an international agreement to limit aluminum exports.

The large natural resource endowments of the FSU and the current inefficiency of its distribution system and usage patterns give it enormous potential as an important exporter of commodities in the future. The region has large deposits of mineral ores, gas, and oil, and a potential comparative advantage in a range of food products. As the FSU republics overcome political difficulties and implement their transition to become more market-oriented, efficiency gains in mining and agriculture could be large. Commodity exports could rise swiftly, depending on the speed and extent of recovery in domestic use of these commodities, which is highly uncertain. Thus, projections on how the pattern and growth of the FSU's exports are likely to evolve over the next few years cannot be made with any precision.

cent); and processed food and beverages (19 percent). Effects on exports and real incomes by developing region are likely to vary significantly, depending largely on the market-access provisions of the expected agreement (box 1-5).

Asia will gain substantially. Quota-constrained exporters of textiles and clothing (mainly in Southeast and East Asia, including China) will be big beneficiaries from a slow phaseout of the Multi-Fiber Arrangement over a ten-year period, with quotas increasing about 50 percent over seven years. Latin America will also gain, but proportionately less. Food exporters there (particularly in Argentina, Chile, and Uruguay) will benefit from reductions in agricultural subsidies. The economies in these regions are also likely to gain from reductions in tariffs on metals and minerals, and they have little to lose on preferences.

The net effect of the Uruguay Round on Sub-Saharan Africa will be small. The agreement will tend to raise international food prices (which could mean smaller declines in some prices than would otherwise occur), and net food importers will experience some adverse effects through the balance of payments (see chapter 2). On the other hand, these countries will tend to benefit from trade creation and better terms of trade from a more stable and faster

growing world economy. In the longer term, higher food prices should stimulate domestic food production in commodities for which African countries have a comparative advantage. In turn, this would improve their capacity for diversification.

During the next fifteen years NAFTA will remove barriers to trade and investment flows within North America; it also sets the stage for reforms in domestic policies to foster trade and competition within an area rivaling the European Union (formerly the European Community) in economic size.¹² NAFTA's main effect will be to improve the growth prospects of Mexico, which is required by the agreement to liberalize its trade policies the most among the three NAFTA partners and which should consequently experience a significant boost in its exports. In the short term, Mexico's exports to the United States are estimated to rise by 11 percent because of the agreement (Braga, Safadi, and Yeats 1992). Canadian exports to the United States are expected to rise by 9 percent, while other countries' exports to the United States are expected to fall by 3 percent. Some studies confirm trade effects of this magnitude (for example, Brown, Dearnorff, and Stern 1992). One drawback is that NAFTA's domestic-content regulations could prevent member countries from relying on some low-cost (non-NAFTA) sources of production inputs—a factor

Box 1-5 The Uruguay Round, market access, and the developing countries

For each participant in the Uruguay Round of trade talks, the increase in national income resulting from the successful conclusion of the round will come from two principal sources: first, more efficient use of domestic resources when domestic distortions, such as trade barriers, are reduced or removed; and second, increased access to markets of trading partners.

It is estimated that implementation of the market-access provisions of the Uruguay Round will add between US\$200 billion and US\$300 billion (in 1992 dollars) annually to world income. These figures are probably an underestimate since they do not include services and since no attempt has been made to capture the effects on productivity growth of greater openness in trade. Even without these ramifications, full implementation of the Uruguay Round agreement could boost the GDP of developing economies by almost US\$80 billion (in 1992 dollars) a year. Developing-country gains from agricultural liberalization alone would be between US\$20 billion and US\$60 billion a year, depending on the extent of each economy's liberalization.

Improved market access for agricultural and industrial products will result primarily from broad reductions in tariffs and more control of quantitative restrictions and subsidies. In contrast to the situation for industrial products, increased market access for agricultural products will involve limiting the use of domestic support policies. Reduction of export subsidies by industrial countries will boost the competitiveness of exports from developing countries (see chapter 2).

The effect of the reduction in most-favored-nation (MFN) tariffs on individual suppliers depends on whether the importing country gives the product MFN, preferential, or free-trade treatment.

For MFN imports there is an unambiguous increase in the volume of sales in the importing country following a tariff reduction. In the case of imports already receiving preferential or free-trade-area treatment, the reduction in MFN tariff rates can reduce margins of preference, inducing buyers to switch to competing suppliers. In general, however, analyses suggest that the trade gains

from reductions in MFN tariff rates are likely to outweigh the losses from preference erosion, even for exporters receiving preferences.

The reduction in duties that apply to developing countries is estimated at 34 percent—less than the 38 percent reduction on industrial products from all sources—and the figures for clothing and footwear (of particular interest to developing countries) are even lower. Nevertheless, the effects on trade creation will be large even for such products because existing tariff rates on them are the highest, and the percentage decline in the tariff-inclusive price in importing countries will be substantial. Moreover, where a quantitative restriction (rather than a tariff) is the binding restraint under the Multi-Fiber Arrangement, the extent of the increase in market access may be larger than the cut in the tariff alone would indicate.

A disappointing result of the recent Uruguay Round agreement is that tariff escalation will continue for agricultural products. It was hoped that discrimination against processed commodities would be reduced, thus enhancing strategies for natural-resource-based industrialization. But the agreed reductions in tariffs, whether viewed in absolute or percentage terms, do not clearly rise or fall with the level of processing.

Considerable progress has been made in the latest agreement toward the goal of increasing the proportion of tariffs that are bound (subject to commitments not to raise the tariff rate). This will significantly reduce exporter risk. For industrial products, virtually all tariffs in developed and transition economies are bound under current offers, and developing countries have offered to increase the proportion of bound tariffs to 65 percent. For agricultural products there is a substantial increase in the proportion of agricultural tariff lines subject to bindings, especially in the developing economies, where there is a five-fold increase (from 17 to 89 percent). For the first time in GATT's history the proportion of bound tariff lines will be broadly the same for agricultural and nonagricultural products.

that would restrict the ability of members to use their NAFTA tariff and nontariff preferences (Bannister and Low 1992).

Issues and prospects for individual developing regions

The external environment and balance of payments constraints play an important role in conditioning the outlook for growth in the developing world. But expectations about the pace and pattern of progress in individual developing countries are also condi-

tioned largely by the internal dynamics between resource endowments and domestic policies. This section highlights some of the more important indigenous factors that shape current expectations about growth in the developing regions (table 1-4) and refers to influential external factors. The vulnerability of the projections to external risks is considered under a low-case scenario discussed in detail in the next section.

Barring any major political upheaval, East Asia is likely to remain the fastest growing developing region over the next decade, but its performance will probably be less

Economic performance is expected to remain uneven across the developing world.

Table 1-4 Developing regions: growth of real GDP
(percentage changes per year)

Developing region	1974-90	1991	1992	1993	1994-2003	
	Trend				Forecast	Low
All developing countries	3.4	0.2	0.3	2.1	4.8	3.6
Sub-Saharan Africa	2.1	1.5	1.2	2.5	3.9	2.4
Middle East and North Africa	0.9	3.1	4.0	1.9	3.8	3.2
Europe and Central Asia (ECA)	3.1	-9.3	-12.7	-7.4	2.7	1.5
South Asia	5.0	2.0	4.6	3.8	5.3	4.2
East Asia	7.3	6.9	8.7	9.2	7.6	7.1
Latin America and the Caribbean	2.5	3.4	2.8	3.5	3.4	0.8
<i>Memorandum item</i>						
Developing countries, excluding ECA	3.5	3.9	4.9	4.9	5.2	4.0

Sources: World Bank data and staff estimates for non-OECD countries; March 1994 baseline forecast and low-case scenario.

spectacular than in the past, partly as a result of infrastructural and environmental constraints. The already large gap between the economic performance of East Asia and the rest of the developing world widened sharply in the 1980s. The region's per capita GDP grew twice as fast as that of South Asia and five times as fast as the average of the developing world. In the first three years of the 1990s, the gap widened further still; East Asia grew at an average of about 7 percent a year, compared to only 2.6 percent in the aggregate GDP per capita of all developing countries (excluding Eastern Europe and the former Soviet Union). Per-capita income in Korea is rapidly converging with those in Hong Kong, Taiwan (China), and Singapore (all high-income economies), and together these economies are joining the ranks of the industrial countries.

Although East Asia is expected to remain the fastest growing of all developing regions over the coming decade (table 1-5), its breakneck pace in the 1980s and early 1990s is unlikely to be maintained. Faster-growing economies are already running into severe infrastructure constraints in power, ports, roads, telecommunications, water, and waste disposal. In some countries the shortfall in infrastructure investment may have been as much as 2-3 percent of GDP in the 1980s (World Bank 1993b). East Asia is also confronting major environmental problems that can constrain growth if not resolved. These problems are most acute in soil erosion, waterlogging and salinization, urban environmental degradation, industrial pollution, and deforestation. Groundwater is being rapidly depleted by overuse; carbon dioxide emissions in East Asia are three times those of Latin America,

for example, and energy use per unit of GDP is twice that of Latin America (World Bank 1993b).

Factors likely to work in East Asia's favor over the coming decade are the continuing strength of intraregional trade and greater liberalization of world trade. Successful completion of the Uruguay Round is expected to further spur East Asia's export success (figure 1-7). First, it will lower trade barriers in the major market countries and ensure that trade retaliation measures are implemented according to recognized and accepted rules. Second, the guarantee of open access to the major markets of the world is likely to boost foreign direct investment in developing countries, and East Asia is expected to receive the lion's share, as in the past.

Although China should be able to resolve the difficulties of its public enterprise sector, GDP growth is expected to decline from the unsustainably high lev-

Although its growth rate will moderate, East Asia will nevertheless remain the fastest growing developing region.

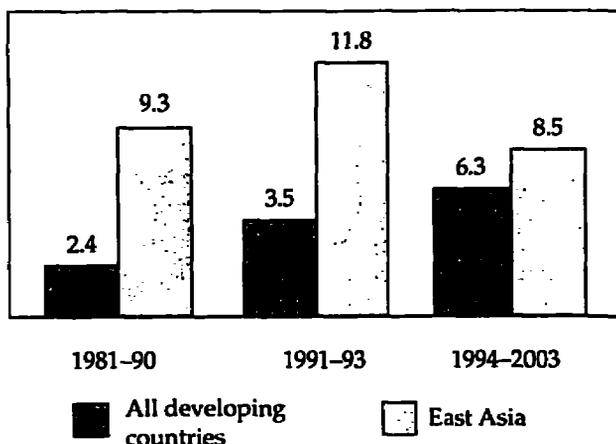
Table 1-5 Forecast summary: East Asia
(percent per year)

Growth rates	1983-93	Baseline 1994-2003
	GDP	7.9	7.6
Consumption per capita	7.5	6.1
GDP per capita	6.2	6.2
Export volume	10.9	8.5

Source: World Bank; March 1994 baseline forecast.

East Asia's export growth will moderate slightly but will still outstrip the average for developing countries.

Figure 1-7 Export volume growth
(annual average percentage change)



Source: World Bank.

els of the 1980s, maintaining an annual average in excess of 8.5 percent. China's emergence as a major trading power will put other exporters of labor-intensive manufactures under growing competitive pressure (box 1-6).

The economies of Malaysia and Thailand are expected to exceed annual average growth of 7 percent on the strength of strong export performance in manufactures and commodities (despite growing competition from China) and on continued private capital inflows and foreign direct investment. In Indonesia, moderate growth in oil revenues is likely to be offset by rapid increases in exports of manufactures and continued high productivity growth in palm oil, cocoa, and coffee production. Even the formerly planned economies of Cambodia, the Lao People's Democratic Republic, and Viet Nam are expected to perform well in the coming decade, especially Viet Nam where economic reforms and foreign direct investment flows are a promising foundation for rapid growth. Prospects for the Philippines depend heavily on the government's ability to maintain macroeconomic stability, revive investor confidence, and strengthen institutions. Access to commercial sources of external finance is expected to remain a problem. Nevertheless, the Philippines can be expected to grow faster, compared to its dismal performance in the 1980s, when it was a principal casualty of the debt crisis.

South Asia's growth prospects for the coming decade will depend on the spread and intensification of its reforms

(table 1-6). Compared to other developing regions, South Asia's performance in the 1980s was an improvement over previous decades. GDP growth averaged 5.6 percent annually for the region as a whole, with exports rising at a healthy 6.3 percent a year in real terms. All economies (except Sri Lanka) enjoyed more rapid growth, with a significant improvement in the performance of the largest country, India.

Major structural weaknesses in the Indian economy were exposed at the beginning of the decade in the wake of the 1991 Gulf crisis and the dissolution of the former Soviet Union (previously India's largest trading partner). Faced with an external financial crisis in mid-1991, India initiated a program of stabilization and structural reforms that marked a decisive departure from previous policies. The baseline forecast assumes that these reforms have deepened and widened, and the economy is expected to enter a period of sustainable growth, averaging more than 5 percent a year over the next decade.

As for other countries of the region, Pakistan has made recent progress in reducing the fiscal deficit and lowering the external current-account deficit. Longer-term constraints on growth include limited progress in overcoming key bottlenecks in basic infrastructure and in the social sectors, as well as a continued reliance on a narrow export base (cotton and textiles). Pakistan's growth prospects over the coming decade are likely to depend on how much sustained progress it achieves on all these fronts. The economic performance of Bangladesh has improved gradually over the years, helped by modest efforts at structural adjustment, and this trend should continue, despite the handicaps of its extreme poverty, exposure to natural calamities, and a population density that is three times that of India and seven times that of China. In Sri Lanka, with renewed efforts at stabilization and structural change, the private sector has become the main engine of growth. Provided

Growth could be maintained in South Asia if policy reforms are deepened and widened.

Table 1-6 Forecast summary: South Asia
(percent per year)

Growth rates	1983-93	Baseline 1994-2003
GDP	5.2	5.3
Consumption per capita	4.6	2.8
GDP per capita	3.0	3.4
Export volume	8.6	7.2

Source: World Bank; March 1994 baseline forecast.

Box 1-6 Implications of China's emergence for developing countries

China's emergence as a major trading power will create considerable competitive pressure for exporters of labor-intensive manufactures. Despite the rapid growth in per capita income in China, the size and relative underdevelopment of many provinces mean that this competitive pressure will persist well into the next century while these regions begin to participate in China's rapid outward-oriented industrialization. A recent World Bank study (Boltho 1994) found that as China adopted market reforms, the structure of its exports became decidedly more labor intensive, moving the country nearer its comparative advantage. Although only a rough guide, China's index of revealed comparative advantage correlates significantly with that of four other large developing countries—Egypt, India, Indonesia, and Turkey.

Almost 80 percent of China's exports come from eleven coastal provinces that account for 40 percent of China's total population. Differences in per capita income among different regions are large. For example, at the projected national average growth rate, it would take twenty years for the western provinces of China to achieve the per capita income of Shanghai today. Because the population of the lagging regions is much larger than that of the leading regions and because the lagging regions are likely to increase their share of China's exports with time, it is possible that the labor intensity of China's exports will continue to rise for many years even with the country's income per capita growing more rapidly than that of its trading partners. Evidence also shows that China's export growth has displaced other East Asian economies at higher stages of development, such as Hong Kong, South Korea, and Taiwan Province. To the extent that the labor markets in the coastal and inland regions are segmented, a dual pattern of development might result. Under such a scenario, the coastal regions may increasingly compete with the newly industrializing economies of East Asia.

Commodity exporting countries will not necessarily benefit from China's import growth. Although imports of oil and iron ore have grown rapidly, the share of all primary products in China's imports has halved in value since 1980 and shrunk by 25 percent in volume. China appears to have become more self-sufficient in food, nonfood crude materials, and nonferrous metals. China's expansion has been accompanied by more effective exploitation of its natural resources, especially in agriculture, the sector that benefited first from the market reforms that began in 1978. Thus it appears that although the emergence of Japan since World War II has tended to move the terms of trade in favor of commodity exporters, the emergence of China will tend to cause a shift in favor of skill- and technology-intensive manufactures.

The biggest immediate beneficiaries from China's emergence in world markets are likely to be high-income countries, arguably including the newly industrializing economies of East Asia. These countries are the largest importers of labor-intensive manufactures and the leading exporters of sophisticated capital goods and high-quality consumer products that will constitute the bulk of China's import needs. The recent explosion of interest from transnational companies in investment in China reinforces this conclusion.

Indirectly, the acceleration in income and world trade implied by China's rise should benefit all countries. Although China's emergence will surely intensify competition in labor-intensive products, the size of these effects should be kept in perspective. China holds a significant share in industrial-country imports in only a few, albeit important, production categories, namely, clothing, footwear, toys, sporting goods, and telecommunications equipment. China's share is under 5 percent for twenty other large categories of labor-intensive goods that are relatively unrestrained by nontariff barriers in industrial countries.

domestic peace holds and a resolution is found for structural problems in public finances and agriculture, Sri Lanka is expected to achieve a modest acceleration in growth over the coming decade. In Nepal, increasing the efficiency of public resource management will be key to sustaining growth.

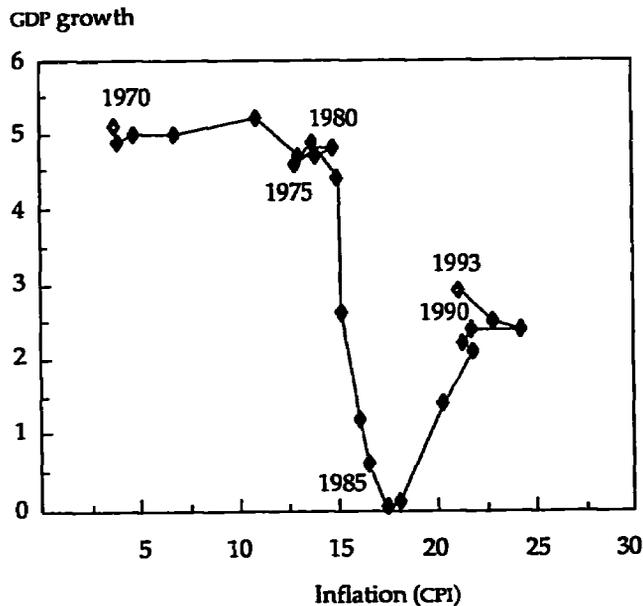
Latin America's growth rate is likely to accelerate modestly, depending in part on the deepening of reforms and continued private capital flows. Latin America has witnessed significant changes in its economic policies in recent years. Argentina, Bolivia, Chile, Colombia, Mexico, and (more recently) Peru have implemented stabilization policies and structural economic reforms, including trade and exchange-rate liberalization. GDP growth, high in the 1970s on

the shaky foundation of variable-rate debt financing, plunged in the debt crisis of the 1980s. Now with the implementation of stabilization and reform policies in several countries, GDP growth has started to recover again (figure 1-8). But the full benefits of trade liberalization are unlikely to flow immediately. The experience of the Latin American economies that adjusted early, such as Chile and Mexico, shows that it takes almost a decade of consistent progress after the initiation of reforms for the potential gains in GDP growth to be realized. The region's growth outlook projected over the next decade takes these long lags into account and recognizes that the speed of policy reforms is unlikely to be uniform across countries or over time (table 1-7).

*GDP growth has recovered in Latin America,
but inflation continues to be high.*

Figure 1-8 Growth and inflation in Latin America, 1970-93

(five-year moving average, in percent)



Note: Figures are the median for all Latin American countries.
Source: World Bank.

A key concern underlying the growth projections for Latin America is the sustainability of private capital inflows (see previous discussion on capital flows, page 11). The assumption is that these flows will subside as a share of GDP but will continue to be fairly

An acceleration in Latin America's growth rate depends on improved export performance, low international interest rates, and continued capital inflows.

Table 1-7 Forecast summary: Latin America and the Caribbean

(percent per year)

<i>Growth rates</i>	<i>1983-93</i>	<i>Baseline 1994-2003</i>
GDP	2.2	3.4
Consumption per capita	0.5	1.2
GDP per capita	0.4	1.7
Export volume	5.2	5.5

Source: World Bank; March 1994 baseline forecast.

large for several more years. The combination of low wages and a rich natural resource endowment makes these economies attractive locations for potential foreign investors. The development of local capital markets has encouraged foreign portfolio investors, although changes in regulatory policies could significantly enhance their efficiency. And as debt workouts have proceeded and interest rates have declined, more countries are becoming sufficiently creditworthy to regain access to international financial markets.

A second important factor is the prospects for export growth in the region. The outlook seems promising. Export growth is running at around 5.5 percent a year, compared to 3 percent a year in the 1970s and 1980s. New export industries have emerged in response to the liberalization of trade policies, including the cut flowers industry in Colombia, Costa Rica, Ecuador, and Mexico; fish and shrimp farming in Ecuador; and fruits and winter vegetables production in Chile. The projected acceleration in flows of foreign direct investment into Mexico after NAFTA and into the rest of Latin America in the wake of the successful Uruguay Round agreement, will further expand the region's export capacity.

Chile, Colombia, and Costa Rica all seem likely to continue on robust growth paths in the 5-6 percent range. Argentina and Mexico, as well as Peru, are expected to sustain big improvements in performance, with growth in the 3.5-4.5 percent range. In two countries where uncertainties seem greatest, Brazil and Venezuela, growth trends of less than 3 percent are assumed in the current forecast.

If civil strife continues to decline, widespread efforts at implementing policy reforms, and a projected stabilization of real commodity prices are expected to help Sub-Saharan Africa improve its economic performance modestly in the coming decade; nevertheless, average per capita incomes and consumption are unlikely to increase significantly, and the number of poor is expected to increase both in absolute terms and as a proportion of the population. In the 1980s, of the region's forty-six countries for which data are available, twenty-eight suffered declines in real GDP per capita. Population growth remained high. Poverty and deprivation continued to deepen. Civil conflicts destroyed physical capital and infrastructure in at least eight countries. To make matters worse, the region has been hit hard by AIDS, which, affecting people in their most productive years, inflicts significant costs on households and enterprises. Responding to these difficulties, thirty-one countries had adjustment programs in place at some point between 1987 and 1992. A recent study analyzing the results of these programs concluded that in those that reformed their macro-

economic policies the most, increases in per capita GDP growth ranged from one to two percentage points between 1981–86 and 1987–91—a turnaround similar in size to that of adjusting countries in other regions (World Bank 1994). But the analysis also noted that the extent of policy change has been uneven across countries and that in about a third of them, macroeconomic policy indicators actually deteriorated.

The prognosis for Sub-Saharan Africa's growth prospects over the coming decade is sobering (table 1-8). Despite relief from a projected stabilization in the region's terms of trade (figure 1-9) and some additional debt and debt-service reduction, the limited stock of capital equipment, infrastructure, and human capital preclude any sharp improvement in living standards. Although GDP growth is expected to improve somewhat, income per capita and, more important, private consumption per capita are unlikely to see much increase for a third decade in a row. This projection takes into account the possibility that with tensions reduced in Ethiopia and Mozambique and a lower degree of conflict in about ten other economies on the continent, the continuing damage to infrastructure, institutions, and investments is likely to be less severe than in the past. The transition of South Africa to democratic rule, difficult as it may prove over the short term, is expected to yield not just a peace dividend but also more rapid growth, as the country integrates with the world economy and higher trade and investment rejuvenate the private sector (box 1-7). Finally, the projections assume that the commitment to reform among Sub-Saharan African economies will not waver. The recent hard decision to devalue the CFA franc strengthens the case for this general assumption, although policy slippages in Nigeria highlight the uncertainties.

Per capita real GDP and consumption are likely to be stagnant in Sub-Saharan Africa.

Table 1-8 Forecast summary: Sub-Saharan Africa
(percent per year)

Growth rates	Baseline	
	1983–93	1994–2003
GDP	2.2	3.9
Consumption per capita	-1.8	0.3
GDP per capita	-0.8	0.9
Export volume	4.0	4.9

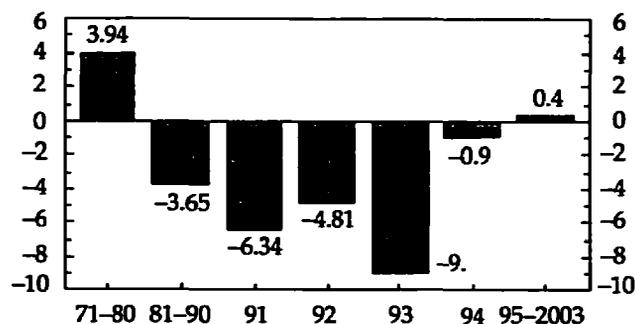
Note: Excludes Republic of South Africa.

Source: World Bank; March 1994 baseline forecast.

Sub-Saharan Africa's terms of trade are expected to stabilize.

Figure 1-9 Changes in terms of trade of Sub-Saharan Africa

(percent change a year)



Source: World Bank.

The CFA franc devaluation has created an opportunity to renew the adjustment process in the CFA zone, which had become stalled by the problem of low competitiveness. Strong support from the international donor community, together with concerted efforts on debt relief, will provide a supportive financing environment.

The low-income primary producers of Sub-Saharan Africa have an opportunity to become efficient producers and competitive exporters of commodities, using their success as a springboard to diversified growth (see chapter 2). Some economies of the region (for example, Ghana and Uganda) are implementing structural reforms that should support faster development through diversification and higher productivity in traditional primary activities. In the short term, however, these countries are likely to be hurt by erosion of their preferential access under the Lomé Convention as a result of the Uruguay Round.

The AIDS epidemic in Sub-Saharan Africa, through its effects on productivity and savings, poses a threat to growth prospects. One simulation suggests that the overall effect could slow economic growth by as much as 0.6 percentage points a year in the ten worst affected countries. In Tanzania this slowdown could be as much as 0.8 percentage points a year and in Malawi between 0.3 and 0.5 percentage points (World Bank 1993c).

Sub-Saharan Africa is the one developing region where the number of poor is expected to rise by the turn of the century, not just in absolute terms but also as a proportion of the population. Adding to this concern is the likelihood that official development

Box 1-7 South Africa—New engine of growth for the region?

South Africa is among a handful of the world's richest countries in terms of natural resources. It is the leading exporter of gold and diamonds and ranks among the largest exporters of coal and nonferrous metals. It is self-sufficient in food and is potentially a large exporter of nonseasonal fruits and quality wines, as well as having vast untapped tourist resources. Thirty years ago it would have been classed among those developing countries most likely to diversify successfully out of primary commodity exports. Its income per capita and investment as a proportion of GNP were higher than those of several East Asian countries, its universities were highly esteemed, and it was home to half a dozen leading transnational companies. Nevertheless, well before the imposition of economic and political sanctions in 1985 the country's economic performance was disappointing.

In the 1960s the South African economy grew by about 5 percent a year, below the average for other developing countries, and the efficiency of its investment was low. Since about 1970, total factor productivity has stagnated, and since about 1980 real incomes per capita have declined by 1–2 percent a year. The proportion of the labor force not in wage employment in 1991 was estimated to be in excess of 50 percent for the African population. The rate of investment as a proportion of GNP fell from a peak of 27 percent in the mid-1970s to near 15 percent in 1992. Primary commodities represent about 60 percent of South African exports, a proportion higher than the average for other developing countries.

Apartheid played a significant role in South Africa's stalled development, though other factors have been equally important. Apartheid created enormous inequities in income distribution and access to education that have left the country with a large unskilled labor force and severe labor problems. The system has led to distorted residential patterns in urban areas and to duplicative structures in areas ranging from local

government to the power grid. In fact, although unique to South Africa, apartheid's model of development resembled the interventionist, import-substituting regimes prevalent in Latin America in the 1960s and 1970s.

It is generally held that sanctions had only relatively minor effects on South Africa's trade patterns, although they effectively inhibited inward foreign direct investment. Initially, policies to protect the manufacturing sector coupled with high and rising rates of public investment allowed quite rapid growth, but domestic producers eventually hit the constraint of a limited home market.

The first multiracial elections take place in South Africa in 1994. The country will face the difficult task of satisfying the expectations of the newly enfranchised majority while maintaining investor confidence and retaining a large part of its skill base.

Assuming a successful transition to the new constitutional regime, what are the likely effects of the country's recovery on the rest of the region? Despite its stagnation in the past fifteen years, South Africa accounts for more than 80 percent of the GNP of southern Africa today, and it is certainly capable of playing the locomotive in the development of the region because of both its size and its technological lead. Many opportunities exist for sectoral integration across borders, in activities ranging from tourism to the sharing of water grids and to power generation. However, all nine countries in southern Africa are predominantly exporters of commodities, and the region's total market is small, its GDP being about equal to that of Denmark. It is difficult, therefore, to envisage preferential trading arrangements that would significantly expand trade without displacing lower-cost and higher-quality suppliers of manufactures originating outside the region. The best prospects come from a more outward-looking, stable, and growing South African economy, with trading arrangements based on the multilateral framework of the GATT.

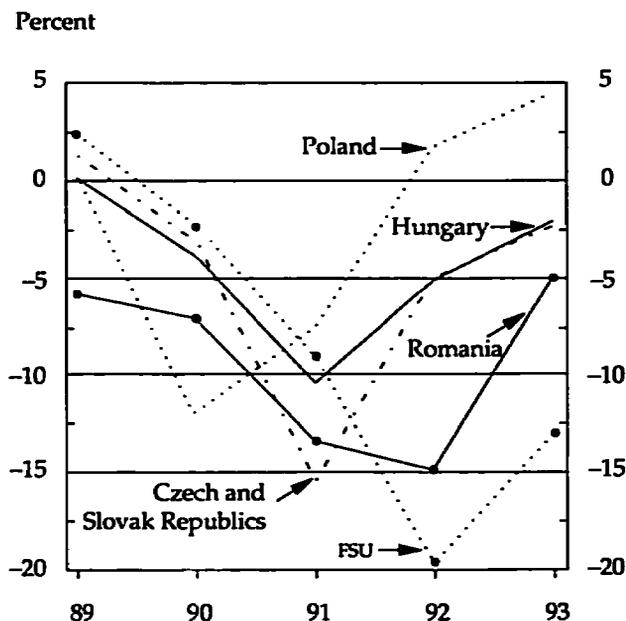
assistance may not be as forthcoming as it was in the 1980s because of the rising number of other claimants to a shrinking pool of concessional finance. Although this contingency has been built into the growth projections for the region, the considerable risk nevertheless remains that net resource flows to the region could be even lower, and this could mean even more serious consequences for investment and growth.

Prospects for developing countries in Europe and Central Asia remain the most uncertain of all: although market-oriented reforms appear to be generating positive results in some countries, great uncertainties remain about the direction and speed of reforms in others. The

economic situation in Eastern Europe and the former Soviet Union varies widely, depending on how long reform policies have been in place and the commitment of governments to implement difficult measures in the face of severe economic disruption. Recent developments in Russia provide some grounds for concern. Although the currency has depreciated dramatically and inflation has not slowed, the rate of output decline has fallen. Following a drop of 20 percent in 1992, real GDP contracted by 12 percent in 1993, and the decline is expected to be in single digits in 1994 as once-and-for-all systemic changes run their course. The possibility exists, however, that failure to reduce budget deficits and to

Although GDP continues to fall in most of the countries of Eastern Europe and the FSU, the pace of contraction appears to have moderated.

Figure 1-10 GDP growth in Eastern Europe and the FSU, 1989–93



Source: World Bank.

slow credit expansion, combined with increased velocity of circulation of money as individuals and corporations learn to avoid the inflation tax, could lead to another big rise in inflation. This, in turn, would further undermine confidence and delay the onset of recovery.

Output losses have been greater in many other republics of the FSU. Although near-term projections for the economies of the FSU are speculative, it is likely that a decline in GDP will continue in the short term. If reform efforts progress, however, these economies can expect growth of 4–5 percent a year by the end of the decade.

After four difficult years during which output contracted by some 20 percent, preliminary data suggest that Poland's GDP advanced in 1993 by 4–5 percent (figure 1.10). Despite recent setbacks associated with the breakup of Czechoslovakia, and recessionary conditions in the markets of Western Europe, production appears to be poised for recovery in the Czech Republic. In some Eastern European countries the establishment of commercial codes and bankruptcy laws, together with privatization programs, succeeded in rekindling private entrepreneurial

energies. There is evidence that "new," largely private-sector activity, concentrated in the services, construction and trade sectors, is beginning to account for significant shares of output (approaching 50 percent in some cases) and providing stimulus to growth. These policy changes, moreover, have attracted wide interest among foreign investors, and the potential is high for strong links with Western Europe through trade and technology. On the other hand, in Romania, Bulgaria, and the Slovak Republic, GDP continued to decline by 5–10 percent a year. Meanwhile, the republics of the former Yugoslavia have all experienced massive contractions in output as a result of the conflicts there. It is very difficult to predict when these countries will emerge from the present crisis.

An additional challenge to Eastern Europe in its recovery and transition to a market-oriented system will be how it copes with fundamental changes in trading patterns. The breakup of the CMEA and later of the Soviet Union radically altered the set of viable export markets for these countries. As their trade orientation has shifted toward western markets (almost 80 percent of exports are now destined for OECD countries), and particularly toward the European Union, Eastern Europe's exports have become more vulnerable to recession in Western Europe. How rapidly Eastern Europe adjusts to these changes in markets will affect growth prospects in the 1990s (table 1-9). The potential for rapid growth eventually is high. Gravity models predict that trade between Eastern and Western Europe should be eight to ten times its current level, based on resource endowments and other cost factors. As reforms in the East succeed and incomes recover, efficiency gains from increased specialization may turn out to be important.

The turnaround in developing Europe and Central Asia will be both slow and uncertain.

Table 1-9 Forecast summary: developing countries in Europe and Central Asia

(percent per year)

Growth rates	Baseline	
	1983–93	1994–2003
GDP	-1.0	2.7
Consumption per capita	-1.6	2.3
GDP per capita	-1.7	2.0
Export volume	-1.4	4.3

Source: World Bank; March 1994 baseline forecast.

Present expectations are, however, that this process will be slower than originally anticipated. Poland's growth rate may exceed 5 percent a year over the next few years, and, more generally, the growth of both imports and exports of the faster reformers in Eastern Europe may exceed 8 percent a year. Nevertheless, even at this rate of recovery, 1990 levels of real income per capita for these countries will not be restored until 2005.

The question of the trade orientation of the European Union (EU) may be critical to the speed and extent of Eastern Europe's recovery. This issue goes beyond economic gains from specialization to the stability and viability of the region's economies. The projected rapid growth for the region depends in part on the workings of the association agreements between some Eastern European countries and the EU. Opinions vary as to whether these agreements represent breakthroughs or whether they are restrictive for precisely those products in which the East Europeans have a comparative advantage, such as metals, textiles, and agricultural products. Bulgaria, Hungary, Poland, and Romania are all potentially strong exporters of some agricultural products, and the efficient development of the agricultural sector in these economies will be one of the principal steps toward achieving rapid economic growth. The EU's restrictions in these areas could constrain their development. Similarly, the EU's exclusionary policies toward steel imports from Eastern Europe may have proved harmful to the rapid recovery of the region; they remain an uncertainty in the outlook. The danger of exclusion from a protectionist Europe could arrest the recovery of the eastern region and divert these economies from efficient production and export patterns.

The past ten years have been difficult for the economies of the Middle East and North Africa because of low oil prices, policy problems, and a drop in capital inflows; the outlook for the next decade is brighter—in part because of the potential peace dividend—but is fraught with a high degree of uncertainty.

The region consists of two main groups—major fuel exporters (including Algeria, Iran, Iraq, Libya, and Saudi Arabia) and those in which other sectors are more important (notably Egypt, Jordan, Lebanon, Morocco, and Tunisia). Oil-exporting countries, which dominate the region economically (accounting for 75 percent of regional GDP), have had difficulties since the mid-1980s in adjusting to lower oil and gas prices. All, except Oman, experienced a decline in real per capita consumption between 1983 and 1993. Non-oil countries achieved only marginally better results but as a group did achieve positive per capita income growth; several experienced balance of payments crises and three (Egypt, Jordan, and

Morocco) had to seek debt relief. Virtually all non-oil countries have made at least a start toward major structural adjustment, with Morocco and Tunisia being the most advanced.

The next decade is expected to be one of greater promise for the region (table 1-10). Growth is projected at 3.8 percent a year, compared with 0.8 percent in the past ten years, with growth accelerating as the decade progresses. Yet this promise needs to be tempered by uncertainties on three fronts—progress in adjustment, political developments within the region and outside, and the outlook for oil prices. Some oil-exporting countries are expected to expand hydrocarbon and petrochemical production and exports, partly offsetting the effect of a modest price trajectory.

In Algeria, increased natural gas exports will more than make up for falling oil shipments. More important, most oil exporters have adopted major structural adjustment programs that should bear fruit in the latter years of the decade. Of key concern will be the ability of some major hydrocarbon exporters, notably Algeria and Iran, to deal with serious budget and external payments difficulties in ways that do not hamper medium-term private-sector growth. The availability of external support will be a factor in the success of their reform efforts.

The prospects are somewhat less uncertain for the non-oil countries; all are expected to profit from recent adjustment efforts. Morocco and Tunisia are set to benefit now, and growth could be boosted further (moving closer to the growth levels of the high-performance East Asian economies) from currently projected annual averages of around 4–5 percent if the pace of structural adjustment can be sustained. Negotiations for a closer relationship with the EU will be important for the outcome. Egypt and Jordan started reform later than Morocco and Tunisia, but all

Better export performance in the next decade promises more rapid growth in the Middle East and North Africa.

Table 1-10 Forecast summary: Middle East and North Africa
(percent per year)

<i>Growth rates</i>	1983–93	Baseline 1994–2003
GDP	0.8	3.8
Consumption per capita	–1.8	1.2
GDP per capita	–2.2	0.9
Export volume	3.5	4.4

Source: World Bank; March 1994 baseline forecast.

four countries have experienced increases in foreign direct investment and other private capital inflows.

A factor that will affect economic development in the Middle East and North Africa is enhanced regional cooperation. Growth projections are based on the assumption that political tensions will abate because of successful evolution of the peace process in the region. The result is likely to be a significantly more favorable environment for economic development in Egypt, Jordan, Lebanon, Syria, and the Occupied Territories. The so-called peace dividend is likely to consist of some reduction in military expenditures, along with enhanced trade opportunities and economies of scale, a higher level of public and private capital inflows, and more rapid technology transfer. Iraq and Syria are assumed to reintegrate into the world economy within the ten-year projection period; the resulting rapid recovery in Iraq pushes projected regional growth near the 4 percent mark. A failure of the peace process and related regional integration with the world economy would, of course, limit prospects for the region.

Low-case scenario

The growth prospects of developing countries are contingent upon industrial countries overcoming structural impediments to growth and in maintaining low inflation and real interest rates. The low-case scenario depicts the consequences for developing countries were the industrial countries to fall short of these objectives. It also assumes some policy reactions in the developing countries that would be needed to manage their debt burdens and hence their future creditworthiness in the face of more difficult external conditions.

The low-case scenario is based on judgments restricted by a model-based framework for internal consistency, and the growth estimates of developing countries represent an alternative solution from a global economic model (World Bank-GEM) that incorporates results of the World Bank's research on global links.

A key assumption in the low case is that efforts to raise savings in Europe and North America through forward-looking and credible fiscal consolidation prove to be ineffective. Fiscal restraints slow demand but without lasting favorable effects on financial markets. Nominal interest rates are higher (than baseline) by an average of 1.2 percentage points in North America and Europe in 1994–2003. Real rates are up more because less inflation is induced. In Japan, interest rates are higher (than baseline) by 0.4 percentage points, as the current slump in investment becomes protracted, with a growing current-account surplus upholding the yen.

On the other hand, in Europe and North America, both fiscal and balance of payments deficits rise with slow growth. Business and consumer confidence is severely affected by the perception that fundamental adjustments are being delayed. On average, private investment growth in the G-7 is lowered by one percentage point a year, and private consumption growth by 0.5 percent through this loss of confidence.

With actual and expected growth of incomes thus impaired in the industrial countries, protectionist pressures within major trading blocs would be higher than in the baseline forecast. In the low-case scenario, higher trade barriers protecting both the EU and NAFTA are simulated. These are represented as tariff-equivalents raised by 20 percent in 1995 (a steep increase) on EU imports of manufactures from all non-EU countries, and on NAFTA imports of manufactures from all non-NAFTA countries. This has significant effects on trade growth in the short run. Continuing dynamic effects on world trade growth

In the low-case scenario, higher interest rates and lower real commodity prices would supplement the effects of slower market growth.

Table 1-11 Global conditions under the low case, 1994–2003

(average annual percentage change except LIBOR)

Indicator	1991–93 ^a	1994–2003	
		Forecast	Low
Real GDP in the G-7 countries	1.2	2.7	2.0
Imports of the G-7 countries (vol.)	1.7	5.6	4.3
World exports	3.3	5.9	4.5
Nominal LIBOR (six months)			
US\$	4.5	5.8	7.0
DM	8.6	6.1	7.2
Yen	5.1	5.1	5.5
Inflation			
G-7 CPI (\$ index) ^b	4.1	2.6	1.9
G-5 MUV (\$ index) ^c	2.0	2.2	1.0
Real commodity prices ^b			
Non-oil	-5.5	0.9	-1.1
Oil	-12.5	1.9	0.7

a. Partly estimated.

b. Consumer price indices expressed in dollars at current exchange rates, aggregated using 1988–90 GDP weights.

c. Manufactures export unit values of France, Germany, Japan, the United Kingdom, and the United States, weighted by these countries' exports of manufactures to developing countries.

Sources: World Bank data and staff estimates; March 1994 baseline forecast and low-case scenario.

would also be likely, and these are assumed to lower G-7 import growth (in volume) by 1.3 percent a year over the next ten years (table 1-11).

Uncertainties about assumptions of the global forecast imply uncertainties about macroeconomic prospects for the developing countries. These implications can be explored by tracing how economies are causally linked through interest rates, capital flows, prices, and trade. External sources of risk to the developing-country growth forecast are important although normally not as important as domestically-sourced risk (at the single-country level of analysis).

Countries and regions differ markedly in exposure to external price and financing conditions, as discussed in the previous section. They also differ in the severity of their balance of payments constraints and in the options open to policymakers to operate within these constraints. In the low-case simulation, government consumption is treated as an instrument for demand management. In most cases this variable is assumed to adjust smoothly over time to restore the ratio of external-debt-to-exports to its baseline level by the end of the projection period. Country-specific variations on this constraint are used where a basis for them exists. In addition, competitive positions adjust (endogenously) in response to external conditions.

Contrasting growth results for groups of countries having distinctive structures illustrate the main implications of this risk analysis (table 1-12). For East Asian developing countries, the resilience of exports to external shocks, the autonomous high level of savings, and large domestic and regional markets

help sustain growth and limit recourse to external borrowing, in the low case. Given also the low interest rate exposure of this region, the debt ratio remains at baseline in the low case while the loss of growth in per capita consumption is small and not much greater than that of GDP (0.5 percent year). South Asia is somewhat more vulnerable in a low-case scenario. GDP growth falls by about 1 percent a year because of diminished export growth and reduced fiscal expenditure required to keep within prudent limits of external borrowing. The effects of the low case on countries in the region is uneven, with the smaller, capital-constrained countries being more vulnerable. Given its dependence on oil earnings, the Middle East and North Africa region also experiences a decline of about 0.6 percent in GDP growth under the low case so that per capita GDP averages only 0.3 percent a year.

Developing countries in Latin America and the Caribbean are much more severely affected under the low case. Exposure to higher interest rates and reduced capital flows, combined with less responsive exports, requires major import compression and stops growth in the low case. Consumption declines. The interest-to-export ratio, quadruple that of East Asia, rises substantially further (over baseline), as does the debt-to-GDP ratio, even though the overall rate of external borrowing (measured by the ratio of current-account balance to GDP) falls. For Latin America the downside risk in growth (relative to the forecast) is larger than the upside, reflecting the underlying asymmetry of risks on interest rates and capital flows.

Latin America is expected to be hit the hardest under the low case, even more so than Sub-Saharan Africa.

Table 1-12 Real per capita GDP growth in developing regions, base and low-case scenarios compared
(average annual percentage change)

	1981-90	1991-93	1994-2003	
	Trend	Estimate	Forecast	Low
East Asia	6.2	6.7	6.2	5.7
Latin America	0.0	1.3	1.7	-0.7
Sub-Saharan Africa	-1.1	-1.3	0.9	-0.4
LIPPS ^a	-1.2	-0.3	0.5	-0.8
South Asia	3.3	1.5	3.4	2.5
Middle East and North Africa	-2.7	0.0	0.9	0.3
Europe and Central Asia	1.9	-10.4	2.0	0.9
<i>Memorandum items</i>				
Developing countries	1.4	-0.9	3.0	1.8
Developing countries excluding ECA	1.6	2.6	3.3	2.1

a. Low-income primary producers (see box 1-8).

Source: World Bank staff estimates.

Low Income Primary Producers (LIPPs) in Africa face similarly tough conditions under the low case. They are highly exposed to terms-of-trade shocks, and they have responded historically to such shocks mainly by import compression (box 1-8).¹³ The scope for such a response has been reduced by prolonged deprivation. Thus, for LIPPs in Africa, adjustment of both imports and exports to external adversity is now limited, resulting in falling incomes and higher ex-

ternal borrowing in response to the low case (or more generally, a higher financing "gap," to be closed one way or another).

The relatively high level of official fixed-rate debt partially protects the economies of the region from increases in real interest rates. Being much poorer than the economies of Latin America and having a savings ratio about half as high, countries in Africa save even less (as a percentage of GDP) in the low case

Box 1-8 Economic characteristics of low-income primary producing countries

This report defines low-income primary producing countries (LIPPs) as having per capita income less than US\$675 in 1992 and a share of GDP originating in primary producing (agriculture and mining) exceeding the median (29 percent) for all developing countries for which such data are available. The relative share of primary products in domestic output provides a broad gauge both of the exposure of the economy to trends in international commodity prices and of policies for diversification for long-run growth. By this definition, there are thirty-five LIPPs. In 1993 these countries accounted for 31 percent of the world's population but only 3.4 percent of the world's total GDP (as estimated on a 1987 base). The average per capita income in these countries was US\$420, or about 53 percent of that in developing countries, excluding Eastern Europe and the former Soviet Union. Two of the LIPPs are net exporters of oil: Indonesia and Nigeria.

Of the thirty-five LIPPs,^a five are in Asia (Bangladesh, India, Indonesia, Myanmar, and Nepal), three in Latin America (Guyana, Haiti, and Nicaragua), one in the Middle East (Yemen), and the remaining twenty-six in Sub-Saharan Africa (Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Equatorial Guinea, Ethiopia, The Gambia, Ghana, Guinea-Bissau, Madagascar, Malawi, Mali, Mauritania, Niger, Nigeria, Rwanda, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Uganda, Zaire, and Zambia).

Over the past thirty years the LIPPs as a group have tended to lose ground relative to developing countries as a whole. In 1960, their per capita real GDP was (as estimated on a 1987 base) 63 percent of that in developing countries, excluding Eastern Europe and the FSU. By the time of the oil crisis of 1973, this figure had fallen to 46 percent. It regained that level by 1992 (having fallen to 44 percent by 1980) largely on the strength of the good performance of India and Indonesia. The weak performance of most LIPPs from 1981 to 1986 appears to be related to the exceptional declines in real non-oil commodity prices as well as to high-priced oil. The terms of trade of all LIPPs as a group declined at an annual rate of 3.6 percent from 1981 to 1986 (6.8 percent, if Asian LIPPs are excluded). At the same time the purchasing power of the LIPPs' exports declined by 4.4 percent (9.4 percent, if excluding LIPPs in Asia).

LIPPs relied heavily on import compression (as compared with export adjustment and financing) as a response to these unfavorable shocks. Investment ratios fell dramatically from 1980 to 1986 in African LIPPs.

In 1987-92, growth of per capita real incomes in LIPPs as a group was superior to that in both middle-income and high-income countries (box table). Indeed, LIPP growth in this period did not compare unfavorably with

Average annual change in per capita income (percent)

Group	1974-80	1981-86	1987-92
Low-income countries	3.6	3.6	3.5
excluding China	3.8	-0.3	1.4
LIPPs	2.4	1.0	2.3
Asia	2.5	2.7	3.0
Africa	2.4	-4.6	0.2
Middle-income countries	3.2	-0.3	-0.9
excluding ECA and FSU	2.6	1.4	2.0
High-income countries	2.3	2.5	1.8

Note: Per capita income is measured here as gross domestic income (GDI at 1987 prices adjusted by the difference between real exports and the purchasing power of exports) divided by population.

other low-income countries, excluding China. The improvement in their export performance in 1987-1992 was striking for both African and Asian LIPPs. This bears out earlier findings (for example, the World Bank's reviews of adjustment lending) that trade policy reform has been relatively successful in promoting adjustment to the debt crisis of the early 1980s.

Yet the failure of African LIPPs to show positive growth in per capita income during 1987-92, despite much lower oil prices and less adverse movements in their terms of trade, is a reason for grave concern. These countries have among the highest incidence of poverty in the developing world.

a. Cambodia, Lao PDR, and Guinea are believed to be members of the LIPP group, but no data are available on these economies.

than in the baseline, and their debt ratio becomes nearly triple that of Latin America. Coming on the heels of declining real per capita consumption in the region over the past decade and a half, such a scenario would be cause for serious concern for the world community in general.

Notes

1. See *Global Economic Prospects 1993* for last year's projected trends for the period 1992 to 2002.

2. Dollar prices of primary commodities exported by developing countries relative to dollar unit values of exports of manufactures from industrial countries.

3. In global models using common assumptions (Lal and van Wijnbergen 1985), the terms of trade of countries specializing in primary goods improves in response to fiscal contraction in countries specializing in secondary goods. This price adjustment helps to clear excess supply in markets for secondary goods.

4. The forecast column in table 1-2 incorporates country-specific judgments (by the World Bank's country economists) for the developing countries and consensus forecast views for the industrial countries, together with expertise from the International Economics Department of the World Bank on trends in trade, commodity prices, and international finance. These forecasts are combined in a fully consistent global economic model that includes a complete set of country economic models.

5. The outcome is certain to be different. To examine the sensitivity of projections to alternative global conditions, an internally consistent low-case scenario is explored later in this chapter as a didactic device to study the risks emanating from the international economic environment and to analyze the consequences for developing-country prospects.

6. German unification has been accompanied by an expansion in the fiscal deficit of the former West Germany to about 5 percent of GDP and by large levels of in-migration from the east—since 1989 more than 3 million people, of whom 1 million were from the eastern *Länder* where employment has fallen by over 3 million. The initial effect of these changes was to stimulate demand in all of Europe, but subsequently higher interest rates and appreciating European currencies offset part or all of this stimulus. In the last year, several countries, including the United Kingdom and Italy, have “uncoupled” from German interest and exchange rates.

Simulations suggest that the net effect of German unification to date has probably been to stimulate output slightly in the rest of Europe. But another result has been

to create or worsen a series of structural problems in Germany: high unemployment, inflationary pressures, budget deficits, and ultimately slower growth. The speed at which these problems are resolved depends in good measure on the pace of recovery in the eastern *Länder* of Germany, and recent evidence in this regard is moderately encouraging.

7. IMF 1993. *World Economic Outlook*, table 22.

8. Aggregate demand is stimulated in the short term because deficit reduction is primarily in the future, whereas if the fiscal consolidation plan is credible, the rise in asset prices would tend to stimulate demand immediately. The fall in interest rates and higher equity prices encourage investment and reduce liquidity constraints on firms and households. Aggregate demand would be expected to decline eventually as the contractionary effect of lower government spending dominates, but increased investment and private-sector activity ultimately lead to a rise in the growth rate of potential output.

9. In this figure each observation refers to average growth of GDP and of the GDP deflator during the five-year period ending with the indicated year. Viewed in this way, the cyclical recovery of real growth rates from the downturn of 1990–93 begins with 1995 and peaks about 1999, then moves toward the long-term trend (for industrial countries as a group) of about 2.5 percent. Meanwhile, inflation edges downward quite steadily, reflecting progress on this front in Europe that is not offset by (small) increases in inflation in North America and Japan. The role of supply-enhancing structural reforms in this forecast, as well as the assumed absence of adverse supply shocks, can be assessed by comparing the expected conditions with earlier phases: supply shocks with demand expansion during the 1970s, then monetary retrenchment and slow output recovery during the 1980s, leading to the asset deflation and demand retrenchment of the early 1990s. Inflation is back to its pre-1970 range, while trends in productivity are now lower.

10. This ratio is defined as the ratio of foreign liabilities to exports to which the country will converge if it sustains a given export growth and a given ratio of the current account deficit to export.

11. The FSU is assumed to be one country because of the need to compare the debt figures of 1990–92 with the 1982–87 period.

12. NAFTA is the most prominent recent example of regionalism in trade, which appears to be deepening along geographic lines, involving both industrial and developing countries to a greater extent than before, whether in the Americas, Pacific Asia, or Europe-Africa.

13. See also Dadush and Dhareshwar 1994.

2

Does dependence on primary commodities mean slower growth?

Chapter 1 noted that some parts of the developing world, notably East Asia, appear to be on a rapid growth path, with per capita incomes converging rapidly with those in industrial countries. At the other extreme, low-income primary producers, especially in Sub-Saharan Africa, face a less promising future; growth in per capita incomes is expected to rise from the depressed levels of the 1980s but not by enough to make much difference to per capita consumption. *To what extent are the structure of the world's commodity markets and the trends in international commodity prices responsible for the poor performance of these economies and for their less-than-promising outlook?*

World commodity markets and the economic performance of commodity exporters

The 1980s were crisis years for commodity exporters. As well as facing high international real interest rates, these countries confronted sharply falling commodity prices through most of the decade and up to 1993. The estimated annual loss to developing countries from the fall in commodity prices between 1980 and 1993 reached US\$100 billion a year in 1993—or more than twice the total flow of aid in 1990. The World Bank's index for real non-oil commodity prices halved.¹ Indeed, real prices of many non-oil commodities today are the lowest they have been since 1945.²

Although the decline in relative commodity prices vis-à-vis manufactures was particularly steep in the 1980s and contributed to the poor economic performance of commodity exporters, recent history shows that commodity exporters have been underachievers for longer than just the 1980s. Average growth fell by about one and a half percentage points per decade between 1960 and 1992 (table 2-1).³ More important, commodity exporters grew more slowly than diversified exporters or exporters of manufactures or services.⁴ In the 1960s their average GDP growth rate was 1.7 percentage points below the average for all developing countries (excluding the former Soviet Union).

This gap climbed to 2.3 percentage points in the 1970s before falling back to 1.8 percentage points in the 1980s.

Non-oil commodity exporters were particularly unfortunate in the 1980s. Real interest rates rose from an average of 0.3 percent in the second half of the 1970s to 5.8 percent in the first half of the 1980s, real non-oil commodity prices (deflated by the manufactures unit value index) fell by 6.3 percent a year, and the cost of oil imports remained high in the first half of the decade. The terms-of-trade shock to these countries reduced their real incomes by an average of 5 percent of GDP, with larger declines in countries such as Côte d'Ivoire (6 percent), Uganda (7 percent), Costa Rica (9 percent), Cameroon (11 percent), and Togo (13 percent). Not surprisingly, growth slowed.⁵ For many countries, particularly those in Sub-Saharan Africa and Latin America, the 1980s came to be known as the lost decade.

Economic growth of non-oil commodity exporters as a group declined during the last three decades and was much below the developing-country average.

Table 2-1 GDP growth rate of developing countries according to exporter type

	1960-70	1970-80	1980-92	1960-92
Exporters of				
Non-oil				
commodities	4.3	3.0	1.4	2.8
Fuel	7.5	5.2	0.5	3.0
Services	5.9	5.1	2.6	4.5
Manufactures	6.5	6.5	6.8	7.0
Diversified	5.1	5.7	3.6	4.9
Memorandum item				
Developing country average	6.0	5.3	3.2	4.5

Source: World Bank.

But there are some examples around the world to suggest that commodity exporters can also be successful in maintaining high growth. A good example is Chile, which expanded its fruit exports dramatically in the 1980s (box 2-1). Another is Botswana, which maintained the highest average GDP growth in the world from 1970 to 1990, largely on the strength of its exports of uncut diamonds (box 2-2). What seemed to matter in both these countries was the government's commitment toward a stable political and macroeconomic climate as well as trade and exchange-rate policies that encouraged exports.

Indeed, many of today's successful developing countries with diversified export structures were once heavily dependent on primary commodities—Malaysia, for example. In 1965 about 89 percent of its

exports were primary commodities; today this share is less than 28 percent (table 2-2).⁶ Does this mean that Malaysia has a dismal record of exporting primary commodities? On the contrary, its record is outstanding. Malaysia's palm oil production doubled between 1962 and 1967; it doubled again by 1970 and again by 1973, 1977, 1982, and 1989. Malaysia's cocoa production saw a similar astronomic increase. In 1970 it produced 3,000 tons; by 1993 this was 225,000 tons, more than that of Nigeria, an established cocoa producer.

Malaysia is not an isolated case. Between 1970 and 1990, Thailand's exports of shrimp grew sixteen-fold; in fact, shrimp is now second only to rice among Thailand's export commodities. Over the same period Brazil's exports of orange juice shot up three-

Box 2-1 Chilean commodity exports: fruits of success

Chile's potential as a fruit exporter has long been known. The country's length, stretching for some 3,000 miles from the Atacama desert in the north to the glacial southern tip of the Americas, harbors a multitude of microclimates suitable for diversified agricultural, especially fruit, production. Chile's natural borders shelter its environment from the ravages of agricultural pests and diseases.

Yet Chile was not always a major supplier of off-season fruit to the world. Although fresh fruit exports grew at 5 percent a year between 1960 and 1973, they represented less than 1 percent of total Chilean exports in 1974. Agricultural price controls reduced returns to agricultural investment, and high and varying tariff barriers discouraged export activities. Land reform, initiated by the Alessandri administration (1958-64), took a radical turn during the Allende government (1970-73), contributing to a virtual collapse of private investment in the agricultural sector. And a cargo reservation system designed to protect Chile's own cargo fleet lowered the flexibility of Chilean fruit exporters and reduced their competitiveness in world markets.

Market-oriented reforms initiated in 1973 removed some of these constraints. Tariff barriers were reduced to a uniform 10 percent by 1979, although there were some increases in the mid-1980s; today the uniform tariff is 11 percent. The government lifted the ban on land ownership by corporations, eliminated the maximum legal size of land holdings, and repealed the legal authority for land expropriation. In 1979 the government also adopted a new shipping law that introduced more competition in the shipping industry and deregulated Chilean ports, bringing down the costs of shipping and handling significantly.

From 1974 to 1990, exports of fresh fruit grew at an astonishing 25 percent per year. The share of fresh fruit in Chile's total exports rose to 10 percent by the late

1980s, with annual export revenues exceeding US\$500 million. Although grapes and apples continue to comprise the bulk of Chile's fruit exports, the area planted under pears, plums, and kiwifruit expanded at 10 percent a year after 1973. Now Chile is the largest fresh deciduous-fruit exporter in the world, accounting for more than half of counterseasonal fruit exports to the northern hemisphere. The growth of nontraditional exports has promoted a significant diversification of Chile's export profile. Exports of cellulose and wood products also grew at a rapid pace in the 1980s. The share of copper in total exports, which was more than 70 percent in the early 1970s, fell to 38 percent by 1992.

Foreign private capital has been crucial to this export expansion. The five largest fruit companies account for about half of Chile's fruit exports, and four of these are transnational corporations. Their knowledge of export markets and ability to penetrate them have been important ingredients in Chile's successful export drive.

The benefits of expansion in the Chilean fruit industry have been widely shared. Independent growers receive technical and financial assistance from the large trading companies to meet the demanding quality standards of consumers in high-income countries. And employment has increased substantially; estimates of workers directly employed by the fruit industry at the peak of the growing season number about 250,000, or 5 percent of Chile's labor force. Indirect employment in related sectors could be larger.

Whether Chile can maintain the dramatic growth rates of fruit exports of the 1980s is open to conjecture. Several challenges loom, not least of which are the real appreciation of the Chilean peso since 1990, the reemergence of South Africa as a major competitor in world markets, and the protectionist initiatives taking shape in the European Union and the United States.

Box 2-2 All that glitters is not gold

Which was the fastest growing country in the world in the 1970s and 1980s? One of the newly industrializing economies in East Asia? Wrong. Botswana, a small country in Sub-Saharan Africa, where GDP grew by an annual 14.5 percent in 1970–80 and slowed to a breathtaking 9.8 percent in 1980–91.

Botswana is the quintessential commodity-exporting economy, relying for 80 percent of its export revenues on one commodity. It helps, of course, when that commodity is uncut diamonds.

But Botswana's impressive economic performance is not solely due to the unusual commodity it exports. It resulted instead from careful attention to three things—maintaining a stable macroeconomic environment through the use of prudent fiscal policies; maintaining an aggressive exchange-rate policy that helped export activities; and providing a hospitable policy environment for foreign direct investment.

For most years during the past two decades, Botswana achieved a cash surplus in its budget. The government had no domestic debt, and foreign borrowing was almost always on soft terms so that the government's debt-service obligations remained low. In good times the government built its reserves, which it then ran down in leaner times. Its 50 percent holding of the Debswana Diamond Company and the imposition

of royalty taxes on diamond mining contributed to a healthy growth in revenues that supported rising expenditures on education, health, infrastructure, and an expansion of government services—all while the government was maintaining a budgetary cash surplus.

Botswana was unusual among the Sub-Saharan African economies in making frequent changes to its nominal exchange rate. This, and its low inflation, meant that its real effective exchange rate remained relatively stable throughout the 1970s and the early part of the 1980s. It depreciated after 1984 when the U.S. dollar strengthened markedly. This aggressive exchange-rate policy kept Botswana competitive in international markets. Export earnings in U.S. dollar terms grew at almost 18 percent a year between 1973 and 1991. Most of these earnings represented volume, not price, increases.

The rapid expansion in Botswana's export volume was mainly due to an increase in the productive capacity of the mining sector, financed largely by foreign direct investment. By relying on foreign equity finance, Botswana was able to undertake projects that would not otherwise have been possible. Moreover, it obtained the latest technology in mineral exploration and extraction and gained entry to international markets on favorable terms for many of its mineral exports.

hundred-fold, and China's exports of soybean cake increased eighty-fold. Indonesia, like Malaysia, has been enormously successful in palm oil, shrimp, cocoa, and timber products. Yet these countries that were heavily dependent on primary commodities for export earnings a few decades ago are no longer so today. And virtually every one of them has grown significantly faster than the average non-oil primary commodity exporter.

Econometric evidence suggests that total factor productivity (TFP) growth in agriculture is just as rapid as it is in manufacturing.⁷ For example, one study concluded that both TFP growth and labor productivity growth have been higher in agriculture than in other sectors in a number of countries (Evans 1987). Two other studies (on the United States and on Australia) concluded that productivity growth had been more rapid in agriculture than in the rest of the economy (Jorgenson, Gollop, and Fraumeni 1987 and Lewis, Martin, and Savage 1988). A study on Thailand found no statistical difference between the estimates for TFP growth in agriculture and the rest of the economy, and a related study on Indonesia found a bias toward agriculture (Martin and Warr 1992 and 1993). A recent study of fourteen OECD countries and three developing economies found an

average TFP growth of 1.47 percent a year in agriculture and 1.51 percent in manufacturing (Martin and Mitra 1993). For the three developing economies (Argentina, India, and Korea), average productivity growth was higher in agriculture (2.5 percent a year) than in manufacturing (1.9 percent a year).

This evidence suggests that a high share of commodities in total output or exports does not necessarily condemn a country to low growth. But there are no examples where countries have grown slowly and still substantially lowered the share of primary commodities in total exports. In fact, on the basis of data for eighty-seven countries, there appears to be a clear relationship between economic growth and the decline in dependence on primary exports (figure 2-1). The higher the economic growth, the more rapidly does diversification of the production and export base take place. Perhaps more important, the faster the growth in commodities, the more rapid the diversification of the economy away from commodities and toward manufacturing.

The declining share of primary production in growing economies is fully consistent with the finding that productivity growth in the primary sectors is at least as high as in manufacturing, if not higher. The primary sectors may have a high TFP growth and

Many countries succeeded in growing fast while diversifying their export base.

Table 2-2 Share of non-oil primary commodities in total exports and GDP growth: selected countries^a

(shares in percent; growth in average annual percentage change)

	Share in		Decline in share	GDP growth 1960-90
	1965	1990		
Thailand	97	35	62	7.3
Malaysia	89	28	61	6.8
Brazil	92	45	47	6.1
Pakistan	63	20	43	5.9
Cyprus	84	43	41	7.0
Turkey	96	30	66	5.4
Morocco	94	44	50	4.9
Sri Lanka	99	42	57	4.7

Memorandum item

Non-oil primary commodity exporters^b 2.6

a. The countries were selected if their shares were higher than 50 percent in 1965 but lower than 50 percent in 1990.

b. Using the classification criterion adopted in this report, namely, if non-oil primary commodity exports exceeded 50 percent of total exports.

Source: World Bank.

relatively low output growth as long as capital and labor are reallocated to other sectors (such as manufacturing) rapidly enough. In Thailand and Indonesia, for example, a fast expanding manufacturing sector benefited from high investment rates and drew its labor from an increasingly competitive agricultural sector that needed fewer people to produce more output. In Indonesia more than the entire decline in agriculture's share in GDP in 1960-86 can be explained by capital deepening in the economy, which stimulated nonagricultural employment and drew resources out of agriculture (Martin and Warr 1993).

The relatively rapid pace of technological progress in commodities production serves to explain some puzzles. First, it explains why some traditional commodity exporters such as Chile, Malaysia, and Thailand have been able to grow rapidly despite the widely held view that commodity production is a brake on growth. Second, it explains why the importance of commodities in the production and export patterns of these countries has declined as these economies have grown. And third, it explains why wage growth has typically been slow in an extended period of industrial growth: the manufacturing sector was able to draw labor from the commodities sectors, which, thanks to rapid productivity growth, were able to produce more with fewer workers.

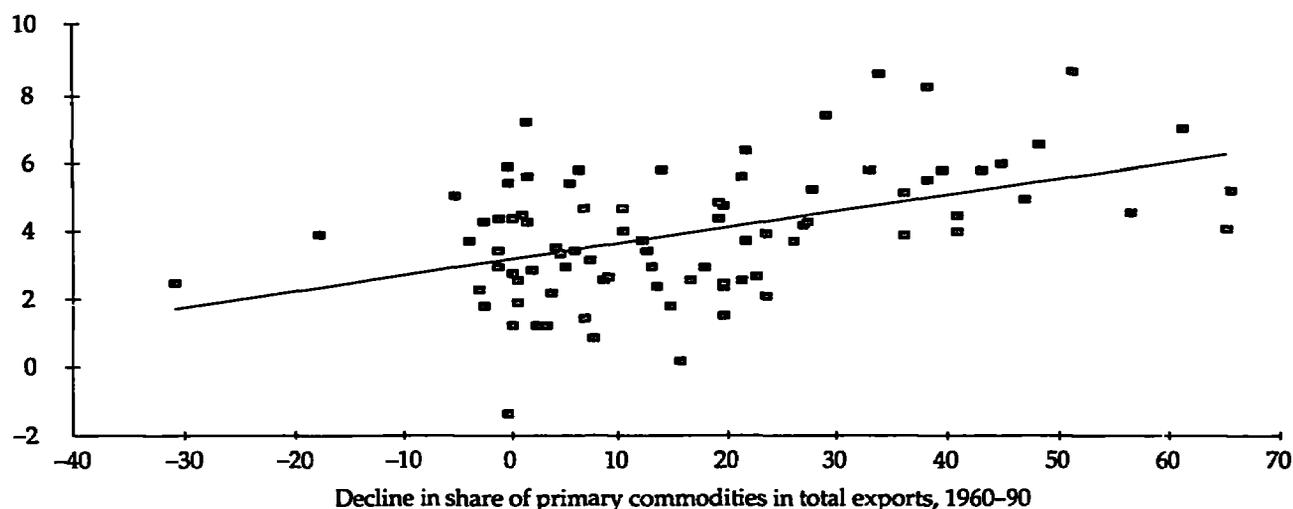
Many African economies, on the other hand, have found it difficult to diversify, partly because the pol-

The higher the growth rate, the more rapid is the shift in export composition away from primary commodities.

Figure 2-1 Relationship between growth rates and the change in commodity dependency

(growth in percent per year; decline in share in percentage points)

Growth rate, 1960-90



Source: World Bank.

Sub-Saharan Africa's share of world commodity markets has dwindled because of the "industrial

Table 2-3 Sub-Saharan Africa's share in world exports of selected commodities, selected years, 1971-91
(percent)

Commodity	1971	1981	1991
Cocoa beans	81	71	67
Coffee	29	24	15
Tea	13	14	16
Sugar	6	6	10
Groundnut oil	41	17	34
Palm oil	16	3	3
Cotton	16	9	15
Tobacco	9	11	15
<i>Memorandum item</i>			
Share of agricultural commodities in African exports	47	24	29

Source: World Bank.

icies they adopted in the 1960s and 1970s stunted the competitiveness of their primary exports in international markets. Ironically, these policies—high protectionist barriers against imports of manufactures, large state enterprise sectors, and export taxes on primary exports—were designed partly to develop a manufacturing sector that would make them less dependent on primary products. Instead, over the past two decades, Sub-Saharan Africa has remained heavily dependent on agricultural commodities even though its share of the world market in most commodities has dwindled (table 2-3).

A recent report by the World Bank identifies key policy issues that these countries need to address if they are to accelerate per capita income growth (World Bank 1994). An essential ingredient to any strategy for these countries would be to improve export performance, especially in primary commodities. Our previous analysis has shown that some commodity exporters have performed well in world markets. A key element in their strategy was to emphasize efficiency gains in commodity production and export through open trade and a conducive policy environment for foreign direct investment.

Could the low-income producers of Sub-Saharan Africa replicate this performance? Not to the same degree, because they have less physical and human capital with which to do the job. But there is little doubt that they have the potential to improve upon their own past performance. The larger the importance of commodities in the economy, the greater

is the imperative for emphasizing efficiency improvements in production through appropriate policies.

Something to consider, however, is whether world commodity markets have changed, in either structure or behavior, in directions that would conspire to inhibit improved export performance in the future. Linked to this is the key issue of the declining relative price of primary commodities vis-à-vis manufactures. Is the recent acceleration of this trend likely to remain a permanent feature of the international economic landscape, and will it frustrate the development of countries that currently specialize in commodity production?

Changing character of world commodity markets

World trade in primary commodities has grown much more slowly than world GDP and comprises a much smaller share of total world trade than manufactures (table 2-4). Although commodities may not loom large in international trade, they are of considerable importance to some developing regions. Today, twenty-nine of forty-nine Sub-Saharan African economies and eighteen of thirty-eight Latin American economies depend on primary commodities for more than 50 percent of their export earnings.

The major markets for most of these commodity producers are the industrial countries. Seventy-two percent of the world's commodity exports are bought

World trade in primary commodities is smaller than in manufactures and is growing more slowly.

Table 2-4 The role of primary commodities in international trade
(percent)

Category	Share 1992	Average annual growth ^a
Merchandise	78	4.6
Manufactures	59	5.2
Commodities	19	3.1
Fuels	7	3.6
Other raw materials	4	2.7
Food and beverages	8	3.0
Services ^b	22	4.5
Total	100	4.6
<i>Memorandum item</i>		
World GDP	—	3.0

— Not available.

a. Growth rates are based on real 1987 U.S. dollar measures.

b. Refers to commercial services as defined by GATT.

Source: World Bank.

by the industrial nations, more or less in proportion to their share in world GDP and world imports of manufactures. Less well known is that industrial nations account for about half the world's exports of primary commodities, and this proportion has remained more or less the same over several decades. In fact, even though developing countries tend to be associated with agricultural production and exports, it is the industrial countries that account for two-thirds of global agricultural exports. The industrial countries' predominance is mainly in timber (62 percent), fish (65 percent), vegetables (67 percent), energy exports (73 percent), tubers (75 percent), cereals (80 percent), and dairy products (89 percent). Developing countries dominate world markets in tobacco (60 percent), sugar (65 percent), coffee, cocoa, and tea (80 percent), and rubber (90 percent).

In both industrial and developing countries, however, commodities have comprised a smaller and smaller share of total exports. In industrial countries this share halved from 17 percent to 9 percent over three decades (1960–90); for all developing countries the share also halved, from 75 percent to 38 percent. This decline reflects the slower growth of world trade in commodities and the correspondingly higher growth in manufactures and services.

Why have commodities exports grown more slowly than world production and income?

The answer differs according to the commodity. Consider food, for example, which now comprises

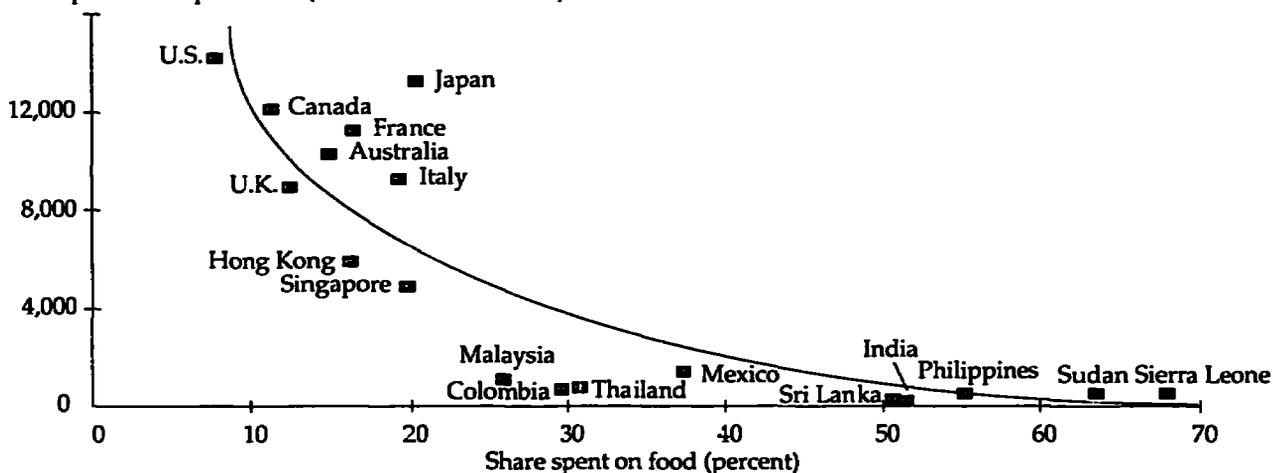
5 percent of world commodity trade. As incomes rise, a smaller share of household budgets tends to be spent on food (figure 2-2). In India, food expenditures account for about 50 percent of total personal expenditures; in Mexico, where per capita incomes are significantly higher than in India, the share is closer to 37 percent. The average household in Hong Kong or Singapore now spends less than 20 percent.⁸ This relationship—so strongly supported that it is known as Engel's law, after the economist who formulated it—suggests that the growth in demand for food will inevitably be slower than the growth in incomes. Unless production costs are rising, the share of food in world consumption and trade will tend to decline.

When considering different foods, a clear pattern emerges between consumption preferences and income levels (figure 2-3a-c). In low-income countries, in Sub-Saharan Africa for example, coarse grains, such as white maize, millet, and sorghum, and starchy roots such as cassava and yams are the major sources of calories for households. But over time, as incomes rise, the share of rice and wheat tends to increase. For example, per capita cassava consumption halved in the Central African Republic between 1961 and 1990 and fell by about a third in Congo and Guinea. At the same time the per capita consumption of wheat grew almost six-fold in Cameroon and rose by around 40 percent in Côte d'Ivoire and The Gambia. In the developing economies of East Asia, on the other hand, with higher and sharply rising incomes coupled with rapid urbanization, rice

The poorer the country, the higher is the share of personal consumption expenditures spent on food.

Figure 2-2 Percentage of total consumption expenditure spent on food: selected countries

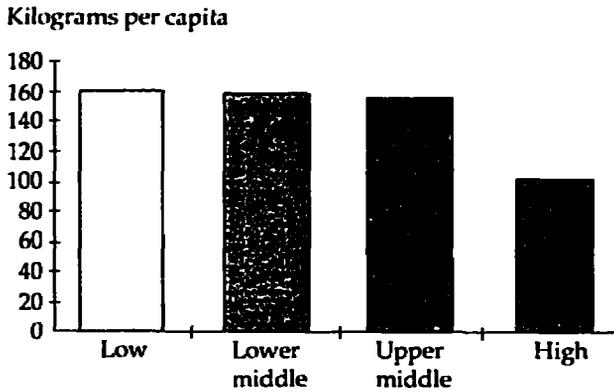
Total personal expenditure (in 1989–90 U.S. dollars)



Source: Mitchell and Ingco 1993.

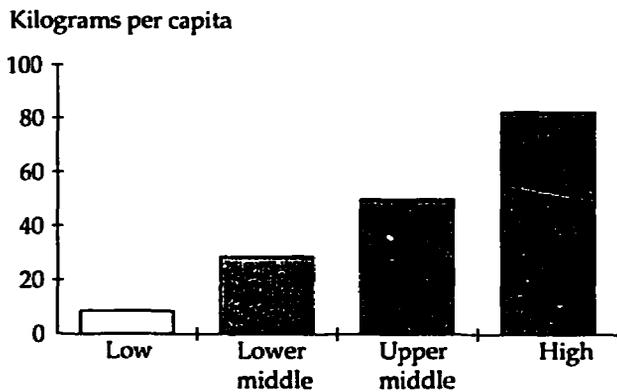
Cereals consumption per capita declines with income...

Figure 2-3a Per capita cereals consumption by income group
(average, 1980-91)



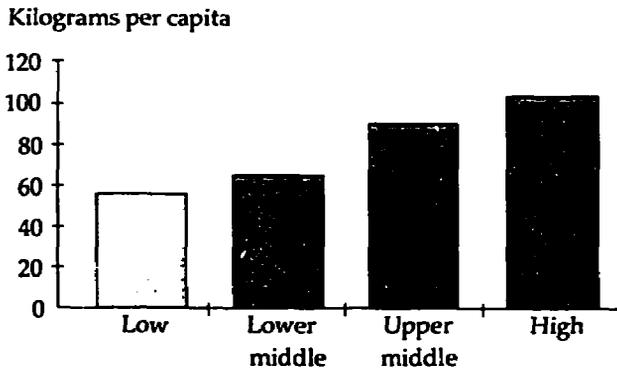
... but per capita meat consumption rises...

Figure 2-3b Per capita meat consumption by income group
(average, 1980-91)



... as does the consumption of vegetables.

Figure 2-3c Per capita vegetable consumption by income group
(average, 1980-91)



Source: Mitchell and Ingco 1993.

consumption per capita is declining, and demand for meat, fruit, vegetables, wheat products, and processed foods is increasing rapidly. In China, for example, the per capita consumption of cereals doubled between 1960 and 1984. But since 1984, when economic growth accelerated, per capita consumption of cereals actually has declined while that of meat has tripled and fruits and vegetables has doubled.

The implications of these changing patterns of food consumption for developing countries are clear. Cereal exporters, especially exporters of rice and other food grains, will continue to find demand growing slowly relative to income growth in their principal markets.⁹ Countries able to export foods for which demand is income-responsive (such as meat, fruits, and vegetables) stand to gain significantly from current income trends. Consider the examples of China, Indonesia, and Thailand, which have been extraordinarily successful in exporting shrimp to France, Hong Kong, Japan, Singapore, and the United States. Consumption of shrimp doubled in the United States and Japan from 1982 to 1992 while Thailand's shrimp exports rose five-fold (from 28,300 tons to 140,400 tons). Shrimp trade rose sharply partly because the cost of production fell dramatically, thanks to new farming methods that use sophisticated techniques for aeration, feeding, hatchery production, and waste removal. In 1991, shellfish was the largest non-oil commodity item exported by developing countries, having crowded out the longstanding leader (coffee) by a comfortable margin. Interestingly, shellfish exports were not confined to the more advanced developing countries; in 1990, shellfish was the largest single commodity export of a number of low-income countries, including Bangladesh, Mauritania, Mozambique, and Viet Nam.

The sharp increase in vegetable oil demand in the developing world, triggered by rising incomes, has contributed to rapid growth in its production and trade. In 1970 the developing world consumed about half the world's supply of fats and oils; today it accounts for almost two-thirds. For example, in Bangladesh more than half the incremental caloric intake between 1979 and 1989 came from vegetable oils. Rapid income growth in recent years has led to huge increases in demand for vegetable oils in such important markets as Bangladesh, China, India, Indonesia, Nigeria, the Philippines, and Thailand. Indeed, one estimate suggests that a 1 kilogram per capita increase in vegetable oil consumption in China and India alone would raise world consumption of vegetable oil by a third. Surprisingly, such large increases in demand have not led to a rise in the international price of vegetable oils. In fact, the price of vegetable oils relative to manufactures declined in the 1980s. This was because technological

improvements and more efficient production techniques boosted output, primarily in developing countries and notably in Argentina, Brazil, Malaysia, and Indonesia.¹⁰

Shrimp and vegetable oils are examples of food items for which income growth has increased demand while technological improvements in production have reduced cost, leading to rapid expansion of production and exports. For tropical beverages, such as coffee, cocoa, and tea, demand is less responsive to income growth. In the main consuming markets, a 1 percent increase in incomes is likely to lead to an increase of about 0.5 percent in demand for such tropical beverages, with larger increases in developing countries (table 2-5). Partly through increases in cultivated area and partly through technical improvements, world production of these commodities has tended to grow faster than demand in consuming countries (largely the industrial world). Consequently, the international price of coffee, cocoa, and tea has tended to decline more rapidly than the prices of other primary commodities. This was especially true in the 1980s when the aggregate price index for these beverages fell by about 60 percent (relative to the price of manufactures) or roughly 5 percent a year on average.

The income elasticity of commodities varies greatly but tends to be lower than for manufactures.

Table 2-5 Income elasticity estimates in developing countries for selected commodities^a

<i>Item</i>	<i>Income elasticity</i>
Wheat	0.04 – 0.98
Rice	0.01 – 0.30
Beef	0.75 – 1.85
Poultry	0.40 – 2.20
Pork	0.50 – 0.97
Milk	1.50 – 2.50
Eggs	0.80 – 1.20
Fish	0.61 – 1.50
Shrimp	1.25
Fruit	1.22 – 2.50
Sugar	1.50 – 2.00
Vegetables	0.10 – 0.92
Vegetable oils	0.50 – 1.81
Beverages	0.74
Cocoa	0.75
Manufactures	0.74 – 3.38

a. The percentage increase in demand as a result of a 1 percent increase in income. The estimates are based on studies of developing countries. The range of estimates reflects differences in per capita income levels among countries.

Sources: Bouis 1989; Ingco 1991; Kesavan and Roche 1992; and Marquez and McNeilly 1988.

In terms of raw materials consumption, different factors are at work in restraining growth below that in incomes. The principal reasons seem to be an evolution in the structure of economic activity in the key consuming countries toward products and services requiring less raw material input, the development of synthetic substitutes, and a decline in the materials intensity of industrial output generally.

Synthetic substitutes have made rapid inroads into the markets for agricultural and industrial raw materials since the 1950s when the consumption of man-made fibers rose six times faster than wool and cotton and the consumption of synthetic rubber rose three times faster than natural rubber (Rowlatt and Blackaby 1959). In subsequent decades the intensity of use of agricultural raw materials in industrial production continued to decline (albeit at a decelerating pace) while the decline in the intensity of use of metals and minerals in industrial production accelerated (table 2-6). Overall, despite the increasing importance of synthetic materials in industrial production, total materials intensity declined in both the 1970s and the 1980s.

The materials content in industrial output actually increased in the 1960s but declined thereafter, first rapidly and then more slowly. At the same time, substitution of synthetic for natural raw materials was important throughout the period (table 2-7). Examples of this phenomenon include the substitution of plastics for abaca in cordage, for leather in footwear, and for coir in upholstery and matting.¹¹ Similarly, jute bags have progressively been replaced by bulk handling equipment for the handling and storage of grain. Among the developing countries hardest hit by the displacement of traditional exports are Bangladesh (jute) and Tanzania (sisal).

Not all traditional exporters have succumbed to these technological forces. Producers of cotton and wool have retained a share of their markets by identifying these products as *natural* fibers and catering to specific market segments. Similarly, productivity improvements in natural rubber and improvements in technical and quality standards have maintained its price competitiveness vis-à-vis synthetic rubber. In some uses, for radial tires and surgical products, for example, natural rubber maintains a distinct technical advantage over synthetic rubber.

The significant decline in metals and minerals consumption in the 1980s can be explained partly by the sharp rise in energy prices after 1973. This was especially apparent in the automobile industry, where the drive for fuel efficiency led to weight reductions and improved engine efficiency. The average U.S. automobile is 15 percent (or 550 pounds) lighter today than in 1974 despite the addition of many safety, environmental, and convenience features.

In industrial countries the materials intensity of production has declined, especially in the 1980s.

Table 2-6 Materials consumption related to industrial production in OECD countries, 1963–86
(annual average growth rates; in percent per year)

Type of material input	Growth rate of consumption ^a			Growth rate of materials consumption per unit of industrial production		
	1963–73	1973–80	1980–86	1963–73	1973–80	1980–86
Natural materials	3.2	0.8	-0.4	-2.2	-2.2	-1.8
Agricultural raw materials ^b	0.6	-1.3	-0.1	-4.2	-4.2	-1.5
Metals and minerals ^c	5.0	1.8	-0.5	-0.5	-1.2	-2.0
Synthetic materials ^d	11.6	2.6	2.3	5.9	-0.4	0.7
All materials	6.1	1.6	0.8	0.5	-1.4	-0.6
<i>Memorandum item</i>						
OECD industrial output	5.8	3.3	1.5	—	—	—

— Not available.

a. Growth rates calculated at 1980 values.

b. Cotton, jute, rubber, sisal, timber (nonconiferous), tobacco, and wool.

c. Aluminum, copper, iron ore, lead, manganese ore, nickel, tin, tungsten, zinc, and phosphate rock.

d. Synthetic fibers, synthetic rubber, and plastic material.

Source: Maizels 1992 (tables 11.2 and 11.3).

Has the organizational structure of international commodity markets changed?

In trying to understand why commodity trade has declined as a share of world trade, this report has argued so far that it is partly due to low income elasticities of demand (mainly for food) and the de-

clining intensity of raw materials use in economic activity. But to what extent is it also due to the organizational structure of commodity markets—namely, the large presence of transnational corporations (TNCs), governments, and cartels in the production and marketing of commodities? Although the data confirm some concentration in marketing of commodities, there is not enough evidence to establish or reject the view that this has caused a decline in the international price of commodities or reduced the share of commodities in world trade.

Transnational corporations are an important presence in the production of some commodities although the predominance they enjoyed in the 1960s and 1970s is declining. For example, in petroleum, the seven largest TNCs accounted for 47 percent of world crude output in 1970; by 1992 this had fallen to 11 percent. Similarly, although more than half of global mine production was in the hands of TNCs in the 1960s, this had fallen to 40 percent for bauxite, 27 percent for copper, and 22 percent for iron ore by 1990. United Kingdom TNCs continue to retain an important share in tea production, particularly in India and Kenya, and maintain a strong presence in sisal production.

Although the role of TNCs in the production of commodities appears to have diminished, they remain dominant in downstream marketing, transport, and distribution (table 2-8). A few TNCs account for 85 percent or more of world trade in cocoa, coffee, grains, iron ore, jute, timber, and tobacco. Almost 70 percent of world trade in bananas is in the hands of

The substitution of synthetic for natural materials has been an important factor in the declining intensity of natural materials use in industrial production.

Table 2-7 Declining natural materials intensity: sources of change

(average annual growth rate; percent per year)

	1963–73	1973–80	1980–86
Growth in natural materials consumption	3.2	0.8	-0.4
Growth in industrial production	5.8	3.3	1.5
Difference	-2.6	-2.5	-1.9
<i>Accounted for by:</i>			
Substitution of synthetic for natural materials	-2.9	-0.9	-1.2
Change in materials content arising from structural change within industry	0.3	-1.6	-0.7

Source: Maizels 1992.

Transnational companies account for a large proportion of commodities marketing.

Table 2-8 Estimated shares of commodity trade controlled by TNCs (percent)

<i>Commodity</i>	<i>Proportion of global exports marketed by 3-6 largest TNCs</i>
Foods and beverages	
Wheat	85-90
Maize	85-90
Sugar	60
Coffee	85-90
Rice	70
Cocoa beans	55
Tea	80
Bananas	70-75
Agricultural raw materials	
Timber (nonconiferous)	90
Cotton	85-90
Hides and skins	25
Tobacco	85-90
Natural rubber	70-75
Jute and jute products	85-90
Minerals and metals	
Copper	80-85
Iron ore	90-95
Bauxite and alumina	80-85
Tin	75-80
Phosphate rock	50-60

Source: Clairmont and Cavanagh 1988.

three TNCs, while in rough diamonds, perhaps the most extreme case, one TNC (De Beers) controls 80 percent of world trade.

The concentration of trade with a few large TNCs in such a wide range of commodities arises partly because producer countries find it difficult to distribute and market products independently. For some countries, this is due to scale economies in processing (Braga and Silber 1993). For others, large investments by TNCs in advertising have given them brand name recognition and loyalty, which are extremely hard to overcome without equally large investments by competitors backed by high-quality products and competitive prices. The high cost of processing, packaging, advertising, marketing, and distribution means that the cost of the primary commodity as a share of the final product price is usually small: for raw cotton the growers' price represents about 4-8 percent of the final product price; for tobacco this share is closer to 6 percent. For bananas, producer countries obtain about 14 percent of the retail price;

for jute goods it is 11-24 percent; for coffee, between 12 and 25 percent; and for tea the growers' share is 47 percent of the U.K. retail price for packeted tea but only 15 percent of the U.S. retail price of tea bags (Girvan 1987 and *Financial Times*, October 1, 1993).

Although the concentration of buyers observed in many commodity markets suggests strong market power, there is little evidence to establish or refute whether this is widely used to lower primary product prices. Certainly it does not seem that increasing concentration contributed to the price decline in the 1980s. The high market shares of TNCs reported in table 2-8 typically applied in the early 1980s. Presumably, market power is limited by competition with other incumbent firms and potential competition from new entrants attracted by artificially high prices to consumers or low prices to producers. Whether firms behave competitively or not depends, in part, on the policy environment in which they operate. Firms are more likely to behave competitively in markets where entry and exit are easy and prices are the outcome of competitive forces. Policies that restrict the entry and exit of firms or impose trade barriers, such as minimum import prices mandated by anti-dumping statutes, tend to facilitate collusive behavior by processors and marketers (Braga and Silber 1993). The rapid growth in the number of commodity exchanges around the world augurs well for maintaining competitive pressures on buyers and sellers. These markets, supported by appropriate standards and rules of information disclosure, are likely to ease the entry of buyers and sellers and help establish a competitive, transparent market environment.

How do trade barriers in industrial and developing countries affect international commodity markets?

A key factor influencing the level and pattern of trade in commodities is the extent of agricultural protection in both industrial and developing countries. Despite significant efforts at the international level to reduce protection, especially in industrial countries, it nevertheless remains high. Although tariff levels have declined in conformity with successive GATT agreements, nontariff barriers have become the principal means of protection, especially since the start of the last Uruguay Round of multilateral trade negotiations in 1986. Overall, these barriers in industrial countries tend to be low compared with developing countries. Barriers aimed at agricultural imports, however, have not been subject to GATT disciplines and tend to be significantly higher than those in manufacturing. And because most developing-country exports are destined for industrial-country markets, these trade-inhibiting measures can have an adverse effect on developing-country prospects.

Governments have introduced a variety of non-tariff barriers to protect agricultural sectors from international competition. Such measures include quotas, variable levies, export subsidies, antidumping and countervailing actions, and direct budgetary support in the form of production subsidies. When the effects of all these measures are taken into account, the total transfers provided to agriculture in OECD countries amounted to about US\$350 billion in 1992 or about six times the official development finance provided to developing countries (GATT 1993a). Most of these transfers were in the EU (US\$156 billion), the United States (US\$91 billion), and Japan (US\$74 billion). As a share of GDP, this amounted to 1.9 percent on average for the OECD. For the EU and Japan, transfers to agriculture were close to the same size as total value added in the agricultural sector. In most industrial countries, however, while the absolute size of transfers to agriculture has been rising, it has been falling as a share of agricultural output.

A similar picture emerges on net producer subsidy equivalents. These started declining in the second half of the 1980s, and the United States provides the smallest subsidy equivalent among the big three (table 2-9).

There is considerable variability in protection from commodity to commodity. Japan's import barriers are the highest among the big three and are particularly severe against wheat, rice, and coarse grains (table 2-10). Protection in the European Union is lower, but is nevertheless high for rice, sugar, dairy products, and beef. Agricultural protection in the EU reflects the power of the farm lobby in Europe and the dependence of farmers on transfers from consumers and taxpayers. Reform of the Common Agricultural Policy reduced the policy's market distorting effects and paved the way for the EU's agreement that agriculture should be included in the

The subsidy equivalent to agriculture remains high in industrial countries.

Table 2-9 Net producer subsidy equivalents^a
(percent of total value of production)

	Average 1979-81	1986	1990
EU 12	37	50	48
Japan	57	75	68
United States	16	42	30

a. Producer subsidy equivalents of support policies are the transfers needed to replace these policies and leave the producer no worse off.

Source: IMF 1992.

The level of agricultural protection in Japan is highest, especially against cereal imports.

Table 2-10 The level of agricultural protection in industrial countries: selected commodities^a
(as percent of the value of agricultural output)

Commodity	U.S.	Japan	EU
Beef	38	110	112
Dairy	130	367	196
Wheat	51	538	72
Rice	49	368	122
Coarse grains	24	416	95
Sugar	70	121	115
Oils	7	16	67

a. Average for 1985-87.

Source: Brandão and Martin 1993.

Uruguay Round. The agreement will require restrictions on the volume and value of export subsidies, the replacement of nontariff barriers by tariffs, and reductions in domestic farm supports that subsidize production.

Relatively few changes had been made in Japan's highly restrictive agricultural trade policies before the completed Uruguay Round agreement. Support prices had been reduced progressively for almost all products since 1985, but the price of rice remained up to six times the world price. Rice selling for US\$45 to US\$50 per hundredweight in U.S. shops sold for US\$175 to US\$250 in Tokyo (GATT 1993a). Total transfers to agriculture, amounting to US\$74 billion in 1992, came to roughly US\$600 for every man, woman, and child in the country.

In the United States the structure of agricultural support policies has remained more or less the same since 1985. Farm policies were changed slightly in 1990 to reduce budgetary costs, but lower world prices raised subsidies to record highs. Restrictions on competing agricultural imports remain tight. Quotas on sugar, for example, were converted to tariff quotas, with prohibitively high tariffs on imports in excess of the quota—despite the fact that sugar subsidies added US\$3 billion to the grocery bills of consumers, according to a U.S. Department of Commerce estimate (GATT 1993a). Similarly, reductions in the support price of milk from its 1990 level have been ruled out until 1995, although the U.S. Commodity Credit Corporation has renewed its accumulation of excess supplies of dairy products.

Industrial countries are not alone in protecting their agricultural sectors. The practice is widespread in developing countries, too, although levels of pro-

Agricultural protection in developing countries varies widely across commodities and regions.

Table 2-11 The level of agricultural protection in developing countries: selected regions and commodities^a

(percent of the value of agricultural output)

	Asia		Sub-Saharan Africa	MENA			ECA	
	Low income ^b	Middle income		Middle East ^c	North Africa ^d	Latin America ^e	Eastern Europe	FSU
Beef	2	168	0	176	0	0	84	3
Dairy	12	107	0	72	50	0	6	8
Wheat	-6	264	-30	379	24	-3	27	38
Rice	19	119	5	164	0	162	0	100
Coarse grains	0	320	-2	96	23	8	38	0
Sugar	14	142	67	628	14	32	97	31
Oils	0	363	57	161	45	-29	20	-12
Cotton	-4	0	-10	27	27	0	0	11

a. Average for 1985-87.

b. Excludes India and China.

c. Middle East oil exporters.

d. Maghreb countries.

e. Excludes Brazil and Mexico.

Source: Brandão and Martin 1993.

tection tend not to be as high as in industrial countries (table 2-11). In fact, once domestic distortions, such as local taxes and high margins for parastatal marketing companies, are taken into account, many agricultural products are taxed in developing countries (rather than subsidized). Untargeted subsidies to urban consumers through price controls, explicit export taxes, overvalued exchange rates, and protection to manufacturing tend to impose a cost burden on the agricultural sector that more than offsets any subsidy offered through the budget or through protection against imports.

The Uruguay Round agreement incorporates major advances in agricultural trade liberalization. Developing countries are likely to feel the effects of this in three ways—changes in their terms of trade, the efficiency gains from liberalized trade, and welfare effects of induced changes in tariff revenues. How much a country benefits from more liberalized trade along the lines envisaged under the Uruguay Round will depend on the extent to which it participates in liberalization. One study (Krissoff and others 1990) estimates that the welfare benefits to developing countries would be negative if industrial countries alone liberalized; but if developing countries also liberalized their policies, the overall effect on them would be positive (table 2-12). Another study (Anderson and Tyers 1993) estimates that developing countries would benefit even if industrial countries alone liberalized their agricultural sectors,

Developing countries would obtain greater welfare benefits if they participated in liberalizing agricultural trade.

Table 2-12 Estimates of welfare effects from liberalization of international trade in agricultural products
(millions of U.S. dollars)

	Liberalization in industrial countries only	Global liberalization
<i>According to Krissoff and others 1990</i>		
Industrial	33,128	33,065
Developing	-4,985	2,060
World	28,133	35,125
<i>According to Anderson and Tyers 1993</i>		
Industrial	46,500	73,300
Developing	16,600	33,400
World	62,200	106,500
<i>According to Brandão and Martin 1993</i>		
Industrial	72,666	73,425
Developing	5,689	65,636
World	78,355	139,061

Source: Brandão and Martin 1993.

but these gains would expand significantly when developing countries participated. Similar results were obtained in a more recent study (Brandão and Martin 1993). These conclusions remain broadly unchanged even when the environmental consequences of trade liberalization are taken into account (box 2-3).

In most studies of this kind only a small minority of developing countries (primarily net food importers with a small agricultural base) would suffer welfare losses from liberalization of global agricultural trade. Unfortunately, country-by-country estimates are not available (and should be a high priority for future economic research). Low-income countries at risk would include those that spend much of their import bill on food, such as Bangladesh, Burkina Faso, Egypt, Guinea-Bissau, Mauritania, Sierra Leone, Sudan, and Togo.¹² However, the magnitude of any rise in food prices resulting from the Uruguay Round needs to be kept in perspective. Such rises

would be gradual, because of the gradual nature of the liberalization, and occur in a context where real food prices are trending downward. A priority for support in dealing with adjustment problems would be reforms that improve agricultural productivity and supply response.

A notable feature of the structure of protection in industrial countries is the clear tilt of tariff barriers and nontariff barriers against processed commodities. For example, copra, cotton, castor seed, palm nuts, and soybeans are all imported free of duty into Japan, but once these items are processed into vegetable oils they encounter average tariffs of 7–9 percent (Safadi and Yeats 1993). Even where nominal tariffs reflect modest increases, related studies show they convey high effective protection to local processors in industrial countries.

Despite trade reforms in recent years, trade barrier escalation is more prevalent and severe in developing than in industrial countries. In leather, rubber,

Box 2-3 Agricultural trade liberalization and the natural environment

Issues of concern during the recent GATT discussions were the environmental consequences of trade liberalization in general and agricultural trade liberalization in particular. The few studies on these issues suggest that the environmental effects would be generally positive for industrial countries and possibly negative for developing countries (Lutz 1992; Anderson 1991). Whether the negative influences in developing countries would be larger than the offsetting positive ones needs to be established empirically.

Industrial countries are expected to benefit from agricultural trade liberalization in both economic and environmental terms. For example, U.S. protection against sugar imports not only costs American consumers billions of dollars each year but leads to costly environmental consequences at home and abroad. South of Lake Ocheekobee in Florida, sugarcane growers' use of water and chemicals has seriously affected the Everglades ecosystem. Moreover, the U.S. sugar policy has denied marketing opportunities to efficient developing-country producers, such as the Philippines and the Dominican Republic, crippling their sugar industries and inducing poverty-stricken workers in those countries to become slash and burn farmers in the upper watersheds (Repetto 1993). For U.S. sugar, liberalizing trade and eliminating sugar subsidies would reduce fiscal burdens, lower consumer costs, and contribute to a healthier environment.

In developing countries, agricultural trade liberalization could have some harmful consequences for the natural environment. Higher agricultural prices internationally would be expected to stimulate increased agricultural production in these countries through more

intensive cultivation, which would place additional pressure on the land and encourage the expansion of cultivation onto marginal land or forests. Consumption of fertilizer and pesticides would rise, albeit from generally low levels. Estimates suggest that for a 10 percent increase in agricultural prices, use of fertilizers and pesticides would not change noticeably in farms of under ten hectares but would rise by between 23–42 percent for larger farms (Lopes 1977). On the other hand, higher agricultural prices, and consequent higher land values, would stimulate the incentive to invest in land conservation and restoration.

The possibility that increased pressure on the land following agricultural trade liberalization may prove harmful to the environment does not mean that such policies should be renounced. It may well be that the economic benefits could far outweigh the environmental costs (provided both are measured properly). More important, however, prudent environmental measures could mitigate the negative consequences or enhance any environmental benefits. After all, trade liberalization and environmental policies have the same goal—the more efficient use of available resources. Trade liberalization allows countries to specialize more fully in producing goods and services in which they have comparative advantage, and it allows consumers to buy goods from countries that produce them most efficiently. Similarly, environmental policies pursue the same efficiency goal by ensuring that the full incremental costs of production and consumption, including costs imposed on other parties through environmental effects, are reflected in the decisions that producers and consumers face.

textiles, and wood, for example, tariffs escalate by ten to twenty percentage points in more than 80 percent of the developing countries for which data are available (Safadi and Yeats 1993 and Yeats 1994).

The recent Uruguay Round agreement has made some progress in reducing trade barrier escalation in industrial countries (table 2-13). This is especially true for agricultural raw materials (hard fibers, jute, rubber, and tropical wood) where the duties on final-stage processed products have been cut by almost 60 percent (from 6.6 to 2.7 percent on average). But trade barrier escalation still remains evident in the post-Uruguay Round tariff structure—rising more than five percentage points (to 6.4 percent) as production moves from unprocessed raw materials to finished industrial goods. For some commodities, such as fish, leather, oilseeds, textile fibers, tropical nuts, fruit, and beverages, post-Uruguay Round tariffs escalate more sharply than these figures suggest, averaging between 8 and 26 percent on the final-stage product.

The *adding-up* problem

So far the report has considered a scenario in which industrial and developing countries lower trade barriers together. But what if commodity exporters were to liberalize trade unilaterally or raise productivity growth to expand exports of commodities without any reduction in the barriers of industrial countries? Then commodity exporters may confront a so-called adding-up problem because the global demand for primary commodities tends to be inelastic—that is, an increase or a decrease in the supply of a commodity leads to a larger percentage change in its price. For

example, estimates of the price elasticity of global demand for cocoa over the short run (say, one to three years) are between -0.2 and -0.4 . Thus, a 10 percent increase in global cocoa exports might lower the world price for cocoa by 5 percent and lower gross export revenues by 4 percent.

The possibility exists, therefore, that an expansion in world exports of a commodity could lower its price to such an extent that the *net* revenues of exporters decline.¹³ This section shows that the so-called adding-up problem is pronounced for only a few commodities and, even then, commodity exporters that promoted production, process, and marketing efficiency and technological improvement did better than those that curtailed production with a combination of explicit and implicit export taxes. Attempts by commodity exporters to coordinate export volumes through quotas or taxes have tended to fail because of the difficulty of ensuring cooperation among countries that usually have diverse interests. Consider whether a country, by expanding export volume, could lower its net export revenues. This is more likely the larger the country's share of the world market and the lower the global price elasticity of demand. One index, which this report calls the index of market power, captures both these measures.¹⁴ If a country's index of market power is close to zero, its market power is negligible, and it will gain unequivocally from expanding its export volumes. The closer a country's index of market power is to 1, the closer it is to being an uncontested monopolist in world markets and the greater the likelihood that its net revenues would actually decline were it to increase the volume of its commodity export.

Some commodity exporters can wield significant influence over world market prices in the short run before other potential or actual producers have time to respond to the changed price. By withholding production from the world market, as Côte d'Ivoire did with its cocoa exports in 1990, exporters could raise the world market price in the short run; or by supplying a greater volume of exports (for example, by running down stocks), exporters could lower the world price for a short time, as Saudi Arabia did by expanding oil exports in 1990. For metals and minerals the short run is likely to be only a few months; within that time other producers can adjust production from existing mines, raising it if prices go higher or lowering it if prices dip. For cereals, countries with substantial market share could influence prices for perhaps up to a year, although stockpiles of grains in various countries would tend to diminish such effects. For tropical beverages (cocoa, coffee, and tea), however, the influence of large exporters on world market prices could extend for a number of years.¹⁵

Trade barrier escalation in industrial countries continues to be an issue even after the Uruguay Round agreement.

Table 2-13 Average pre- and post-Uruguay Round tariffs imposed by industrial countries on imports from developing countries, by stage of processing (percent)

	Pre-Uruguay Round tariff	Uruguay Round offer	Absolute tariff reduction
Raw materials	2.1	1.0	-1.1
Semi-manufactures	5.3	2.9	-2.6
Finished products	9.1	6.4	-2.7

Source: GATT 1993b.

Not surprisingly, it is in these beverage products that the adding-up problem is most pronounced, and most of the large producers tend to be in Sub-Saharan Africa (Côte d'Ivoire, Ghana, Kenya, and Nigeria). The presence of significant market power should not distract these countries from continuing to pursue structural reforms—these remain necessary to improve efficiency in resource allocation and international competitiveness. Some analysts argue, however, that along with reforms, policymakers in such countries could also consider imposing export taxes or quotas on commodity exports to avoid an expansion in exports leading to a bigger decline in the world price.

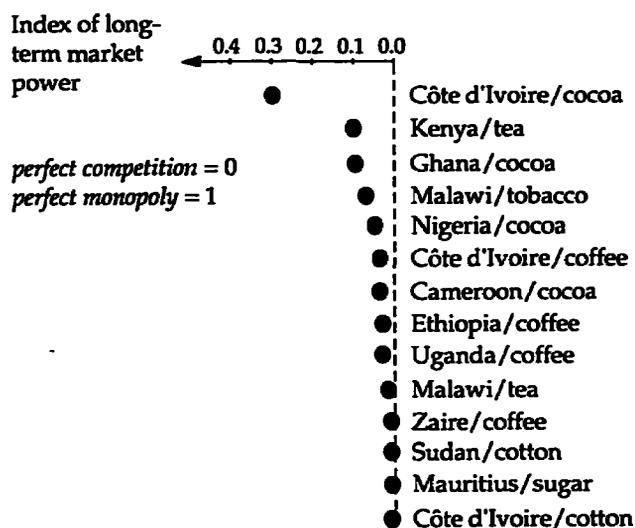
At first glance, therefore, imposing an export tax may seem attractive to these countries, but there are four good reasons why considerable care should be taken in implementing such a policy:

- The commodity sectors are usually taxed heavily through overvalued exchange rates and protection against imports of manufactures. This is especially true in Sub-Saharan African economies even after several years of policy reform. Adding to such burdensome taxes with further explicit export taxes would *reduce* the welfare of these countries, even in the short run. In many African countries, however, export taxes are often the principal source of government revenues, and reducing or eliminating export taxes is often not an option—at least in the short run. But this can be rectified in time. Again, consider Ghana. In 1984, 33 percent of its government revenues came from export taxes on cocoa; by 1990 this had dropped below 9 percent. Strenuous efforts to develop a broad tax base and an efficient tax administration system not only can create a more equitable tax structure but also can reduce dependence on a volatile tax source and remove disincentives for export.
- Although Sub-Saharan African exporters of tropical beverages are able to wield global market power in the short run, their ability to influence prices in the longer run is seriously open to question. Imposing export taxes has been costly in the past. Examples abound of countries that have imposed export taxes on commodities only to find that export revenues declined in real terms and market share was lost to competitors. Charging what the market will bear has long been recognized as one of the five deadly sins of business: it creates a risk-free opportunity for competitors to make the necessary fixed investments to enter a market (Drucker 1993). Imposing an export tax amounts to the same thing. Indeed, it is difficult to conceive of a commodity (or its

close substitute) that does *not* have a high supply elasticity, especially when the entry of new producers is considered. Twenty years ago Malaysia and Indonesia produced virtually no cocoa; but rising cocoa prices, due in part to taxes on cocoa exports imposed by Sub-Saharan African governments (and often exacerbated by overvaluation of exchange rates and high protection for manufacturing), created huge incentives for potential entrants into the cocoa market. East Asia's share of the cocoa market went from zero to 20 percent in twenty years. Nigeria lost much of its large share in the world's palm oil market as well, as Malaysia expanded. For Sub-Saharan Africa, the index of long-run market power is 10 percent or less in virtually all country-commodity combinations, suggesting that most exporters tend to exert very little market power in the long run (figure 2-4). The only outlier is Côte d'Ivoire for cocoa; Côte d'Ivoire accounts for a big share of the world market (30 percent), and the global price elasticity of demand for cocoa is relatively low (-0.4). But

Most Sub-Saharan economies have negligible long-term market power in commodities.

Figure 2-4 Index of long-term market power for selected Sub-Saharan country-commodity combinations^a



a. Takes into account the long-term supply elasticity of the rest of the world.

Source: Akiyama and Larson 1993.

even here it is possible that the elasticity of supply from the rest of the world has been underestimated.

- Even if there are commodities with a low long-term elasticity of supply, it is very likely that the long-term elasticity of *demand* is high. Consider the case of tin. The use of export quotas under the International Tin Agreement to raise prices in the 1970s and early 1980s eventually diminished the cost advantage held by tinplate over aluminum in the canning industry. Partly as a result, aluminum advanced rapidly against tin mill output, capturing 99 percent of the beer can market by 1988 (compared with only 45 percent in 1974) and 95 percent of the soft drink can market (12 percent in 1974).
- Some analysts suggest that Sub-Saharan African countries should impose export taxes to capitalize on short-term market power but should lower the taxes under the threat of entry from a long-term alternative supply source. But such a strategy is hazardous: the political economy of taxes suggests that taxes on commodity exports, once imposed, are difficult to remove. With an easily collected revenue source, pressure builds to increase government expenditures and postpone politically difficult reforms to broaden the tax base and introduce less distortionary direct and indirect tax measures.

Thus, policies (such as an export tax or a quota) that restrict the expansion of a commodity export from a single country are unlikely to benefit that country in the long term. But an increase in the export volume from one country is almost certain to have an adverse effect on the welfare of competitor countries. This would be true whether the export is a manufactured good or a primary commodity, whether global demand is elastic or inelastic. In this sense, the adding-up problem is applicable to all commodities.

Much, however, depends on the reason for the expansion in volume of the particular commodity export. Usually this would occur for one of two reasons:

- First, if the export expansion is the result of efficiency improvements (perhaps a result of technical progress), it enhances global welfare even though some competitors are affected adversely—this is an inherent part of competition and development; it is difficult to conceive of a situation where a technical improvement has not had the immediate result of adversely affecting the welfare of some economic agents, usually competing producers. But this is hardly a reason for arresting technical progress or

maintaining inefficient production practices. Instead, competitors need to adjust to such changes, adopt new production techniques themselves or adapt them to their own production environment, or, if all else fails, allocate resources elsewhere.

- Second, if expansion in the export volume of a commodity is the result of an increase in government subsidies to producers, not only does the producing country suffer a welfare loss but so do competing producers in the global market. The obvious examples are the domestic subsidies enjoyed by grain producers in the EU, Japan, and the United States, all of which have sustained high-cost farming at taxpayers' expense and hurt smallholder grain producers in many parts of the developing world. Similarly, U.S. production subsidies to sugar producers have resulted in lower export volumes and prices for sugar producers in the developing world (see previous discussion on U.S. agricultural support policies, page 42).

But what about the simultaneous expansion of exports by several developing countries? Exporters of a commodity can cooperate by imposing export quotas or a uniform export tax that would have the effect of lowering export supplies, raising world prices, and raising the welfare of the exporters while lowering the welfare of consumers. Such cartel-based behavior unambiguously improves the welfare of its members if the members of the group are not important consumers of the commodity. Such an option seems especially attractive for cocoa and coffee; these products are produced almost exclusively in developing countries and consumed chiefly in industrial countries. By contrast, only 30 percent of the world's tea and sugar (including sugar from beets) is consumed in industrial countries, and growth in consumption is rapid in developing countries.

Developing countries have made many attempts to coordinate their response to this version of the adding-up problem, relying on various schemes to raise and stabilize the prices of individual commodities. All have used quotas rather than taxes to reduce export supplies and, consequently, have faced problems of stock accumulation. Most such approaches have subsequently lapsed or collapsed, sometimes under spectacular circumstances (Gilbert 1993). A relatively small common fund, designed as the centerpiece of an integrated program for commodities, was established by UNCTAD in 1989. The fund has not supported any market intervention, partly because of the collapse of earlier attempts to raise or stabilize market prices and partly because of the opposition of

developed countries to price-raising intervention policies (Maizels 1992).

Coordinating actions to restrict supplies is always difficult. Each participant has an incentive to take advantage of partner countries' restraint and to expand production beyond agreed amounts. Even OPEC, the only example of such cartel action that can be considered successful, has found it difficult to ensure cooperation among its relatively few producer members. Small producers, in particular, generally find their production restricted unduly and have a strong incentive to expand production.

Many of the international commodity agreements implemented in the 1960s and 1970s, such as the International Coffee Agreement, had extremely favorable conditions for success, including a willingness by the importing countries to monitor compliance. The eventual collapse of these schemes augurs poorly for the prospects of future commodity agreements.

Finally, many critics of the World Bank have charged that the implementation of several structural adjustment programs in Sub-Saharan Africa has been primarily responsible for the sharp deterioration in commodity prices in the 1980s (box 2-4). Thirty-one countries in Sub-Saharan Africa and ten countries in Latin America implemented Bank- and IMF-supported structural adjustment programs designed, in part, to raise the volume and value of exports.¹⁶ Between 1979 and 1992, real commodity prices virtually collapsed—beverage prices fell by 74 percent, cereals by 44 percent, oils and fats by 57 percent, logs by 24 percent, and metals and minerals by 36 percent.

Were these price declines the result of structural adjustment programs that raised the export volumes of these commodities? Clearly there were large increases in output, and such increases in output put strong downward pressure on prices. The rate of increase in output, however, does not seem to have

Box 2-4 The adding-up problem and the World Bank's lending policy: results from a recent review

The World Bank has followed a restrictive lending policy toward sugar production since 1961, tea since 1973, and cocoa and coffee since 1982. The dominant concern has been inelastic demand for these commodities in world markets. World Bank guidelines on this policy state that financing of new production of primary commodities facing inelastic world demand should be limited to low-income countries that had few export alternatives. In addition, the World Bank's lending policy for primary products recommended expanded assistance for research in agricultural production and marketing.

A recent report by the Operations Evaluation Department of the World Bank reviewed this policy and concluded that:

- The only lending restrictions to be implemented vigorously were those for tea. But tea investors in China and Indonesia produced output to meet market demand without concern for acquiring the monopoly-type rents the Bank's policy promoted.
- For the other commodities the Bank tended to suspend the application of the price-inelastic demand criterion whenever a commodity's world market prospects "improved."
- The policies of expanding research into the production, processing, and marketing of plantation crops with price-inelastic demand either were not implemented or were unsuccessful. The closest the international community has come to promoting research into such crops is a recent initiative by the Consultative Group on International Agricultural Research (CGIAR) on coconut.

- World market forces have determined market aggregates for these commodities, including global investment and production, and the international price independently of World Bank financing. Bank resources were only a small share of the total worldwide investment in these commodities. For 1961-91, projects supported by the Bank contributed only 8 percent of cocoa plantings, 5 percent of tea plantings, and 2 percent of coffee plantings.
- Countries that had access to other sources of finance could easily substitute for loans withheld by the Bank. The restrictions meant that developing countries with ready access to international finance expanded their production while less fortunate developing countries contracted.
- Even if countries had no access to international finance, resources could easily be found to substitute for withheld World Bank loans. It is well established that the Bank's investment loans actually finance the marginal projects in a country's public investment program, given the fungibility of funds.
- Comparative static analysis shows that Sub-Saharan Africa could profitably expand its market share of tea, coffee, and in the longer run, even cocoa. Export taxes imposed by African countries would increase collective export revenues in the short term. But the rewards would be enjoyed by governments, not by producers who would be left worse off. Moreover, the resulting increase in international prices would invite non-African countries to expand their market shares.

been much greater in the adjusting countries than in others, and the adjusting countries increased their shares of these markets only modestly (box 2-5). Once other factors are taken into account—especially the continuing increase in productivity and yields, the collapse of international commodity agreements, the rapid expansion of exports from new suppliers, the rise in real interest rates, and the slower growth in industrial countries—the impact of structural adjustment programs on real commodity prices has been small (Gilbert 1993).

It is important to underscore the close links between the prospects of Sub-Saharan African commodity exporters and those of more industrially advanced competitors, such as Brazil, Malaysia, and Indonesia. The transformation of the economies of both groups could accelerate if their major markets lowered protectionist barriers, particularly against manufactures. This would have a direct effect on export volumes and enable a more rapid transition of the more advanced countries away from reliance on exports of commodities and into manufactures. In turn, Sub-Saharan African commodity

exporters would find prospects improved, as it would allow them a faster return to more rapid growth and diversification.

Conclusion

The economic performance of today's developing-country exporters of primary commodities has been poor compared to the performance of the rest of the developing world. In the aggregate, world demand for primary commodities has not grown as fast as world income. In the case of most foods this is because of low income elasticities. For metals and minerals it is because of declining use in industrial economies.

This does not mean that the production of primary commodities should be associated with slow growth. Some of today's successful developing countries and most of the industrial countries were at one time dependent on primary commodities. The experience of most of these countries suggests that successful diversification away from commodities tends to occur *after* productivity rises in the primary com-

Box 2-5 Adding up the evidence: the case of cocoa

In the 1980s, with the support of the World Bank and the IMF, some commodity exporters in Sub-Saharan Africa undertook structural adjustment programs to adjust to large terms-of-trade shocks and correct serious policy distortions affecting growth. An important feature of these programs was reforms in exchange-rate and trade policies that reduced the explicit or implicit taxes on exports. Ever since these programs were implemented, the World Bank and the IMF have received criticism for failing to take into account the combined effect of the resultant export increases on world prices.

Cocoa presents an excellent case study to examine these criticisms. Its price is sensitive to changes in supply. Since the structural adjustment programs started in the early 1980s (most notably in Cameroon, Ghana, and Nigeria), cocoa production has risen from 1.6 million to 2.3 million tons while cocoa prices have declined from 260 to 120 cents per kilogram.

The adjustment programs involved liberalizing trade and foreign exchange markets so that, among other things, domestic producer prices better reflected world prices. As expected, these programs led to higher export volumes. But the impact of the structural adjustment programs on aggregate global production of cocoa was relatively small. The share for adjusting countries in world exports of cocoa remained essentially unchanged.

Production increases in the fourteen cocoa-producing countries undertaking major structural adjustment programs were not out of line with those of other suppliers. Between 1979 and 1991, the share for adjusting countries in world cocoa exports rose by 1 percent, to 75 percent. Within the group of adjusting countries, however, there were large differences, with Côte d'Ivoire's share rising from 18 percent to 41 percent and Indonesia's from under 1 percent to above 5 percent. These gains were largely offset by declines in other adjusting countries, particularly in Ghana and Nigeria.

It is only recently, in the early 1990s, that plantings have begun to decline in response to the historically low prices. High-cost producers, such as Brazil and Malaysia, have found it increasingly difficult to compete in the world cocoa market. Malaysia reached its production peak of 245,000 tons by 1989–90 and has since been in slow decline—for 1993–94 its cocoa production is expected to be around 210,000 tons. Its cocoa yields declined from 900 kilograms per hectare in the late 1980s to 700 kg/ha by 1991–92. At the current international price of US\$1,100–US\$1,300 per ton, the production of cocoa appears less profitable than other competing crops. For the same reason, Brazilian production has also started to fall. Meanwhile, in Indonesia, the low cost of cocoa production has meant that new plantings have been increasing through the early 1990s.

modity sectors. Evidence indicates that total factor productivity growth in agriculture is just as high as, if not higher than, in manufacturing. Where the income elasticity of demand for a particular commodity is high, the benefits from rapid total factor productivity growth are all the greater. This leads to the somewhat counterintuitive conclusion that commodity exporters can accelerate growth and increase diversification by pursuing policies that help *expand* efficient production in the primary sectors. This is of relevance to primary commodity exporters in Sub-Saharan Africa, where GDP growth has been low, population growth high, poverty widespread, and for whom the pressures to diversify are great. But comparatively low levels of human and physical capital in these countries will probably prevent their replicating the performance of the East Asian and Latin American commodity exporters. Nevertheless, Sub-Saharan Africa has the potential to improve on its past performance by giving greater attention to efficiency improvements in the commodity sectors.

It also needs to be recognized that the expansion of primary commodity exports by these countries could exert downward pressure on international commodity prices. Despite this, *net* revenues for such countries would rise in most cases, making them better off. But for a few products (cocoa, coffee, and tea) and countries (Côte d'Ivoire, Ghana, Kenya, and Malawi) the adding-up problem is pronounced, and net revenues possibly could decline if export volumes expanded. Even in such cases, policies promoting efficiency in production, processing, and marketing are likely to achieve more lasting improvements in net revenues than curtailing production through export quotas or taxes.

Where a group of commodity exporters jointly wields significant market power, imposing export quotas or a uniform export tax could raise the welfare of each member of the group—the example of OPEC shows that such welfare gains can be substantial. But similar attempts for commodities other than oil have proved less successful, largely because it is difficult to coordinate restrictions on supplies among producers with diverse interests.

Notes

1. The World Bank maintains price indices for thirty-three of the more important non-oil primary commodities. These are aggregated using weights based on developing country export values. This nominal index is further deflated by a unit value index for manufactures, which is the c.i.f. index of U.S. dollar prices of industrial countries' exports of manufactures to developing countries. The re-

sulting real price index can be useful in measuring changes to the net barter terms of trade for commodity exporters.

2. A small number of commodities, notably logs and zinc, stand out as having consistently strong prices throughout the decade of the 1980s and the first few years of the 1990s.

3. The World Bank started collecting comprehensive data on developing countries in 1960. *Nonfuel commodity exporters* is used here to denote those economies for which nonfuel primary products exceeded 50 percent of their total exports in 1991. *Oil exporters* is used to refer to those countries for which fuel exports exceeded 50 percent of their total exports in 1991. See the annex on country classification for details.

4. See the annex on country classification for details of the criteria for classifying exporters into these four groups.

5. *Ceteris paribus*, a terms-of-trade shock equal to 5 percent of GDP, might be expected to reduce output by four percentage points over the decade (based on research results on the effect of terms-of-trade changes on the rate of growth; Easterly and others 1993).

6. This means that Malaysia is no longer classified as a commodity exporter according to the World Bank's country classification system (see annex on country classification).

7. Total factor productivity growth is often defined as the rate of technical progress or that part of economic growth that can be explained by improvements in efficiency rather than the accumulation of factors of production.

8. Japan's unusually high share of personal expenditures on food reflects the country's restrictive import policies, which tend to maintain prices well above international levels.

9. The only region where cereal consumption per capita is expected to rise, albeit very slowly, is Sub-Saharan Africa.

10. See previous discussion, this chapter, regarding the massive increases in palm oil production in Malaysia.

11. The plastics most commonly used for these products are nylon, polypropylene, polyurethane, polyvinyl chloride, and polymeric.

12. Food imports into these countries accounted for 20 percent or more of the total import bill in 1991.

13. The net revenue (that is, gross export revenues less costs of production) is the appropriate index for measuring welfare effects because unit costs change with the level of production. Analysts who simply use gross revenues as the indicator of a country's welfare implicitly assume that marginal costs are zero. This is an unrealistic assumption in virtually all cases and can lead to misleading results.

14. The index of market power is calculated as $p - C' / p$ where p is the price and C' is the marginal cost. The index can be estimated as $m^h / m^{\text{row}} \epsilon_s^{\text{row}} - \epsilon_d^h$ where m^h

is the share of the country's commodity exports in global supply, m^{row} is the share of the rest of the world, ϵ_s^{row} is the long-term elasticity of supply of the rest of the world, and ϵ_d^* is the long-term global price elasticity of demand.

15. New plantings of these perennial crops frequently take five to seven years to reach productive potential.

16. For a list of the countries undertaking adjustment programs in Sub-Saharan Africa, see World Bank 1994. The countries that undertook adjustment programs in Latin America in the 1980s include Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Honduras, Mexico, Peru, and Venezuela.

3

Commodity price volatility: high, costly, and a challenge to manage

The previous chapter examined whether and to what extent the structure of the world's commodity markets and trends in international commodity prices are responsible for the poor economic performance of commodity-exporting economies. This chapter asks whether the *volatility* of commodity prices affects the performance of these economies.

Primary commodity prices are notoriously volatile. For food and beverages, unanticipated weather disturbances such as floods, frosts, or droughts and their effects on commodity supplies tend to be the major cause of price volatility. For tropical beverages such as cocoa, coffee, and tea the picture is complicated by a long gestation between new planting and production; thus, high prices have usually led to increases in investment and subsequent oversupply followed by prolonged periods of low prices. For metals, price volatility typically stems from unforeseen, usually cyclical, changes in industrial demand that make for high price variability. Although accumulated commodity stocks tend to smooth variations in prices, there may still be considerable volatility, especially when stocks run short or accumulated stocks can no longer be financed and are released all at once on unsuspecting markets.

Price volatility contributes to export revenue instability for developing-country commodity exporters. As a result, farmers and workers suffer variability in incomes. In many cases governments find that their fiscal position and foreign exchange reserves change substantially over short periods as a result of a sudden change in international prices. Over the short run, individuals and governments can borrow if prices decline suddenly, but long periods of low prices may exhaust this option. Thus, managing commodity price risk and stabilizing export earnings are important policy issues for virtually all low-income commodity exporters.

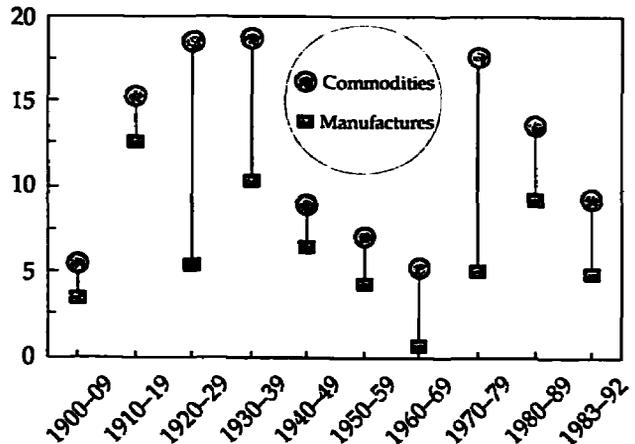
Commodity price volatility and its short-run costs

Commodity prices in the aggregate have typically been much more volatile than prices of manufactures (figure 3-1). Furthermore, the degree of volatility has differed greatly over time. The decade of the 1970s, for example, was particularly turbulent for commodity prices, with two oil shocks and a range of severe macroeconomic disturbances affecting the prices of virtually all commodities and resulting in a level of

Price variability differs over time but is much greater for commodities than for manufactures.

Figure 3-1 Instability index for manufactures and commodities, 1900-92

Percent standard deviation from trend for decade



Source: World Bank.

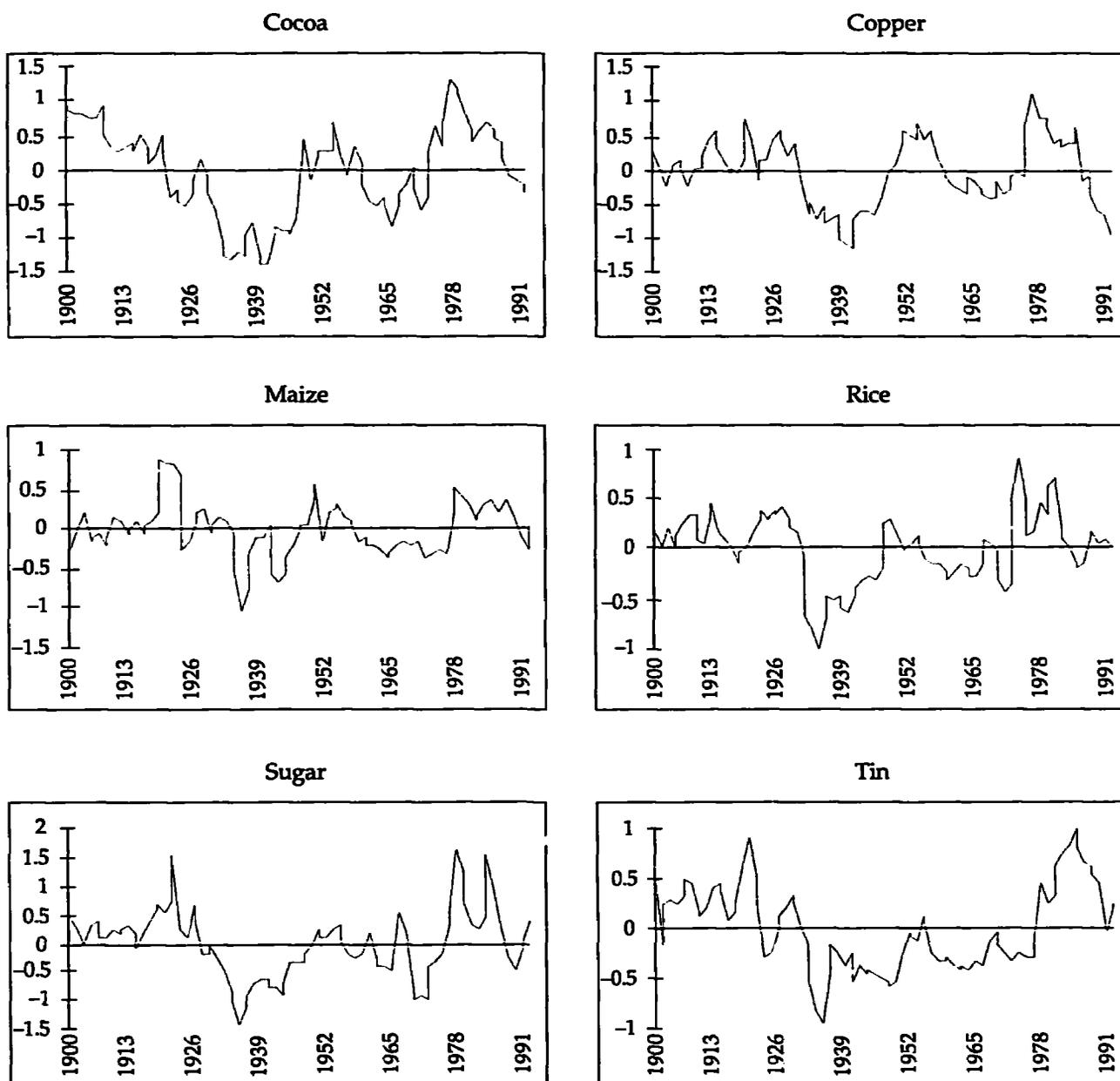
volatility not seen since the interwar period. Since the mid-1980s, however, commodity price variability has dropped nearer to average levels while remaining well above the levels of the period from the 1940s to the 1960s.

The price series for individual commodities are more complex (figure 3-2). Some commodities, such as cocoa and copper, display long lags between

changes in prices and in supply (panel 1 of figure 3-2). Because producers seem unable to make major changes quickly in supply—which may require development of new mines—in response to increases in demand, periods of high prices tend to be sustained. But when supplies eventually increase, there tends to be a period of oversupply because the price booms are usually followed by equally lengthy periods of

Some commodities typically have short price spikes while others exhibit long cycles.

Figure 3-2 Volatility of commodity prices
(proportional deviation from trend)



Source: World Bank.

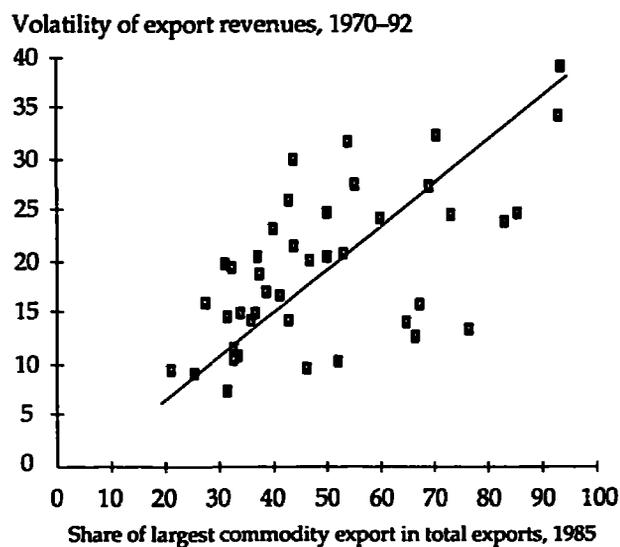
depressed prices. Grain prices, such as those for maize and rice, behave differently because the lags between high prices and substantial increases in supply are much shorter—usually until the next cropping season. Prices tend to spike more often, with peaks and troughs much shorter than for cocoa and copper, although some extended periods of low prices are evident. Sugar and tin prices are even more volatile than grain prices, with extreme but short-lived price surges. Between the 1930s and the late 1970s, sugar exhibited only one extended period of depressed prices, while tin prices remained volatile and below trend for an extended period.

The greater the share of the single largest commodity export in the total exports of a country, the greater the likely volatility in export earnings (figure 3-3).¹ For example, nineteen developing countries depend on three commodities for more than 75 percent of their merchandise export earnings; nine are oil exporters, and seven of the remainder are in Sub-Saharan Africa. And of these latter, five depend on one commodity for more than three-quarters of merchandise earnings (Burundi, Mali, Rwanda, Uganda, and Zambia).²

When export prices or export earnings of a country are unstable, it is highly probable that incomes and consumption are unstable. The correlation between the volatility of export revenues and the volatility of

*The higher the export concentration,
the higher is the export revenue instability.*

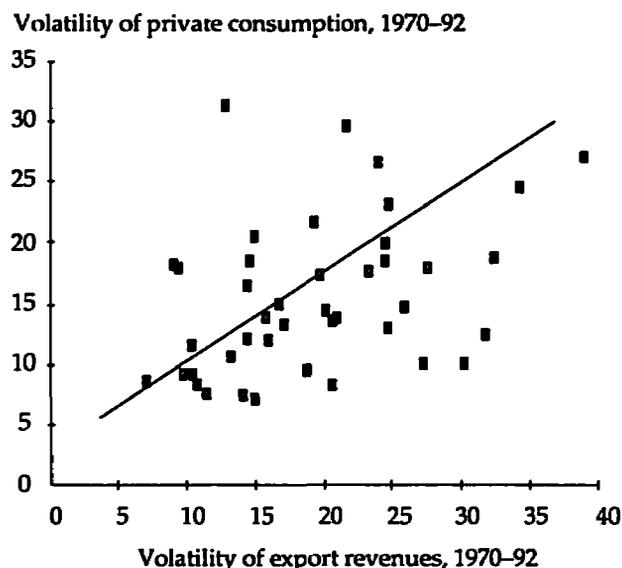
Figure 3-3 Export revenue instability and export concentration



Source: Duncan 1993.

The volatility of export revenues and the volatility of private consumption are highly correlated.

Figure 3-4 Volatility of export revenues and private consumption, 1970-92



Source: World Bank.

private consumption is positive and high (figure 3-4). Instability of consumption poses a particular problem when levels are low to begin with, and falls in consumption can reach a point where health and welfare are seriously threatened. For Malaysian tin producers, the cost of volatile incomes between 1961 and 1992 was estimated to be as high as 20 percent of income. For Brazilian coffee growers it was 15 percent and for Egyptian cotton farmers 6 percent. In most cases the uncertainty in revenues is due to volatility in international prices; in some cases, however, output instability is more important.³

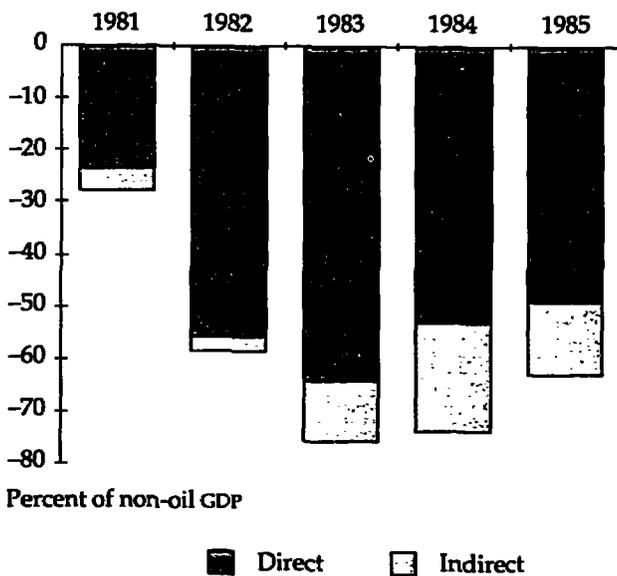
When the international price of a commodity falls, exporting countries lose directly through the decline in export revenues. Indirect costs, however, can be as large or even greater. Lower revenues from the sale of the commodity, for example, would tend to depress the exchange rate, setting in train a series of adjustments in the economy, including a shift of productive resources from nontraded to traded goods production. If the commodity price were to rise again suddenly (as commodity prices are prone to do) those adjustments likewise would need to be reversed, with productive resources shifting back to the nontraded-goods sectors. These shifts can prove costly, especially in developing economies where economic information is scarce and markets function poorly.

Sudden changes in commodity prices also increase uncertainty, making long-term investments riskier and complicating the task of macroeconomic management. The larger and more sudden the decline in a commodity price, the bigger the disruption to the economy and the higher the economic costs. In Nigeria, for example, direct and indirect costs of the oil price decline in the early 1980s are estimated to have been equivalent to more than 70 percent of non-oil GDP (figure 3-5); the indirect costs alone amounted to more than 20 percent of non-oil GDP in one year.

Countries that are commodity exporters are subjected to bigger shocks than are other countries (figure 3-6). Oil-importing commodity exporters are subject to commodity price variability on both sides of the trade equation—the erratic behavior of oil prices on the import side and the unpredictability of commodity prices on the export side. If such countries have much external debt at variable rates of interest they are even further exposed to risks from international financial markets. It is not unusual for developing countries to experience shocks that exceed 4 percent of GDP. Côte d'Ivoire is an extreme example. Dependent largely on cocoa and coffee exports, as well as being an oil importer, it was subjected to six terms-of-trade shocks in the 1970s and 1980s that exceeded 10 percent of GDP—two favorable (in 1977 and 1985) and four unfavorable (in 1975,

The oil price decline since 1980 has meant huge losses for Nigeria.

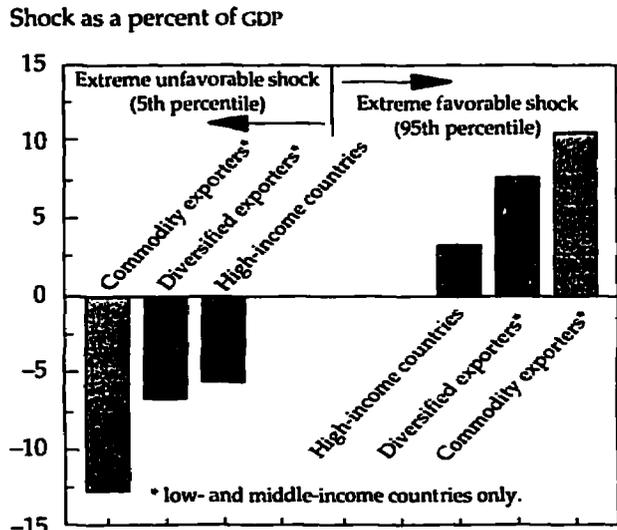
Figure 3-5 Cost of the oil shock to Nigeria



Source: World Bank.

Commodity exporters experienced the widest range of shocks among all groups of countries.

Figure 3-6 The 5th percentile and 95th percentile level of shocks, 1973-91 (as a percent of GDP)



Source: World Bank.

1981, 1982, and 1986). Brazil is another example, suffering negative shocks equivalent to 4 percent of GDP in 1981 and 1982 from a combination of commodity price declines, reductions in world trade volumes, and rises in interest rates.

Commodity price shocks can impose substantial costs on commodity exporters—witness the 1970s, for example, when the price of petroleum increased eight-fold in real terms, and the prices of food, timber, and other commodities departed significantly from trend. Some studies have concluded that the economic problems that emerged in the 1980s in Latin America and Sub-Saharan Africa can be traced to these shocks and the policy responses they provoked.⁴ Argentina, Côte d'Ivoire, and the Philippines, which experienced a sharp decline in terms of trade in the 1970s, ran up substantial budget and balance of payments deficits and financed them through additional external borrowing. They also delayed structural reforms and attempted to resolve macroeconomic problems through restrictive trade and pricing policies.⁵ Eventually, when world trade slowed and real interest rates rose in the early 1980s, these countries labored under heavy debt burdens, to the detriment of growth.

Some countries have even failed to manage a positive terms-of-trade shock successfully. Mexico, Nigeria, and Venezuela, for example, translated fi-

financial surpluses from higher oil prices into heavy—and sometimes inefficient—public spending and leveraged future income streams with large-scale foreign borrowing. With the resulting overvaluation of their currencies and inadequate structural policies, they were ill-equipped to deal with the economic downturn in the early 1980s.

Investment invariably declines more than consumption when countries experience a sharp deterioration in their terms of trade. In a study of eighteen oil-exporting economies, a sustained decline of 1 percent in the terms of trade was found to lower investment spending by 0.6 percent, a much larger decline than the 0.35 percent for consumption (Warner and Spatafora 1993). Similarly, an analysis of eight Sub-Saharan African exporters of tropical beverages found that investment was more strongly affected than output or consumption (table 3-1). Such declines in investment not only contribute to short-term difficulties that countries face in maintaining employment but also feed into long-term problems of expanding the stock of human and physical capital so necessary for sustainable growth.

But a negative terms-of-trade shock can frequently be managed effectively if the appropriate adjustment measures are taken. Although countries with relatively open economies are more exposed to external price risks, these economies were also the quickest to adjust and resume growth when they experienced external shocks in the 1970s and 1980s. Broadly speaking, successful adjusters,

such as Colombia, Korea, and Thailand, limited foreign borrowing, quickly reestablished macroeconomic balance, and instituted structural reforms designed to improve the competitiveness and flexibility of their economies.

Indonesia's 33 percent devaluation in 1978, for example, was effective in protecting the non-oil sectors from the short-term consequences of the oil boom (Warr 1986). Real wages in manufacturing declined for about two years, offering some respite from the demand pressures fueled by increased oil revenues. Its policy of avoiding taxes on agricultural exports and of sustaining public investment in agriculture allowed Indonesia to maintain growth in its exports of rubber, spices, tea, and coffee.

Managing commodity price risk: challenges and opportunities

Volatile commodity prices and the high cost of this volatility make the management of commodity price risk an important challenge for exporters. Managing such risks successfully would improve prospects for increasing the private investment and economic growth of low-income primary producers. Therefore, the past half century has seen a plethora of schemes implemented both internationally and domestically. Nonmarket schemes, such as compensatory financing, international commodity agreements, and domestic price stabilization schemes, have met with limited success. But various market-based techniques, notably commodity-linked financial instruments, appear to offer new opportunities and approaches for managing commodity price risk.

Limited success of nonmarket schemes

The ability of developing countries, especially commodity exporters, to smooth the effects of commodity price volatility by borrowing abroad is restricted, especially since the debt crisis. What limited access they have tends to wither in the face of an adverse terms-of-trade shock and declining creditworthiness. Moreover, when confronting unfavorable shocks, these countries have displayed a limited capacity to expand exports; as a result, most adjustment in these economies usually has been through compressing imports and lowering domestic investment and consumption (table 3-2).

The high costs of adjustment and the difficulties experienced by commodity exporters in obtaining external finance to smooth terms-of-trade shocks have led to the creation of nonmarket schemes designed to minimize commodity price risk. *International commodity arrangements*, for example, have attempted to

Terms-of-trade changes affect output in the short term primarily through their impact on investment.

Table 3-1 Some estimates of the effect of terms-of-trade changes on investment and output: selected countries

Country	A one-percentage point increase in the terms-of-trade increases (in percentage points):	
	Investment	Output (after one year)
Burundi	0.07	0.02
Côte d'Ivoire	0.12	0.07
Ethiopia	0.05	0.03
Ghana	0.07	0.03
Kenya	0.09	0.03
Rwanda	0.09	0.02
Tanzania	0.10	0.03
Uganda	0.08	0.01

Source: Leigh 1993.

Commodity exporters have adjusted to external shocks primarily through import reduction.

Table 3-2 Import reduction and export expansion in the wake of shocks, 1973-91

	Share of adjustment implemented through:	
	Import reduction	Export expansion
Low- and middle-income countries		
Commodity exporters	92	8
Diversified exporters	72	28
High-income countries	60	40

Source: World Bank.

stabilize commodity prices at the international level. In all, five of major relevance to developing countries were set up (table 3-3). The first two agreements, the International Sugar Agreement and the International Tin Agreement, were negotiated in 1954; the International Coffee Agreement began in 1962, the International Cocoa Agreement in 1972, and the International Natural Rubber Agreement in 1980.

At the start of 1994 only the rubber agreement still exists. The rest terminated their activities in the 1980s, when international commodity prices were in unremitting decline. Although the circumstances surrounding each termination were different, two factors were common to all.

First, where these agreements relied on buffer stocks (box 3-1), the intervention price to sell in world markets was usually not set to be consistent with general trends in supply and demand. In the 1950s and 1960s when global economic growth was steady

and nominal commodity prices relatively buoyant, periodic upward revision of the intervention price found ready consensus among participants. But when nominal commodity prices began to fall, especially in the 1980s, downward revisions in the intervention price were more controversial. Under the International Tin Agreement, for example, international prices were raised successfully in the 1970s and early 1980s, but this stimulated an oversupply of tin and encouraged its substitution by aluminum in the world food and beverage container industry. The proportion of packaged shipments in aluminum cans worldwide rose from 8 percent in 1970 to 70 percent in 1987 and contributed significantly to the decline in tin demand (Nappi 1990).

Similarly, high prices for cocoa in the 1970s contributed to the high intervention price in the 1980s under the third and fourth cocoa agreements. As a result, the buffer stock of cocoa rose to the point where it could no longer be financed, and the arrangement was suspended in 1988. Even for rubber, considered to have the most successful international commodity agreement, buffer stocks had reached an unsustainable 400,000 tons by 1985; but an AIDS-inspired boom in the demand for latex allowed the stockpile to dwindle to the point where the market price finally exceeded the intervention price. Depressed rubber prices since 1990, however, have required a reduction in the intervention price and have caused producers to question seriously the value of the scheme.

Second, where international commodity agreements relied on export quotas they created tensions between the participants and the *free riding* non-signatories. For example, the rapid expansion of tin production by Brazil (not a signatory to the agreement) in the 1980s contributed to the rapid decline in tin prices and the eventual collapse of the International Tin Agreement.

International commodity agreements provide a wealth of lessons on commodity price stabilization.

Table 3-3 General features of international commodity agreements

	Cocoa	Coffee	Rubber	Sugar	Tin
First agreement date	1972	1962	1980	1954	1954
Final agreement	4th	4th	2nd	4th	6th
Date	1987	1983	1987	1978	1982
U.S. membership	No	Yes	Yes	Yes	No
Termination of intervention	Suspended	Suspended	Continuing	Lapsed	Collapsed
Date	1988	1989	—	1983	1985
Buffer stock	Yes	No	Yes	No	Yes
Export quotas	No	Yes	No	Yes	Yes

Source: Gilbert 1993a.

In the case of the International Coffee Agreement, the steady change in consumer taste toward high-quality arabica beans generated a premium for this coffee over robustas and unwashed arabicas. This led to a call by the arabica producers for a change in the export quota allocations among members. The requirement that quota reallocation be embodied in any new agreement, and the lack of consensus in Brazil (the largest coffee producer) on the need for government intervention, eventually led to the lapse of the agreement in 1989.

Did international commodity agreements help raise prices for those commodities? Probably, although such support became untenable in the end. In virtually each case the end of the agreement was associated with a price fall of around 40 percent, reflecting a remarkable symmetry in post-agreement price patterns. Did these agreements reduce instability? The evidence is mixed, but there is little to support the view that price volatility increased when the agreements ended. Indeed, for coffee the evidence

suggests that it actually decreased (Gilbert 1993a and 1993b).

Compensatory finance has been another way of mitigating the effects of commodity price risk. The STABEX scheme, operated by the European Union, has been in operation since the first Lomé Convention was signed in 1975. It was to contribute to the stability of export revenues of commodity producers along with international commodity agreements and other measures. It finances shortfalls in forty-eight agricultural product exports in sixty-six countries, all former colonies of EU members. The eventual lapse or breakdown of the international commodity agreements and the limited funds available to the STABEX scheme were the key reasons for its inability to meet the demands on it in the 1980s.

The compensatory financing facility (CFF) of the International Monetary Fund was set up to provide financing to offset the destabilizing effect of temporary export shortfalls on consumption. The facility started in 1963, and, from 1975 to 1985, seventy-nine

Box 3-1 Australian wool—a good yarn down under

Between 1970 and 1991, buffer stock schemes were used to stabilize the producer price of Australian wool. Under the Wool Reserve Price Scheme, wool was purchased from growers when prices fell to a predetermined minimum reserve price, and sales from the stockpile were made at the discretion of the scheme's managers (Watson 1990). The minimum reserve price was usually adjusted at the beginning of each selling season, with fund managers and the government having the option to lower the floor price. Purchases were funded by a market support fund raised through a tax on wool production. When the fund reached what was deemed an adequate level, refunds were made based on past con-

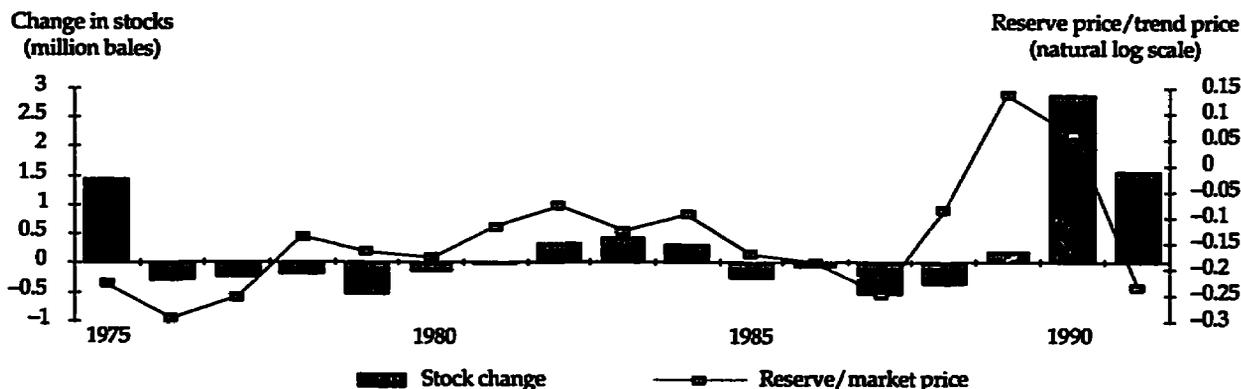
tributions. These refunds typically occurred in periods of high prices just when producers were already earning high returns from sales in the open market.

The scheme collapsed in 1991 under a mountain of stocks and debt that are not expected to be eliminated until 1997 (Garnaut, Bennett, and Price 1993). The average price of Australian wool has fallen from 1026 cents per kg in 1988–89 to 488 cents per kg in 1992–93, a decline slightly larger than the 40 percent fall observed after the demise of the cocoa, coffee, and tin agreements in the 1980s (Gilbert 1993a and 1993b).

The Wool Reserve Price Scheme was successful in reducing the variability of wool prices by up to 44

Stock changes were sensitive to the setting of the support price.

Support price setting and stock changes



Source: World Bank.

countries used the facility a total of 192 times.⁶ Analysis shows that, on average, the use of this facility had a stabilizing influence on imports in particular, and domestic consumption and investment in general, although the magnitude of the decline in instability was small (Kumar 1989).

Domestic price stabilization schemes adopted in some developing countries are usually intended to dampen the effect of fluctuating international prices on domestic prices or export revenues. Such schemes are usually of two types—those in which governments or parastatals physically handle commodity stocks; and those that use taxes and subsidies, sometimes with a buffer fund. Schemes based on buffer stocks are usually concerned with ensuring the price stability of consumer items, such as rice in Bangladesh, the Philippines, and South Korea; rice and wheat in India; and corn and wheat in Mexico. Such schemes are meant to be self-supporting, selling stocks when international prices are high and buying when low. In reality they frequently become budget-

ary burdens. In the late 1970s, for example, Empresa Comercializadora de Arroz, S.A. (ECASA), a parastatal responsible for managing buffer stocks of rice in Peru, operated spreads between the purchase and sale price that were inadequate to cover handling and processing costs. The net effect was a rising deficit for ECASA, which peaked at 0.5 percent of Peru's GDP in 1983. Similarly, the National Milling Corporation of Tanzania set retail prices so low in the 1970s that they did not even cover the procurement costs of grains. The loss per unit as a percentage of the sale price was estimated to exceed 50 percent for most crops in 1981, and for cassava and bullrush millet it exceeded 90 percent (Knudsen and Nash 1990). Although these examples may seem extreme, they are not atypical of buffer stock schemes that have been operated in other developing countries and, indeed, in high-income countries as well (box 3-1).

Domestic price stabilization schemes in developing countries have also used variable taxes to help

percent. This benefited producers by an estimated 1 percent of the value of production (Hinchy and Fisher 1988). Against this must be offset running costs estimated at 2.6 percent of the value of production (Gunasekera and Fisher 1992). Although the costs of the scheme outweighed its measured benefits, the industry continued to support the scheme strongly. Why they did so is not clear. Producers might have been unaware of the costs (unlikely); they might have valued the benefits more highly than the estimates suggest (more likely); or they might have felt that the scheme conferred additional benefits through an implicit government guarantee (most likely).

A key factor in the operation of the scheme was the relationship between the reserve price and the underlying trend in market prices (see box figure). Following the rapid accumulation of stocks in 1975, the reserve price was allowed to decline relative to the underlying trend, ushering in a period of stock decumulation. The reserve price was then gradually raised relative to trend, resulting in a three-year period (1982–84) during which stocks accumulated to an alarming 1.2 million bales. More conservative setting of the reserve price in subsequent years contributed to a decline in stocks, which were exhausted by the end of 1988. The higher reserve price after 1988 led, albeit with a lag, to the stock blowout that sounded the death knell of the scheme.

Prior to the 1988 season, the minimum reserve price was set by the government. For the 1988 and 1989 seasons the administrators of the scheme and the industry association were given freedom to determine the reserve price. Since the industry bore the costs of operating the scheme, it was hoped that this arrangement would en-

courage responsible setting of the reserve price. Unfortunately, the newfound freedom from political control was used to increase the reserve price by over 70 percent in two years—way out of line with long-term trends.

The experience of the Australian Wool Reserve Price Scheme shows how difficult it is to maintain a fixed price for a commodity subject to unstable supply and demand. The assets of a buffer stock scheme that attempts to maintain a rigidly fixed price follow a distribution known as the *gambler's ruin* and are inevitably exhausted (Townsend 1977 and Bardsley forthcoming). For a scheme to continue in operation, it is essential that support prices be adjusted downward when they prove unsustainable. Such a reduction was fiercely resisted by the Australian wool growers even when it became clear that the reserve price scheme would collapse without it. The reduction of almost 20 percent that occurred in May 1990 was imposed on the industry by the government as a condition for guarantees needed to continue stock purchases. Some participants in the debate argued that a reduction in the support price was undesirable because it would lower the value of current stock—this ignores the fact that the value of the stock is ultimately what it can be sold for, and the value per bale of stock will decline as a high reserve price causes further stock accumulation. Others suggested that open discussion of reductions would cause the scheme to come under speculative attack. In the end game, producers had an incentive to press for continuation of support until the scheme collapsed because their equity in the scheme was close to exhausted and the short-term gains from continued market support were substantial (Bardsley forthcoming).

absorb international price fluctuations before they are transmitted to the domestic economy. In most cases such schemes have been applied to export commodities with the aim of stabilizing producer prices, sometimes in conjunction with a buffer fund. For example, Papua New Guinea used a tax-cum-subsidy scheme together with a buffer fund for four export crops—cocoa, coffee, copra, and palm oil. Because of an extended period of low prices in the 1980s, the buffer funds were depleted by 1990, although payments to farmers were continued by drawing on funds from oil revenues. Other schemes, which simply apply variable taxes (without paying subsidies in times of low international prices), have fared better. For example, variable taxes on coffee exports in Colombia succeeded in cutting price volatility by half (Thomas and Nash 1985), and a progressive tax structure on rubber and palm oil exports from Malaysia helped cushion some of the decline in international prices for those commodities in the early 1980s (Knudsen and Nash 1990).

Evidence shows that whether domestic price stabilization schemes have a stabilizing influence on

Domestic price stabilization schemes have reduced price and revenue instability most in the case of grains.

Table 3-4 Reduction in price and revenue instability

(average across thirty-seven developing countries, 1967-81)

	Reduction in:		Percent of countries where producer price instability exceeded border price instability
	Price instability	Revenue instability	
Grain	15.0	12.0	9
Beverages	6.9	5.4	31
Fibers	3.9	2.5	35

Source: Knudsen and Nash 1990.

domestic producer prices depends on the commodity concerned (table 3-4). For a sample of thirty-seven developing countries running such schemes between 1967 and 1981, the influence on price and revenue stability was largest for grains and some-

Box 3-2 Contrasting the public- and private-sector response to the Kenyan coffee boom

Kenya received a windfall increase of roughly 20 percent of export revenues in the coffee price boom of 1976-79. Producers and the government were aware that the boom was a temporary one, resulting from a frost in Brazil, and hence had a strong incentive to save or invest the windfall gains from the boom. During the boom the Kenyan government chose not to impose

higher taxes on coffee. As a consequence, the benefits of the higher incomes were passed on to the smallholder producers who dominate the Kenyan coffee industry.

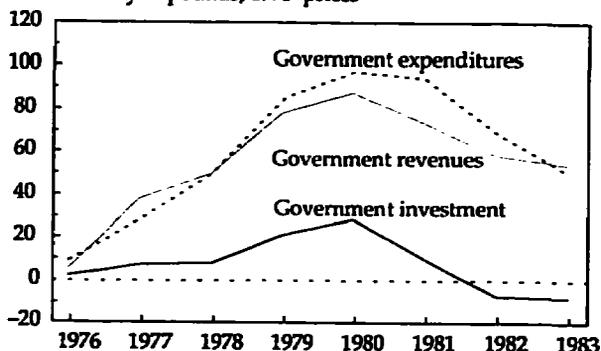
A careful analysis of the data on savings and investment shows that about 60 percent of the windfall gains were saved rather than consumed (Bevan, Collier, and Gunning 1987). But smallholder producers had little or no access to financial savings instruments, banks, or post offices where they could deposit their windfall gains. Instead they bought investment goods, the prices of which climbed because the supply of such goods was unable to rise in line with demand. After the coffee boom, the prices of investment goods fell, reducing the value of the boom-time investments. Had a more developed and accessible financial system been available of the type that proved so important in East Asia, this problem might have been mitigated (World Bank 1993a).

Although the government of Kenya did not raise tax rates, it received a substantial windfall from the coffee boom because of an increase in its tax revenues. It used this opportunity to raise capital expenditure on development, but the increase in investment spending was outweighed by increases in government consumption (see box figure). The increase in government consumption was so large that government investment spending actually declined after 1982. The main adverse effect of the coffee boom and the associated government consumption boom, however, was on the government deficit, which increased substantially over the period.

The public sector in Kenya was not particularly effective in dealing with the coffee boom of the late 1970s.

Fiscal effects of Kenya's coffee boom

Million Kenyan pounds, 1975 prices



Note: Difference between counterfactual and actual fiscal aggregates; counterfactual assumes no coffee boom.

Source: Bevan, Collier, and Gunning 1989.

what smaller for beverages; for fibers the benefits were relatively insignificant, and producer prices were less stable than border prices in more than 30 percent of developing countries with stabilization schemes for beverages or fibers. Most schemes have since become financially unviable and have lapsed.

Reserve management schemes have been another technique in the arsenal of commodity exporters seeking to dampen the destabilizing effects of volatile commodity prices. But these have been less concerned with stabilizing domestic prices than with government revenues. The best known (the Papua New Guinea Mineral Resources Stabilization Fund and the Chilean Copper Stabilization Fund) use for-

eign-exchange reserves as a vehicle for precautionary savings to absorb cyclical variations in revenues.⁷ In Chile, when copper prices remained high in the 1980s and surpluses grew, the government used accumulated reserves to buy back part of Chile's external debt in 1989 and to deal with the so-called poisoned grapes crisis.

Growing use of market-based measures

Apart from government-sponsored programs to stabilize or reduce commodity price risk, more market-oriented mechanisms are available to accomplish the same objectives. Indeed, individuals and firms have

Box 3-3 Risk management instruments

Forward contract

A forward contract obligates its buyer to purchase a given asset on a specified date at a specified price. At maturity if the actual price (spot price) is higher than the contracted price, the buyer makes a profit. If the price is lower the buyer suffers a loss.

Forward contracts are often used for hedging the risk of holding or receiving commodities. This hedging activity, called a *forward cover*, involves the execution of a set of (counterbalancing) transactions in the spot and forward markets: if an owner holds a certain asset, he sells the same amount of that asset in the forward market at a pre-specified price. By doing so, the owner fixes the revenues from the future sale of the asset at the time the forward contract is signed.

Futures contract

The buyer (seller) of a futures contract agrees to purchase (sell) a specific asset at a specified price on a specified date. To ensure good performance on these contracts, profits and losses on futures are settled daily, and futures contracts require an amount, usually 10 percent of the value of the contract, of *margin money* to be held in the exchange as collateral. Futures differ from forward contracts in that they are standardized, take place in organized exchanges, and are insured against default risk through the margin account.

Option contract

An option is the right to purchase or sell a certain asset at a pre-set price on (or before) a specified date. A buyer of the option owns the right to buy or sell, and a seller (or writer) of the option gives the right to sell or buy to a buyer. Options are written on futures contracts for commodities and financial instruments. If the option gives the right to buy, the option is a *call option*; if it gives the right to sell, it is a *put option*.

Options differ from forward and futures contracts in two respects. First, in contrast to forward or futures contracts, they provide an opportunity to take advantage of favorable price movements. The cost for this opportunity usually is the premium that is paid up front. Second, although the seller of the option is required to be creditworthy and to maintain a margin account, the buyer is not. It is the seller who is liable to deliver on the option if required, and not the buyer. Options can be combined in various ways to achieve a specific hedging strategy. For example, call and put options can be combined to create so-called collars.

Swaps

A swap contract obligates two parties to exchange, or swap, specified cash flows at specified intervals. This means that a swap contract can be viewed as a series of forward contracts according to a specified schedule. For example, a copper exporter and a foreign buyer agree upon a long-term export contract in which a company buys 1,000 tons of copper every six months over the next five years. The exporter wants to lock in the dollar value of these revenues now. The exporter enters into a commodity swap contract with a bank. The bank agrees to pay the exporter US\$2 million every six months for the next five years, and the exporter agrees to pay the market value of the 1,000 tons of copper, at then-current prices, on the same dates over the five-year period.

A buyer may enter into a similar contract, agreeing to receive a series of payments based on the current price of copper in return for a series of fixed payments. This pair of contracts provides both the exporter and the importing buyer with guaranteed prices and hedges the price risk otherwise faced by the bank.

Commodity swap contracts have the same characteristics as forward contracts: no cash flows are involved at the beginning, and there is a substantial credit risk. However, commodity swaps are purely financial and do not involve deliveries of physical commodities.

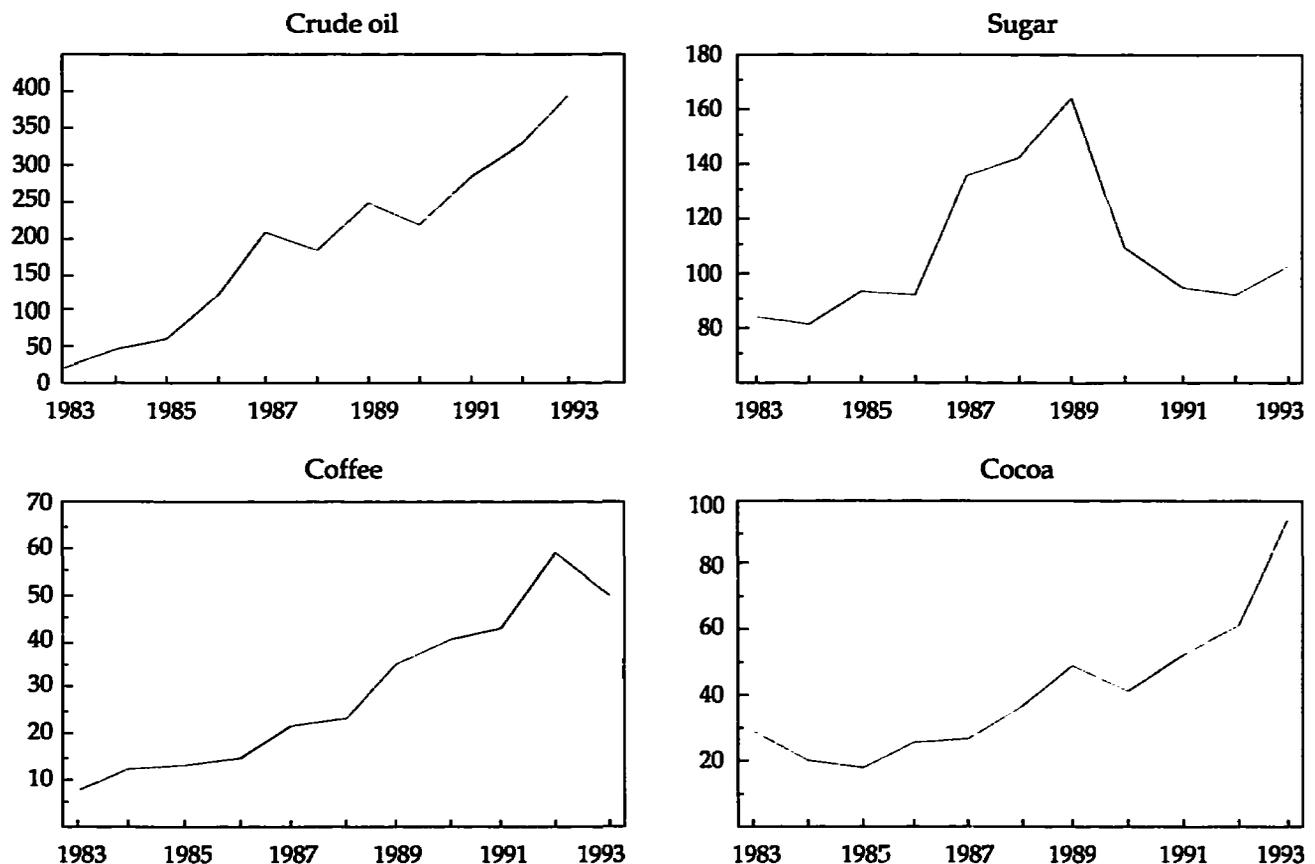
devised various techniques to manage risk without the help of governments, including diversification of production, storage of commodity stocks, and contractual arrangements that spread risk among the various contracting parties. In a study of thirty-five Sub-Saharan African countries, a one-off commodity price shock that raised national income by about 15 per cent was estimated in the following year to raise investment (savings) by a third and consumption by only around a tenth, which shows that individuals and governments in Africa have been partly successful in protecting against commodity price variability (box 3-2). Nevertheless, opportunities to manage risk simply through savings are limited because swings in commodity prices tend to be too large, too long, and too uncertain. To make matters more difficult, access by producers to secure, reliable savings instruments is limited in many countries, especially in

Sub-Saharan African where financial institutions are less well developed.

Finally, the use of *commodity-linked financial instruments* as a means of hedging risk is growing rapidly (box 3-3). Although such instruments have been in use for more than a century, they have come into their own in only the past two or three decades. For instance, the volume of crude oil futures and options traded on the New York Mercantile Exchange (NYMEX) now amounts to roughly 200 million barrels a day or almost four times world production of crude. The availability of futures and options contracts for other commodities has enjoyed an equally spectacular increase, with markets increasing in both liquidity and trading volume (figure 3-7). Today, futures exchanges operate not just in Europe, Japan, and the United States but also in a range of countries including Argentina, Brazil, Hungary, Malaysia, and Singapore.

The use of futures and options contracts for primary commodities has grown rapidly.

Figure 3-7 Open interest in futures contracts: selected commodities and markets^a
(in thousands of contracts)



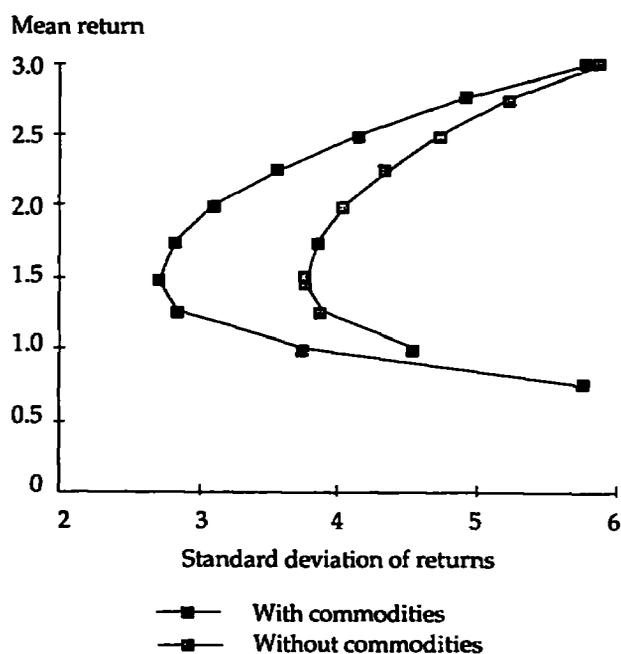
a. Oil futures contracts on the NYMEX. Sugar, coffee, and cocoa futures contracts on the New York Coffee, Sugar, and Cocoa Exchange.
Source: World Bank.

One possible reason why the availability of forward and futures contracts is increasing in long-established commodity markets such as foodstuffs and minerals is the growing demand for commodity-linked assets in the portfolios of traditional money managers in industrial countries. Analysis shows that for 1971–93, adding commodities to existing asset portfolios not only raised returns but also lowered portfolio volatility (Wadhvani and Shah 1993; figure 3-8).⁸ Even if the analysis is confined to the 1980s, when commodity prices declined sharply, adding commodities to portfolios generally improved the returns at any level of variability. The main reason is that commodity prices exhibit a low (and sometimes negative) correlation with other asset prices commonly held in financial portfolios. Indeed, commodity price hikes have been associated with poor performance in stock and bond markets. It may be that commodity returns rise with anticipated inflation whereas bonds and equities are less affected.

Both governments and enterprises in developing countries have been using market-based risk management instruments to hedge commodity price

Adding commodity assets to a portfolio tends to reduce risk and raise returns.

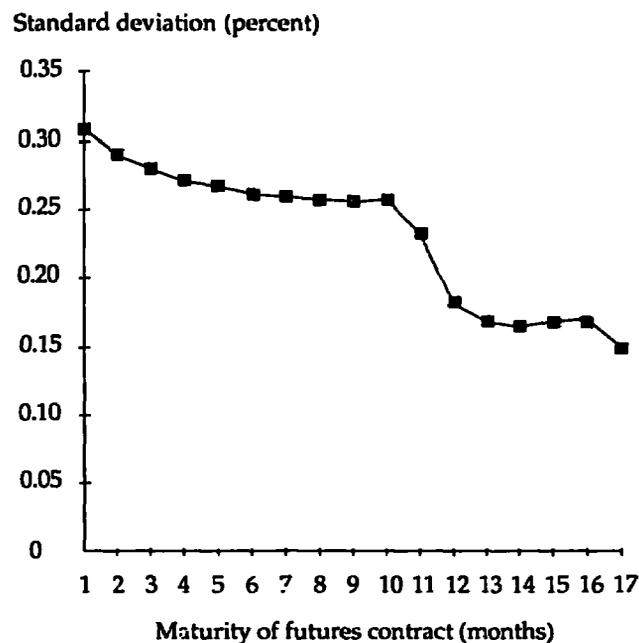
Figure 3-8 Tradeoff between returns and variability with and without commodity assets



Source: Satyanarayan and Varangis 1993.

Using the futures market can cut the volatility of returns significantly.

Figure 3-9 Term structure of oil futures price volatilities



Source: World Bank.

exposure (box 3-4). For instance, Ghana and Côte d'Ivoire have consistently sold forward a fixed price a chunk of the cocoa crop several months and sometimes a year ahead of harvests. In Indonesia, coffee and rubber exporters routinely hedge, as do coffee and cocoa exporters in Malaysia and Brazil. The Mexican government has been an active participant in commodity futures markets, hedging against shortfalls in oil revenues arising from sudden and unanticipated movements in prices. The state-owned copper company of Chile has used financial derivatives linked to the copper price and interest rate hedging instruments. During the Gulf War, Brazil, Chile, and El Salvador hedged oil import costs through state-owned oil companies.

Whether a routine strategy of hedging will reduce the variability of output prices depends upon whether forward prices are subject to the same degree of volatility as spot prices or whether forward prices converge toward the expected long-run price. A recent study (Claessens and van Wijnbergen 1993) of the oil futures market from July 1986 to July 1990 indicates that the volatility of oil-futures prices declined considerably as the number of months to maturity increased (figure 3-9).

Box 3-4 Applications of risk management instruments

Hedging against gold price variability by Ashanti Gold Corporation (Ghana)

In November 1992 the International Finance Corporation (IFC), the private-sector arm of the World Bank, announced the signing of a syndicated loan of US\$140 million for an expansion program at Ashanti Gold Corporation (AGC). The expansion program involves the use of advanced mining technologies and a new bio-oxidation treatment process to increase production by 50 percent.

The loan agreement allows AGC to draw the loan principal in gold or in U.S. dollars. By drawing the loan in gold, repayments will be based on the current price of gold. In this way AGC will hedge its payments against fluctuations in the price of output. Furthermore, the financing will be achieved at a lower nominal interest cost.

At the same time, but independently of the loan, IFC arranged a ten-year hedging facility that will enable AGC to hedge 30–50 percent of its annual gold production against gold price variability. This was done through the use of medium-term gold swaps, gold floors (put options), and gold collars (that is, the purchase of put options and the sale of call options to create a price band).

Developing countries generally face a major constraint regarding hedging. Almost all forms of hedging contracts require the market to assume the delivery risk by the gold producing and hedging country. The international gold market is sensitive to credit risk, and market participants have limited capacity to take the delivery risk from a developing country. In the case of AGC, the gold-linked financing deal avoided the logistical and security problems associated with the physical delivery of gold.

Mexico's oil hedge

Since late 1990, Mexico has used financial risk management tools to protect its crude oil export earnings (on about 1.3 million barrels a day) against a price fall. Put options at various exercise prices, the sale of futures contracts, and short-dated (up to one year maturity) oil swaps have been used to hedge oil price risk. Buying put options guarantees a minimum price; and oil futures contracts and swaps guarantee the seller and the buyer a specified price at some future date.

By using these contracts, Mexico has effectively ensured some minimum price for its main export. In addition, Mexico established a special contingency fund to protect against a trend decline in oil prices.

In the critical 1990–91 period, Mexico's overall strategy was to ensure that it received at least US\$17 a barrel, the price that was the basis for its 1991 budget. Participation in the futures markets served to reassure investors that regardless of oil price movements, the economic program and the budget would be sustained. Mexico not only reduced uncertainty *ex ante* in its oil earnings but also profited *ex post* because the gains from having ensured a minimum price exceeded the initial costs of buying the put options.

Mexicana de Cobre's commodity-linked financing

Mexicana de Cobre (MdC), a copper mining subsidiary of Grupo Mexico, obtained some innovative financing in 1989. In addition to a conventional syndicated loan of US\$210 million, a copper swap was arranged with the same maturity and payment dates as the loan so as to hedge MdC's export earnings. As a result of the swap, MdC was able to assure

These results suggest that a strategy of routinely hedging fifteen months in advance can reduce price volatility by roughly half. This reduction is similar to that achieved by the International Coffee Agreement or Australia's wool stabilization scheme but without the need for costly stockholding or the high probability of bankruptcy. Some risks remain, and strong internal controls and monitoring are required to avoid disastrous situations, such as the loss of more than US\$200 million experienced by CODELCO in late 1993.⁹

Commodity-linked financial instruments can be tailored to the needs of particular groups of producers in a way not possible with international price stabilization schemes. Consider the problem of stabilizing producer incomes rather than prices. For major producing regions—such as West Africa with cocoa—good harvests are likely to result in low prices and poor harvests in high prices. For these

producers, the greatest degree of revenue stabilization is achieved by hedging only part of the crop, perhaps about two-thirds (Rolfo 1980). By contrast, changes in supplies from smaller producing regions—such as Latin America with cocoa—are unlikely to have much impact on prices. Here hedging virtually the entire crop appears to contribute most to stabilizing producer revenues. Different hedging strategies can also be designed to deal with exchange rate variability and other sources of income uncertainty.

Given its many advantages, why is the use of market-based financial instruments not more widespread among developing countries? The reason has little to do with transaction costs—after all, transaction costs, including brokerage fees, possible liquidity costs, and the cost of providing a margin, add up to no more than a fraction of 1 percent of the value of

creditors that it had sufficient funds to service and repay the loan, regardless of fluctuations in the price of copper over the loan life. Further security was provided by an offshore escrow account into which the purchaser of the copper deposited payments according to its purchase contract with MdC. The first charges on the escrow account were the net payments under the debt service on the loan and the swap, ahead of any remittances to MdC. The elimination of the copper price risks through the swap and the security afforded by the escrow account were the basis of financing at a favorable interest rate.

Sonatrach's commodity-linked financing

An example of the use of long-dated commodity options to secure financing on favorable terms is the 1989 financing by Sonatrach, Algeria's state oil enterprise. Sonatrach entered into a conventional loan agreement (US\$100 million, seven-year maturity floating-rate loan) with a syndicate of banks. In addition, it entered into a series of oil-options transactions with the syndicate's lead bank.

Under the options transactions, Sonatrach agreed to pay the lead bank specified amounts in the following two years if the price of oil rose above pre-specified ceilings. Since Sonatrach's revenues would also increase if the price of oil rose, it could cover these additional costs from its export earnings. The lead bank was able, in a series of separate transactions with the syndicate, to use the value of the options to keep the cost of the conventional loan down to 1 percent above LIBOR, which was significantly below the expected cost of funds for Sonatrach without the options scheme.

Sonatrach effectively sold some of the upside potential in its oil revenues in exchange for an immediate

reduction in funding costs, thereby reducing the vulnerability of its revenues to oil price fluctuations.

Use of forward markets by West African cocoa producers

Some major West African cocoa producers, such as Ghana, Cameroon, and Côte d'Ivoire, use forward contracts to cover the risk connected to cocoa prices. At the beginning of each year, these countries set a fixed producer price for the crop year through marketing parastatals. Thus, if international prices drop during the year, the parastatals lose money; if prices increase, parastatals gain. To reduce this price uncertainty, the parastatals sell forward roughly two-thirds of expected exports—not the entire crop because of uncertainty about the size of the harvest. In this way, the parastatals lock in a cocoa price for much of their export sales, reducing the risk involved in setting the producer price. Similar strategies are followed by cotton parastatals in francophone Africa.

Use of futures contracts by coffee exporters in Brazil, Costa Rica, and El Salvador

When coffee exporters buy coffee from farmers, they assume an exposure to prices if they do not immediately find a buyer abroad. Coffee is harvested over a four- to five-month period but sold throughout the year; thus, exporters who store coffee can be exposed to the substantial risk of intrayear price variability. Because they usually operate with small margins, it is crucial to guarantee or lock in the profitability of operations.

On buying coffee from farmers, exporters typically sell futures contracts for the date they expect to sell the coffee. When the exporters sell the coffee, they buy back the maturing futures contracts, the price of which is synchronized with the market price of coffee.

the transaction. The risk premiums that hedgers have to pay to others to absorb the risk are difficult to calculate, although empirical studies suggest that these may be significant but not prohibitive (Dusak 1973; Jagannathan 1985; Kaminsky and Kumar 1990).

If cost is not a major problem, why are commodity futures and options markets not used more commonly? There are four possible reasons.

First, many developing-country governments and corporations are unfamiliar with the advantages of using risk-hedging financial instruments and the costs and benefits of the alternative contracts available for this purpose. The World Bank has been providing technical assistance in the use of financial instruments to hedge commodity price risk to some governments in developing countries (box 3-5), but more needs to be done. As familiarity and experience with such instruments increase,

and as the liquidity, breadth, and depth of futures exchanges around the world grow, developing countries can be expected to play an increasingly important role in these markets.

Second, government policies in many developing countries tend to militate against the use of such market-based financial instruments. For example, prior to 1991, Colombian exporters rarely used these instruments because exchange controls, especially foreign-exchange licensing requirements, created uncertainty and constrained the flexibility of exporters; import controls limited the usefulness of hedging instruments; and government interventions in trade and domestic markets rendered local prices uncertain, making it difficult to use international financial instruments. It was only after the Colombian government changed the legal framework (with World Bank assistance) and reformed many of its other

Box 3-5 Managing commodity price risk: technical assistance from the World Bank

In 1990 the International Economics Department of the World Bank started a technical assistance program to help developing countries better manage commodity price exposure through the use of commodity-linked financial instruments. Most of the work so far has concentrated in Colombia and Costa Rica where financial instruments are increasingly used to manage commodity price risk. In addition, the World Bank has advised Hungary on the establishment of a domestic futures market for wheat; Papua New Guinea on hedging strategies for stabilization funds, including the Mineral Resources Stabilization Fund; Mexico and Venezuela on variable import tariff schemes for a number of foodstuffs and the use of commodity futures and options; Colombia on the use of commodity futures and options in the oil sector; Algeria on the use of commodity-linked finance for the state oil company; and Trinidad and

Tobago on the use of commodity-linked financial instruments for hedging government revenues. Training and education in financial risk management techniques has been offered in Costa Rica for the coffee sector and the state oil company; in Algeria for the Central Bank; in Colombia for the oil sector; and in Trinidad and Tobago for the Ministry of Finance.

As a matter of policy the Bank refrains from offering advice on specific transactions that a country may be contemplating. The Bank's purpose has been to assess the desirability and feasibility of a commodity-risk hedging scheme rather than to put the program on a day-to-day operational basis. A country seeking advice is referred to experienced, internationally recognized banking and commodity houses. Furthermore, the World Bank does not attempt to advise its borrowers on market trends nor concern itself with other similar operational involvement.

policies that the private sector began hedging commodity price risk.

Third, the market for futures and options usually is limited to a maximum two-year horizon. Markets for longer-maturity risk-hedging financial instruments have not developed and deepened enough to be of use to developing countries exporting minerals or tropical beverage crops with a gestation period of several years between investment and production.

Longer-dated commodity-linked instruments are used particularly in the mineral and energy sector in industrial countries. These markets trade around US\$40 billion to US\$50 billion a year—the market for energy swaps alone is estimated to be about US\$25 billion a year. But developing countries with questionable creditworthiness—that is, most of the commodity-exporting economies—are effectively excluded from participating in such markets. Some, such as the Ashanti Gold Corporation in Ghana and the Mexicana de Cobre in Mexico, have skirted around this constraint by either collateralizing export receipts or invoking third-party guarantees.

Although developing countries may have limited access to longer-maturity risk-hedging instruments, they can still reduce risk considerably by rolling over short-term options and futures contracts. In simulations of hedging oil export and import prices, the use of short-dated futures (of less than six months maturity) was found to reduce near-term price risk by 70–85 percent for the period 1985 to 1990. And to participate in these short-maturity options and futures transactions, developing countries do not need to pass stringent creditworthiness tests.

Where creditworthiness is a barrier, techniques are being adapted to overcome this problem. For instance, Chile, Mexico, and Papua New Guinea are combining export financing with short-dated commodity swaps and depositing the proceeds from export sales into escrow accounts to address the risk of nonperformance. Similarly, intermediaries can employ guarantee mechanisms to protect against high levels of sovereign risk. An example of this has been shown by the International Finance Corporation (a member of the World Bank Group), which has guaranteed commodity swaps by developing country corporations in the context of projects that the IFC has financed.

But such techniques resolve the problem only partially. Creditworthiness remains a constraint to some commodity exporters who would otherwise benefit considerably from access to over-the-counter financial instruments. A case can be made for establishing an international fund to underwrite counterparty risk on a case-by-case basis, using self-financing techniques. As long as such activities are prudently managed and confined to pure risk hedging, it should be possible to manage counterparty risk associated with long-maturity over-the-counter contracts and to achieve several of the objectives for which price stabilization arrangements were originally established.

Fourth, many developing countries do not participate in international markets for commodity risk because they find it difficult to locate an appropriate hedging tool for their export commodity. For example, cotton futures prices traded in the most important futures market for cotton, the New York Cotton Exchange, are poorly correlated with the spot price

of cotton exports from francophone African countries. For these countries, a futures contract for cotton exports based on a standard New York Cotton Exchange contract would be an imperfect hedge and perhaps not worth the cost. Exporters of tropical fruits face the same dilemma, and even exporters of oil, such as Nigeria and Venezuela, find that the spot prices for oil exports are not well correlated with the futures prices in standard contracts, based on West Texas Intermediate crude oil.

Most domestic price stabilization schemes have eventually become budgetary burdens largely because it is almost impossible to foretell trends in prices with accuracy, and sooner or later a prolonged period of below-trend prices is likely to occur. But governments are in a strong position to hedge such risks on the international financial market. Some, such as Mexico, Ghana, and Venezuela, do this already (Claessens and Varangis forthcoming). Research has indicated that the use of financial risk-hedging instruments also has the potential to benefit price stabilization schemes. One simulation suggests that the introduction of risk hedging through futures and options reduces the probability of the bankruptcy of a domestic stabilization scheme by about two-thirds (Larson and Coleman 1991).

Conclusion

Commodity prices are much more volatile than the prices of manufactures. Commodity exporters suffer terms-of-trade shocks equal to several percentage points of GDP, and their ability to borrow abroad to smooth the effects of commodity price variability is restricted. How these price risks are managed can therefore influence the growth prospects of these economies. Officially sponsored nonmarket schemes have met only limited success. Domestic price stabilization schemes have quickly tended to become large fiscal liabilities, and four of the five international price stabilization arrangements ceased operating in the 1980s. Market-based measures appear to hold more promise, with evidence showing that the private sector uses several means to smooth con-

sumption in the event of unstable commodity prices, even in low-income developing countries where financial systems are relatively underdeveloped. In addition, commodity-linked financial instruments are becoming more widely used by developing-country governments and corporations. Although such instruments have their limitations, they provide an increasingly important array of opportunities for developing countries to manage commodity price risk.

Notes

1. The measure of volatility used here is defined as the standard deviation of percentage changes.

2. The (arithmetic) average standard deviation in the percentage change of their export revenues is 25.3 percent.

3. The technique used for calculating the cost of instability is based on Newbery and Stiglitz 1981. The degree of relative risk aversion was assumed to be 2.

4. See in particular Balassa 1981, Balassa and McCarthy 1984, Mitra 1986a and 1986b, and Lal and Wolf 1986.

5. Developing countries were not alone in experiencing difficulties in adjusting to the oil price shock. Many OECD countries were also hampered by rigidities in labor markets and experienced substantial increases in unemployment and sharp falls in investment and output (see Bruno and Sachs 1985).

6. The CFF was superseded by the Compensatory and Contingency Financing Facility (CCFF) in 1988, which retained many of the basic features of the CFF and also included a contingency element for use in IMF-supported adjustment programs.

7. In Papua New Guinea, however, the stabilization fund eventually ran dry, but the government subsidized the fund through oil revenues, and payments to farmers continued.

8. This is irrespective of the extent of currency hedging.

9. CODELCO suffered losses of US\$207 million from unsuccessful speculation (*The Economist*, February 12, 1994). These losses serve to remind policymakers of the need for strict internal financial control in the use of commodity-linked financial instruments.

Statistical Appendix

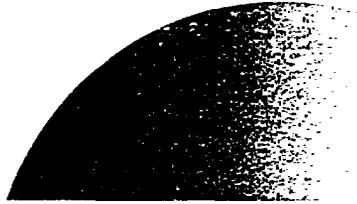


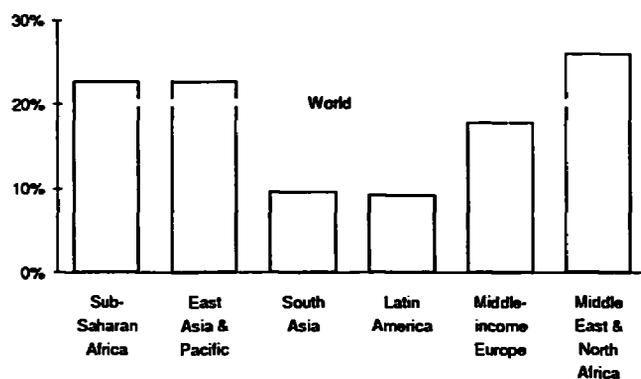
Table 1

Exports of goods, 1992

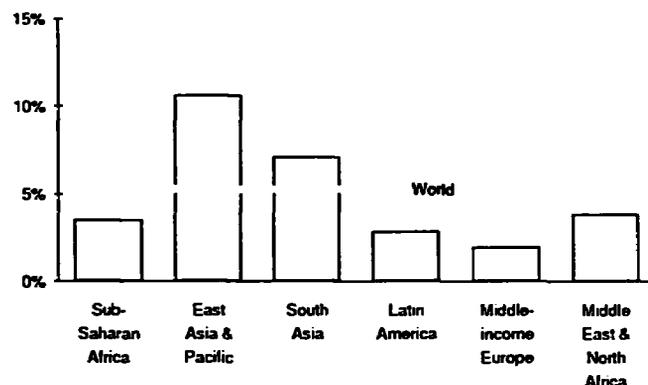
Merchandise exports, US \$ millions; average annual growth rate 1981-1992 (%); effective market growth (EMG) 1981-1992 (%)

Exports Growth EMG			Exports Growth EMG			Exports Growth EMG					
Low-income			Lower middle-income			Upper middle-income					
Bangladesh	1,903	7.8	3.0	Albania	..	..	..	Argentina	12,235	2.1	2.5
Benin	111	9.3	3.0	Algeria	..	5.3	2.4	Belarus	1,060	..	..
Bhutan	..	..	..	Armenia	40	..	..	Botswana	..	..	2.6
Burkina Faso	142	8.4	3.7	Azerbaijan	754	..	..	Brazil	35,956	4.4	2.7
Burundi	72	7.8	2.3	Bolivia	763	6.9	1.6	Estonia	242	..	..
Central African Rep.	91	6.0	2.9	Bulgaria	..	..	0.1	Gabon	2,303	5.4	2.6
Chad	194	8.2	3.0	Cameroon	..	11.8	2.7	Greece	9,842	5.2	2.2
China *	84,940	11.1	4.2	Chile	9,646	5.8	3.0	Hungary	10,700	1.2	1.0
Egypt, Arab Rep.	3,050	3.3	2.3	Colombia	6,916	13.8	2.2	Korea, Rep.	76,394	11.0	3.3
Ethiopia	169	-5.2	2.1	Congo	1,284	8.1	2.3	Malaysia	40,705	11.1	4.6
Ghana	942	8.9	2.3	Costa Rica	1,834	5.8	2.2	Mauritius	1,336	10.0	2.3
Guinea	..	..	2.2	Côte d'Ivoire	6,220	8.5	2.5	Mexico	27,166	0.1	2.5
Guinea-Bissau	6	-7.1	3.6	Czech Republic	..	..	..	Oman	5,555	8.3	5.4
Honduras	736	-0.6	2.3	Dominican Republic	566	-4.5	2.3	Portugal	18,541	11.2	2.4
India	19,795	6.1	3.1	Ecuador	3,036	5.1	2.1	Puerto Rico	..	..	..
Indonesia	33,815	6.0	4.1	El Salvador	396	0.3	2.2	Saudi Arabia	41,833	-0.2	3.7
Kenya	1,339	5.1	3.1	Georgia	30	..	..	Slovenia	..	..	2.6
Lao PDR	91	24.6	..	Guatemala	1,295	0.7	2.3	South Africa	35,956	4.4	2.7
Lesotho	..	..	2.7	Iran, Islamic Rep.	18,235	14.0	3.2	Trinidad & Tobago	1,869	-1.3	2.0
Madagascar	296	-1.4	3.0	Jamaica	1,102	1.9	2.1	Uruguay	1,620	2.7	2.2
Malawi	383	5.7	2.8	Jordan	933	4.9	2.1	Venezuela	13,997	1.2	2.4
Mali	388	7.2	4.3	Kazakhstan	1,489	..	..		
Mauritania	500	4.1	2.8	Kyrgyz Republic	76	..	..		
Mozambique	..	..	..	Latvia	429	..	..		
Myanmar	539	-4.7	6.3	Lithuania	560	..	..		
Nepal	369	9.9	2.5	Moldova	185	..	..		
Nicaragua	228	-5.4	2.4	Mongolia	..	..	..	
Niger	271	-3.1	2.3	Morocco	3,977	5.6	2.4				
Nigeria	11,886	4.3	2.4	Namibia	..	..	2.6				
Pakistan	7,264	11.2	3.3	Panama	501	2.4	2.8				
Rwanda	..	..	2.8	Papua New Guinea	1,076	4.7	3.6				
Sierra Leone	164	2.4	2.4	Paraguay	657	11.7	2.4				
Somalia	40	-9.1	2.3	Peru	3,573	3.3	2.8				
Sri Lanka	2,487	6.5	2.5	Philippines	9,790	4.0	3.4				
Sudan	412	-0.1	4.1	Poland	13,324	4.0	1.2				
Tajikistan	110	..	..	Romania	4,299	-11.5	1.4				
Tanzania	400	-0.5	3.5	Russian Federation	42,391	..	1.6				
Togo	207	4.6	2.8	Senegal	672	1.7	2.5				
Uganda	164	1.5	2.3	Slovak Republic	..	..	..	
Yemen, Rep.	..	..	7.7	Syrian Arab Rep.	3,262	20.0	1.9				
Zambia	..	-3.5	3.9	Thailand	32,473	14.0	3.5				
Zimbabwe	1,235	-0.9	3.0	Tunisia	4,040	6.8	2.2				
				Turkey	14,715	6.4	2.3				
				Turkmenistan	1,083	..	..		
				Ukraine	3,773	..	..		
				Uzbekistan	869	..	..		
* Data for											
Taiwan, China, are:	81,337	10.3	3.7								

Merchandise exports as share of GDP, 1992



Annual growth rate of exports, 1981-92



1/ Includes Luxembourg

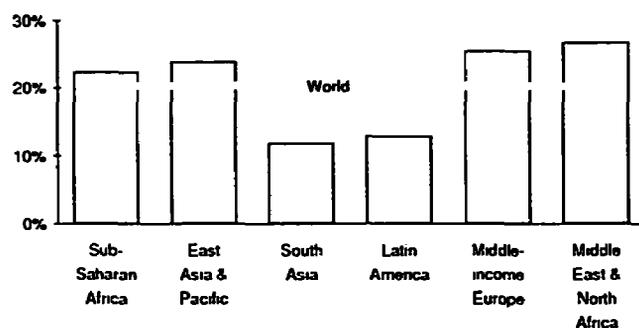
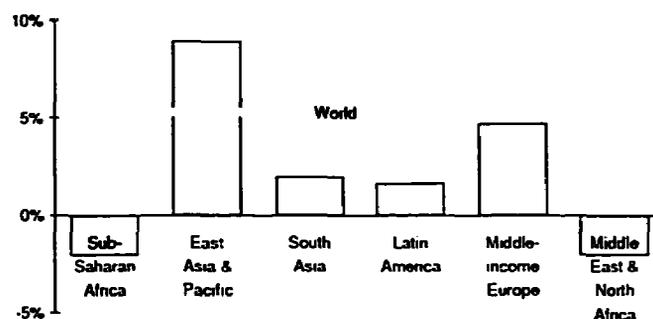
Table 2 Imports of goods, 1992

Merchandise imports, US \$ millions; average annual growth rate 1981-1992 (%); merchandise imports share of GDP (%)

Imports Growth Share				Imports Growth Share				Imports Growth Share			
Low-income				Lower middle-income				Upper middle-income			
Bangladesh	2,527	1.6	10.6	Albania	..	..	..	Argentina	14,864	0.5	6.5
Benin	383	-3.9	17.6	Algeria	..	-6.0	..	Belarus	750	..	..
Bhutan	..	..	..	Armenia	95	..	2.8	Botswana	..	..	..
Burkina Faso	503	1.8	17.2	Azerbaijan	332	..	..	Brazil	23,115	2.7	5.8
Burundi	221	-0.4	20.2	Bolivia	1,102	0.5	20.9	Estonia	230	..	45.6
Central African Rep.	134	3.1	10.0	Bulgaria	..	..	..	Gabon	913	-2.7	15.4
Chad	339	5.9	25.9	Cameroon	..	-2.2	..	Greece	23,407	6.6	29.6
China *	80,585	8.6	15.9	Chile	9,456	5.1	22.9	Hungary	11,078	0.4	31.5
Egypt, Arab Rep.	8,293	-3.7	23.3	Colombia	6,684	0.1	13.8	Korea, Rep.	81,413	10.8	27.5
Ethiopia	799	-2.5	11.9	Congo	1,071	5.4	38.0	Malaysia	38,361	8.0	66.6
Ghana	1,597	2.7	23.2	Costa Rica	2,458	5.6	37.6	Mauritius	1,774	11.9	58.4
Guinea	..	..	..	Côte d'Ivoire	5,347	2.6	52.6	Mexico	47,877	5.1	14.6
Guinea-Bissau	84	0.3	38.0	Czech Republic	..	..	..	Oman	3,674	-1.1	31.9
Honduras	1,057	-0.3	32.2	Dominican Republic	2,178	2.9	28.2	Portugal	30,482	10.9	38.3
India	22,530	1.6	9.3	Ecuador	2,501	-1.3	19.7	Puerto Rico	..	..	..
Indonesia	27,280	3.4	21.6	El Salvador	1,137	-3.6	17.6	Saudi Arabia	32,103	-7.3	28.8
Kenya	1,713	0.3	21.4	Georgia	480	..	..	Slovenia	..	..	..
Lao PDR	241	18.0	20.2	Guatemala	2,463	0.2	23.6	South Africa	19,664	-2.1	17.1
Lesotho	..	..	..	Iran, Islamic Rep.	..	..	..	Trinidad & Tobago	1,436	-10.2	26.6
Madagascar	468	-0.2	15.7	Jamaica	1,758	1.6	53.4	Uruguay	2,010	3.2	17.6
Malawi	718	5.4	38.8	Jordan	3,251	-1.2	67.9	Venezuela	12,222	0.0	20.0
Mali	740	4.8	26.2	Kazakhstan	468	..	3.2				
Mauritania	650	6.0	54.6	Kyrgyz Republic	70	..	1.9	High-income			
Mozambique	..	..	..	Latvia	423	..	..	Australia	42,140	4.7	14.3
Myanmar	826	-0.9	2.2	Lithuania	340	..	..	Austria	54,084	7.1	29.2
Nepal	687	2.6	23.2	Moldova	205	..	8.9	Belgium 1/	124,656	5.3	..
Nicaragua	907	-4.7	49.1	Mongolia	..	..	..	Canada	121,893	6.5	21.6
Niger	291	-5.1	12.4	Morocco	7,356	4.7	25.7	Denmark	33,601	5.2	23.6
Nigeria	8,119	-10.2	26.5	Namibia	..	..	..	Finland	20,741	4.1	19.5
Pakistan	9,360	3.7	19.8	Panama	2,009	-3.3	33.5	France	238,299	5.2	18.1
Rwanda	..	..	..	Papua New Guinea	1,535	2.5	36.3	Germany	407,172	6.4	22.8
Sierra Leone	148	-6.7	22.0	Paraguay	1,479	6.2	22.0	Hong Kong	123,427	12.4	128.7
Somalia	..	-5.4	..	Peru	3,629	-1.8	16.4	Ireland	22,469	5.3	46.1
Sri Lanka	3,470	2.9	35.4	Philippines	15,465	5.4	29.5	Israel	18,663	5.3	26.8
Sudan	892	-5.0	14.9	Poland	15,309	3.1	18.3	Italy	184,510	6.3	15.1
Tajikistan	132	..	..	Romania	5,909	-1.8	26.5	Japan	230,975	7.0	6.3
Tanzania	1,200	-0.9	47.2	Russian Federation	36,990	..	10.4	Netherlands	134,376	5.1	42.0
Togo	410	1.7	25.5	Senegal	970	1.9	15.5	New Zealand	9,200	4.0	22.3
Uganda	405	-4.7	12.8	Slovak Republic	..	..	..	Norway	25,897	3.4	22.9
Yemen, Rep.	..	..	..	Syrian Arab Rep.	3,365	4.9	..	Singapore	72,067	8.2	156.6
Zambia	..	-1.0	..	Thailand	40,466	12.0	36.7	Spain	99,473	11.6	17.3
Zimbabwe	2,306	2.6	40.5	Tunisia	6,425	3.6	40.6	Sweden	49,849	4.0	20.2
				Turkey	22,871	9.1	20.2	Switzerland	65,603	4.2	27.2
				Turkmenistan	545	..	..	United Arab Emirates	..	-0.4	..
				Ukraine	2,218	..	11.6	United Kingdom	221,658	5.4	21.3
				Uzbekistan	929	..	..	United States	551,591	5.8	9.3

* Data for

Taiwan, China, are: 70,071 10.8 33.9

Merchandise imports as share of GDP, 1992

Annual growth rate of imports, 1981-92


1/ Includes Luxembourg

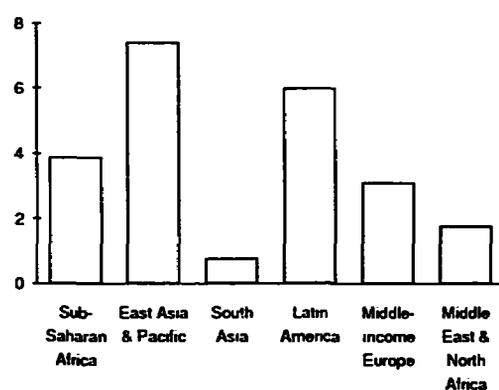
Table 3

Foreign direct investment, 1992

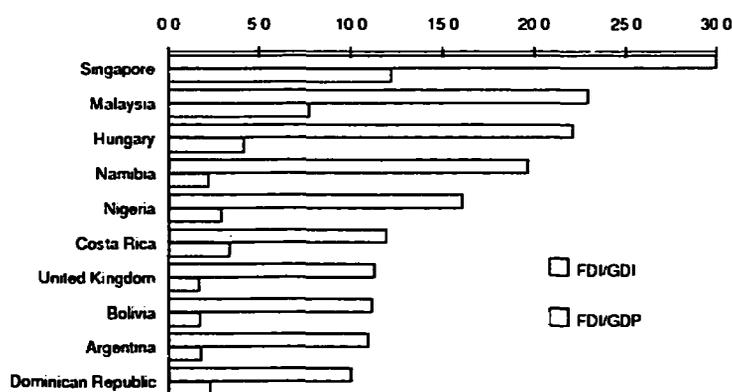
Net inflows of foreign direct investment (FDI), US\$ millions; FDI share of gross domestic investment (GDI) (%)

	FDI	Share		FDI	Share		FDI	Share
Low-income			Lower middle-income			Upper middle-income		
Bangladesh	3.7	0.1	Albania	..	..	Argentina	4,179.0	10.9
Benin	0.7	0.2	Algeria	11.6	0.1	Belarus	..	..
Bhutan	..	..	Armenia	..	..	Botswana	..	..
Burkina Faso	-0.3	0.0	Azerbaijan	..	..	Brazil	1,454.0	2.1
Burundi	0.6	0.3	Bolivia	93.1	11.2	Estonia	..	..
Central African Rep.	-3.0	-1.9	Bulgaria	42.0	1.7	Gabon	-36.3	-2.2
Chad	..	..	Cameroon	79.0	7.1	Greece	1,144.0	8.0
China	11,156.0	7.5	Chile	737.0	7.5	Hungary	1,479.2	22.1
Egypt, Arab Rep.	459.0	7.1	Colombia	790.0	9.3	Korea, Rep.	550.0	..
Ethiopia	..	..	Congo	..	..	Malaysia	4,469.3	22.9
Ghana	22.5	2.6	Costa Rica	220.0	12.0	Mauritius	14.7	1.7
Guinea	19.7	3.7	Côte d'Ivoire	49.1	5.4	Mexico	5,366.0	6.9
Guinea-Bissau	..	..	Czech Republic	..	..	Oman	58.8	..
Honduras	60.1	7.1	Dominican Republic	179.0	10.0	Portugal	1,873.4	..
India	..	..	Ecuador	85.0	3.3	Puerto Rico	..	..
Indonesia	1,774.0	4.1	El Salvador	25.3	3.1	Saudi Arabia	384.7	..
Kenya	6.4	0.5	Georgia	..	..	Slovenia	..	..
Lao PDR	9.0	..	Guatemala	94.1	4.9	South Africa	-4.6	0.0
Lesotho	2.7	0.5	Iran, Islamic Rep.	..	..	Trinidad & Tobago	177.9	..
Madagascar	21.2	6.3	Jamaica	86.5	..	Uruguay	0.0	0.0
Malawi	..	..	Jordan	40.7	2.7	Venezuela	629.0	4.5
Mali	-7.6	-1.2	Kazakhstan	100.0	2.4			
Mauritania	2.3	1.3	Kyrgyz Republic	..	..	High-income		
Mozambique	25.3	5.1	Latvia	..	..	Australia	4,967.9	8.6
Myanmar	..	..	Lithuania	..	..	Austria	891.0	1.9
Nepal	1.4	0.2	Moldova	..	..	Belgium 1/	11,073.0	..
Nicaragua	15.0	4.7	Mongolia	..	..	Canada	7,756.9	7.4
Niger	..	..	Morocco	423.6	6.2	Denmark	1,017.4	4.7
Nigeria	896.6	16.1	Namibia	55.8	19.6	Finland	387.3	2.1
Pakistan	348.8	3.6	Panama	-0.8	-0.1	France	21,843.2	8.4
Rwanda	2.2	0.9	Papua New Guinea	..	..	Germany	6,795.5	1.8
Sierra Leone	..	..	Paraguay	83.1	5.4	Hong Kong	1,918.4	7.0
Somalia	..	..	Peru	127.0	3.5	Ireland	102.2	1.3
Sri Lanka	122.6	5.3	Philippines	228.0	1.9	Israel	234.6	1.4
Sudan	..	..	Poland	678.0	3.5	Italy	3,071.9	1.3
Tajikistan	..	..	Romania	77.0	1.2	Japan	2,720.0	0.2
Tanzania	..	..	Russian Federation	..	..	Netherlands	5,320.0	8.0
Togo	..	..	Senegal	..	..	New Zealand	69.8	0.9
Uganda	3.0	0.7	Slovak Republic	..	..	Norway	896.9	4.4
Yemen, Rep.	..	..	Syrian Arab Rep.	..	..	Singapore	5,635.5	30.0
Zambia	34.3	6.6	Thailand	2,115.8	4.8	Spain	8,058.0	6.1
Zimbabwe	2.8	0.2	Tunisia	378.8	9.2	Sweden	328.7	0.8
			Turkey	844.0	3.3	Switzerland	1,033.3	1.8
			Turkmenistan	11.3	..	United Arab Emirates	122.3	1.6
			Ukraine	..	..	United Kingdom	18,052.5	11.3
			Uzbekistan	..	..	United States	2,370.0	0.3

Ratio of FDI to GDI, 1992



Top ten ratios of FDI to GDI (%)



1/ Includes Luxembourg

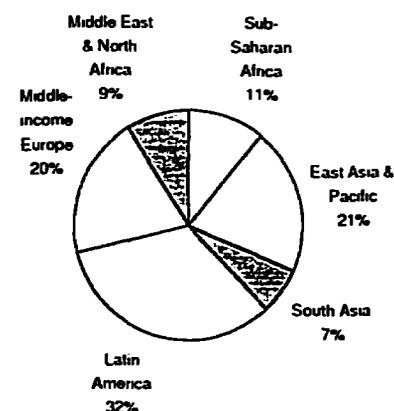
Table 4

External financing ratios, 1992

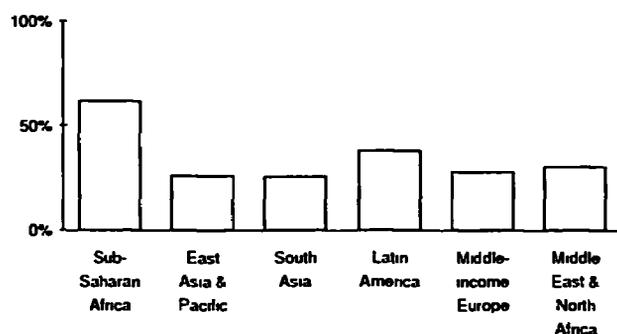
Present value of debt service (PV) as a share of GNP (%); present value of debt service as a share of exports of goods and services (XGS) (%)

	PV/GNP	PV/XGS		PV/GNP	PV/XGS		PV/GNP	PV/XGS
Low-income			Lower middle-income			Upper middle-income		
Bangladesh	27.4	263.8	Albania	..	637.2	Argentina	33.9	449.8
Benin	36.0	144.9	Algeria	53.5	211.5	Belarus	0.6	4.8
Bhutan	17.5	53.9	Armenia	0.3	3.1	Botswana	12.0	..
Burkina Faso	20.4	166.1	Azerbaijan	..	..	Brazil	28.4	293.8
Burundi	38.9	416.2	Bolivia	61.2	393.2	Estonia	1.1	9.7
Central African Rep.	38.8	273.4	Bulgaria	..	202.6	Gabon	69.1	142.1
Chad	28.9	157.2	Cameroon	58.2	269.8	Greece	..	..
China	11.9	77.0	Chile	51.9	148.3	Hungary	71.8	158.2
Egypt, Arab Rep.	69.0	222.0	Colombia	38.7	177.2	Korea, Rep.	14.1	45.8
Ethiopia	47.6	644.4	Congo	170.2	327.6	Malaysia	37.3	41.5
Ghana	37.5	237.5	Costa Rica	58.9	138.4	Mauritius	30.2	44.9
Guinea	54.6	247.4	Côte d'Ivoire	191.8	481.5	Mexico	37.2	246.5
Guinea-Bissau	186.8	6,414.2	Czech Republic	..	..	Oman	26.1	47.8
Honduras	91.7	258.9	Dominican Republic	56.2	197.1	Portugal	..	120.5
India	22.7	255.0	Ecuador	101.4	331.6	Puerto Rico	..	..
Indonesia	63.0	213.3	El Salvador	25.9	168.7	Saudi Arabia	..	..
Kenya	61.4	230.1	Georgia	1.8	..	Slovenia	..	..
Lao PDR	42.6	239.3	Guatemala	25.9	126.2	South Africa	..	..
Lesotho	23.2	39.1	Iran, Islamic Rep.	10.8	69.7	Trinidad & Tobago	45.0	103.4
Madagascar	118.5	658.1	Jamaica	114.7	159.1	Uruguay	50.2	204.5
Malawi	44.1	191.0	Jordan	165.0	261.6	Venezuela	61.7	214.8
Mali	52.7	336.1	Kazakhstan	0.1	0.7			
Mauritania	161.0	381.3	Kyrgyz Republic	0.0	0.0			
Mozambique	408.0	1,153.9	Latvia	1.0	..			
Myanmar	..	..	Lithuania	0.6	..			
Nepal	25.7	147.2	Moldova	0.6	3.8			
Nicaragua	761.0	3,263.3	Mongolia	..	72.9			
Niger	50.7	351.2	Morocco	71.6	295.2			
Nigeria	92.2	233.6	Namibia	..	..	
Pakistan	37.0	221.5	Panama	104.5	87.8			
Rwanda	22.8	395.8	Papua New Guinea	87.4	159.3			
Sierra Leone	138.2	..	Paraguay	25.3	101.3			
Somalia	..	..	Peru	92.8	440.6			
Sri Lanka	41.7	131.8	Philippines	61.7	176.2			
Sudan	..	3,955.0	Poland	62.0	234.2			
Tajikistan	0.2	..	Romania	13.7	67.1			
Tanzania	..	784.4	Russian Federation	20.6	196.9			
Togo	56.2	177.8	Senegal	39.9	168.5			
Uganda	..	906.5	Slovak Republic	..	..	
Yemen, Rep.	..	422.1	Syrian Arab Rep.	..	286.8			
Zambia	..	..	Thailand	35.9	90.5			
Zimbabwe	58.2	187.2	Tunisia	51.8	122.8			
			Turkey	46.0	210.0			
			Turkmenistan	..	..	
			Ukraine	0.5	3.5			
			Uzbekistan	0.1	..			

Present value of debt, 1992



Ratio of present value of debt to GNP, 1992



Ratio of present value of debt to exports of goods and services, 1992

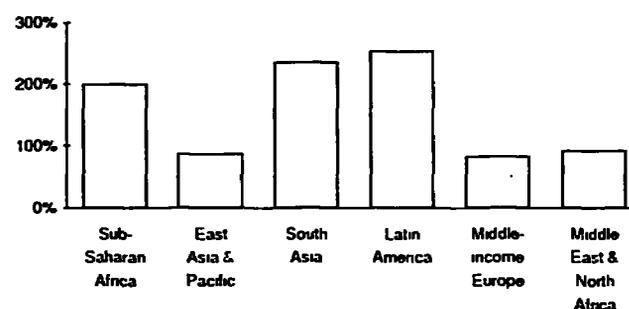
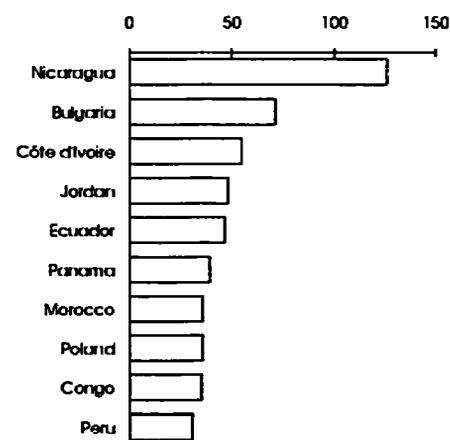
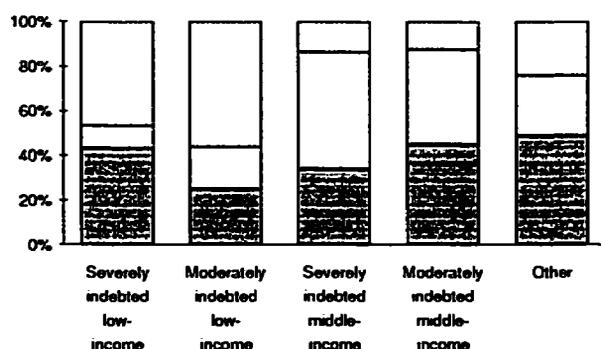
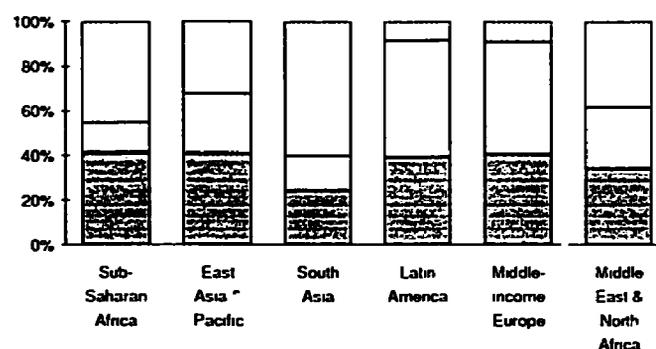


Table 5 Structure of long-term debt, 1992

Share of long-term debt (%): concessional debt; nonconcessional debt at variable interest rates; nonconcessional debt at fixed interest rates

	Conces- Nonconcessional				Conces- Nonconcessional				Conces- Nonconcessional		
	sional	Variable	Fixed		sional	Variable	Fixed		sional	Variable	Fixed
Low-income				Lower middle-income				Upper middle-income			
Bangladesh	98.4	0.3	1.4	Albania	39.4	60.6	0.0	Argentina	1.2	51.2	43.0
Benin	83.8	7.8	8.4	Algeria	3.8	46.8	49.4	Belarus	12.1	87.9	0.0
Bhutan	83.6	0.0	16.4	Armenia	78.6	21.4	0.0	Botswana	43.3	13.3	43.4
Burkina Faso	85.9	0.6	13.5	Azerbaijan	..	..	..	Brazil	2.5	60.4	23.9
Burundi	95.6	0.0	4.4	Bolivia	51.3	17.3	28.2	Estonia	24.7	5.9	34.8
Central African Rep.	86.8	0.0	13.1	Bulgaria	0.0	77.9	22.1	Gabon	14.9	14.2	70.9
Chad	79.5	0.0	19.3	Cameroon	36.1	14.7	44.1	Greece	..	..	..
China	19.6	28.0	52.5	Chile	2.2	42.2	19.8	Hungary	0.7	49.2	47.0
Egypt, Arab Rep.	41.3	7.8	49.0	Colombia	6.6	45.1	40.5	Korea, Rep.	14.6	17.3	45.1
Ethiopia	79.0	2.0	19.0	Congo	45.5	25.8	28.7	Malaysia	15.5	32.0	34.9
Ghana	81.2	1.0	16.6	Costa Rica	27.1	22.0	41.5	Mauritius	41.7	15.7	21.8
Guinea	83.1	4.0	12.9	Côte d'Ivoire	21.0	42.0	17.4	Mexico	1.5	36.2	49.4
Guinea-Bissau	78.2	0.2	21.7	Czech Republic	..	..	..	Oman	17.1	59.7	23.2
Honduras	43.8	18.6	34.9	Dominican Republic	49.1	40.7	8.5	Portugal	5.0	20.4	68.8
India	46.7	18.9	32.2	Ecuador	12.8	59.9	26.3	Puerto Rico	..	..	..
Indonesia	33.9	19.9	20.7	El Salvador	63.2	12.7	23.5	Saudi Arabia	..	..	..
Kenya	52.1	3.2	33.6	Georgia	..	..	..	Slovenia	..	..	..
Lao PDR	99.8	0.0	0.2	Guatemala	34.8	13.7	45.3	South Africa	..	..	..
Lesotho	80.3	1.1	18.7	Iran, Islamic Rep.	1.9	85.3	12.8	Trinidad & Tobago	3.0	53.5	43.6
Madagascar	56.5	5.2	38.4	Jamaica	33.9	24.1	41.3	Uruguay	2.4	51.8	36.0
Malawi	87.5	2.5	10.0	Jordan	42.3	33.6	24.0	Venezuela	1.0	50.1	35.0
Mali	97.8	0.1	2.1	Kazakhstan	0.0	100.0	0.0				
Mauritania	74.6	8.2	17.1	Kyrgyz Republic	..	..	..	
Mozambique	71.5	2.3	25.8	Latvia	35.8	45.4	18.8				
Myanmar	92.3	0.0	7.7	Lithuania	100.0	0.0	0.0				
Nepal	94.8	0.0	5.2	Moldova	23.7	61.1	15.5				
Nicaragua	40.0	25.9	34.0	Mongolia	50.8	11.8	37.4				
Niger	57.3	0.4	29.3	Morocco	29.2	50.7	19.2				
Nigeria	4.2	16.6	78.0	Namibia	..	..	..	
Pakistan	68.8	16.2	14.6	Panama	12.0	63.1	24.9				
Rwanda	99.7	0.0	0.3	Papua New Guinea	21.2	10.8	15.1				
Sierra Leone	69.5	0.8	29.7	Paraguay	45.9	14.5	38.2				
Somalia	81.4	1.0	17.6	Peru	21.6	44.0	32.9				
Sri Lanka	85.6	3.8	8.9	Philippines	33.4	30.5	32.3				
Sudan	48.6	13.9	32.3	Poland	22.1	70.6	7.0				
Tajikistan	100.0	0.0	0.0	Romania	18.2	62.3	19.5				
Tanzania	71.6	7.3	20.9	Russian Federation	0.0	50.4	49.6				
Togo	71.7	3.3	25.0	Senegal	69.4	3.9	25.0				
Uganda	71.9	0.9	27.2	Slovak Republic	..	..	..	
Yemen, Rep.	92.7	1.5	5.8	Syrian Arab Rep.	88.6	0.0	11.4				
Zambia	57.0	10.0	32.7	Thailand	19.9	11.6	22.1				
Zimbabwe	35.3	19.3	35.6	Tunisia	40.2	20.4	36.4				
				Turkey	16.9	26.4	48.8				
				Turkmenistan	..	..	..	
				Ukraine	0.0	100.0	0.0				
				Uzbekistan	0.0	73.5	26.5				

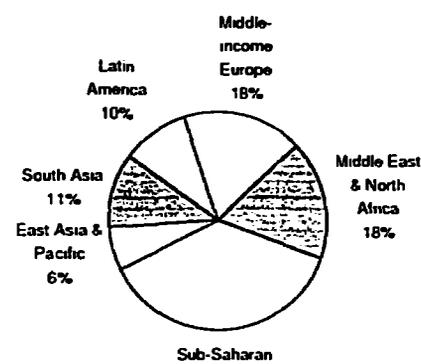
Top ten ratios of nonconcessional to GDP (%)

Structure of long-term debt, by group, 1992

Structure of long-term debt, by region, 1992


■ Fixed rate □ Variable rate □ Concessional

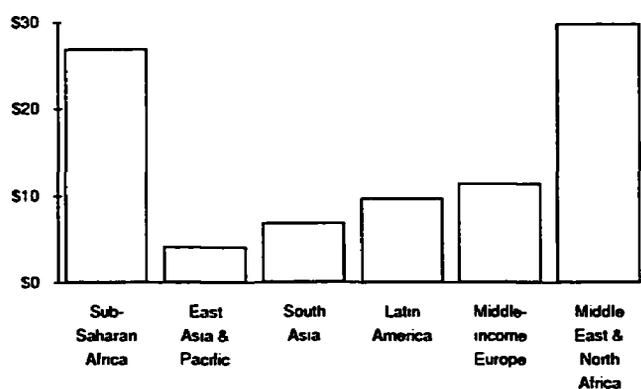
Table 6 Concessional aid flows, 1992
 Concessional flows per capita (US \$); grant share of concessional flows (%)

Conc/Pop Grant/Conc			Conc/Pop Grant/Conc			Conc/Pop Grant/Conc		
Low-income			Lower middle-income			Upper middle-income		
Bangladesh	17.7	62.7	Albania	111.3	88.2	Argentina	5.9	20.6
Benin	44.0	68.0	Algeria	10.4	36.4	Belarus	2.1	0.0
Bhutan	30.0	88.9	Armenia	0.3	0.0	Botswana	65.4	78.7
Burkina Faso	40.0	61.8	Azerbaijan	..	..	Brazil	0.4	78.9
Burundi	40.8	54.9	Bolivia	49.6	48.5	Estonia	67.7	90.5
Central African Rep.	42.9	60.3	Bulgaria	0.0	..	Gabon	37.5	86.7
Chad	36.5	66.1	Cameroon	52.5	42.8	Greece	..	..
China	1.1	19.7	Chile	4.9	80.6	Hungary	5.9	0.0
Egypt, Arab Rep.	56.9	80.4	Colombia	2.7	55.1	Korea, Rep.	3.9	3.5
Ethiopia	18.1	80.3	Congo	23.5	78.9	Malaysia	10.2	26.5
Ghana	47.8	62.9	Costa Rica	64.6	63.1	Mauritius	60.9	28.4
Guinea	53.8	50.9	Côte d'Ivoire	47.7	38.2	Mexico	2.5	23.5
Guinea-Bissau	75.5	64.9	Czech Republic	..	..	Oman	104.2	8.7
Honduras	81.5	55.4	Dominican Republic	12.8	85.1	Portugal	38.8	3.1
India	4.3	17.8	Ecuador	16.0	26.1	Puerto Rico	..	..
Indonesia	13.8	11.6	El Salvador	50.7	87.9	Saudi Arabia	..	..
Kenya	22.9	78.2	Georgia	0.0	..	Slovenia	..	..
Lao PDR	24.2	47.2	Guatemala	14.2	72.5	South Africa	..	..
Lesotho	57.5	57.9	Iran, Islamic Rep.	1.7	100.0	Trinidad & Tobago	9.4	41.7
Madagascar	36.4	77.1	Jamaica	80.4	90.2	Uruguay	6.7	28.6
Malawi	44.0	66.4	Jordan	203.3	74.7	Venezuela	4.0	8.6
Mali	41.5	65.1	Kazakhstan	0.0	..			
Mauritania	99.5	62.3	Kyrgyz Republic	4.9	100.0			
Mozambique	62.9	83.0	Latvia	31.1	89.0			
Myanmar	3.0	46.6	Lithuania	29.5	91.0			
Nepal	14.4	56.8	Moldova	2.1	0.0			
Nicaragua	186.2	67.9	Mongolia	40.7	30.9			
Niger	43.6	71.1	Morocco	44.3	51.7			
Nigeria	3.4	39.7	Namibia	..	..	
Pakistan	11.5	36.8	Panama	56.7	62.9			
Rwanda	34.9	70.4	Papua New Guinea	77.3	89.2			
Sierra Leone	19.5	43.5	Paraguay	16.2	21.9			
Somalia	21.7	100.0	Peru	18.7	64.4			
Sri Lanka	32.6	48.2	Philippines	21.8	28.5			
Sudan	25.0	86.0	Poland	0.1	0.0			
Tajikistan	1.8	0.0	Romania	2.9	0.0			
Tanzania	41.1	73.3	Russian Federation	20.1	100.0			
Togo	32.6	65.4	Senegal	72.2	62.0			
Uganda	26.3	59.0	Slovak Republic	..	..	
Yemen, Rep.	34.2	33.7	Syrian Arab Rep.	57.8	44.1			
Zambia	78.9	66.4	Thailand	10.3	33.3			
Zimbabwe	40.5	55.2	Tunisia	67.1	24.2			
			Turkey	18.9	80.9			
			Turkmenistan	..	..	
			Ukraine	0.0	..			
			Uzbekistan	0.0	..			

Official grants, 1992



Concessional flows per capita, 1992



Grant share of concessional flows, 1992

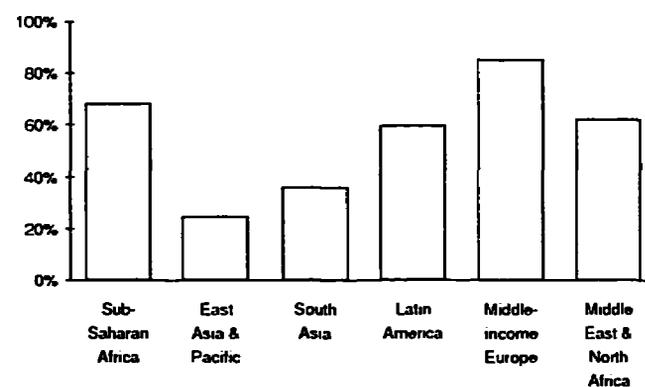
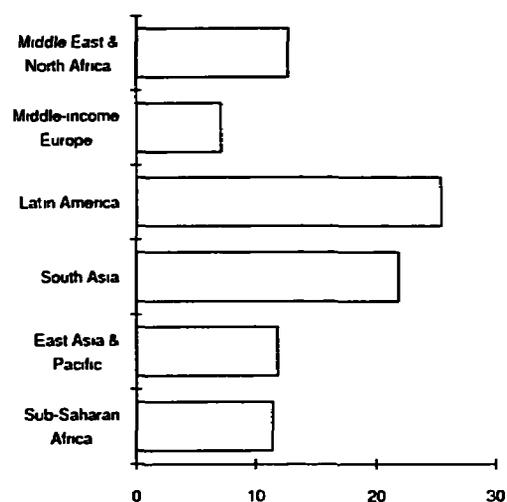
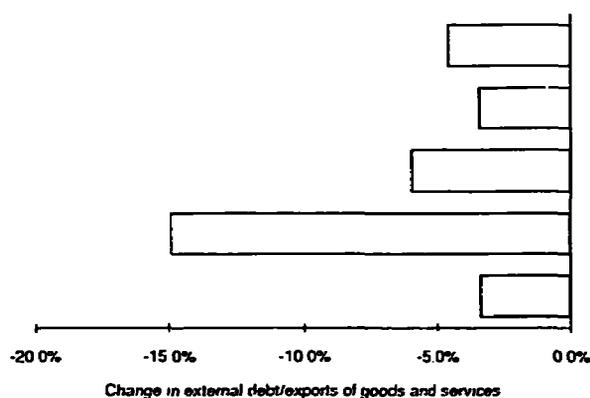
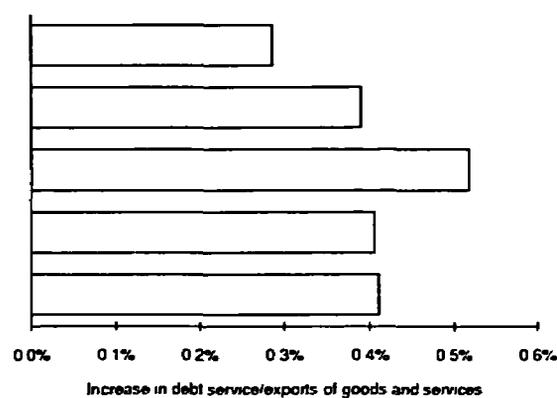


Table 7 Interest and exchange rate impacts, 1992

Ratio of interest rate impacts to exports of goods and services (%); ratio of exchange rate impacts to exports of goods and services (%)

Exchange Interest			Exchange Interest			Exchange Interest		
Low-income			Lower middle-income			Upper middle-income		
Bangladesh	-5.3	0.0	Albania	-4.3	0.0	Argentina	-5.7	0.2
Benin	-8.0	0.0	Algeria	-8.3	1.3	Belarus	0.0	0.0
Bhutan	-2.3	0.0	Armenia	0.0	0.0	Botswana	..	..
Burkina Faso	-7.9	0.0	Azerbaijan	..	..	Brazil	-4.4	0.8
Burundi	-16.1	0.0	Bolivia	-8.6	0.1	Estonia	0.0	0.0
Central African Rep.	-10.9	0.0	Bulgaria	-5.3	0.3	Gabon	-7.4	0.5
Chad	-4.5	0.0	Cameroon	-12.6	0.0	Greece	..	..
China	-0.4	0.2	Chile	-2.7	0.6	Hungary	-4.3	0.9
Egypt, Arab Rep.	-11.4	0.1	Colombia	-4.4	0.6	Korea, Rep.	-0.4	0.1
Ethiopia	-11.8	0.2	Congo	-16.1	0.1	Malaysia	-0.7	0.1
Ghana	-8.2	0.0	Costa Rica	-2.1	0.2	Mauritius	-3.2	0.1
Guinea	-10.4	0.0	Côte d'Ivoire	-19.1	0.1	Mexico	-3.5	0.5
Guinea-Bissau	-216.4	0.0	Czech Republic	..	..	Oman	-0.7	0.3
Ho. duras	-6.1	0.4	Dominican Republic	-1.1	0.1	Portugal	-1.4	0.3
India	-5.3	0.2	Ecuador	-3.3	0.5	Puerto Rico	..	..
Indonesia	-3.6	0.4	El Salvador	-2.3	0.2	Saudi Arabia	..	..
Kenya	-12.0	0.0	Georgia	..	..	Slovenia	..	..
Lao PDR	-0.5	0.0	Guatemala	-2.5	0.1	South Africa	..	..
Lesotho	-2.8	0.0	Iran, Islamic Rep.	-0.2	0.0	Trinidad & Tobago	-0.8	0.6
Madagascar	-16.4	0.0	Jamaica	-5.1	0.2	Uruguay	-2.0	0.9
Malawi	-12.7	0.0	Jordan	-9.0	1.0	Venezuela	-2.5	0.7
Mali	-16.9	0.0	Kazakhstan	0.0	0.0			
Mauritania	-12.9	0.0	Kyrgyz Republic	0.0	0.0			
Mozambique	-28.7	0.0	Latvia	..	..	
Myanmar	..	..	Lithuania	..	..	
Nepal	-1.0	0.0	Moldova	0.0	0.0			
Nicaragua	-14.1	0.3	Mongolia	0.0	0.0			
Niger	-16.4	0.0	Morocco	-10.4	1.5			
Nigeria	-12.5	0.9	Namibia	..	..	
Pakistan	-4.3	0.1	Panama	-1.2	0.1			
Rwanda	-16.3	0.0	Papua New Guinea	-2.9	0.1			
Sierra Leone	..	..	Paraguay	-3.7	0.3			
Somalia	..	..	Peru	-12.8	0.0			
Sri Lanka	-3.9	0.1	Philippines	-2.3	0.6			
Sudan	-99.8	0.0	Poland	-10.7	0.1			
Tajikistan	..	..	Romania	-0.8	0.1			
Tanzania	-47.5	0.2	Russian Federation	-4.0	0.2			
Togo	-8.5	0.0	Senegal	-8.5	0.0			
Uganda	-27.9	0.0	Slovak Republic	..	..	
Yemen, Rep.	-4.3	0.0	Syrian Arab Rep.	-2.5	0.0			
Zambia	..	..	Thailand	-1.4	2.3			
Zimbabwe	-10.6	0.2	Tunisia	-5.0	0.1			
			Turkey	-4.7	0.5			
			Turkmenistan	..	..	
			Ukraine	0.0	0.0			
			Uzbekistan	..	..	

Debt service to exports, 1992

Exchange rate impacts, 1992

Interest rate impacts, 1992


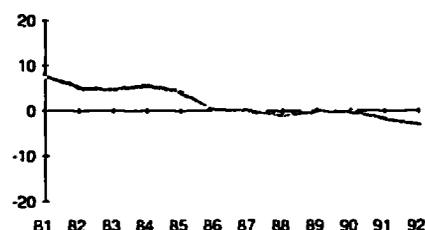
SILIC-Severely indebted low-income; MLIC-Moderately indebted low-income; SIMIC-Severely indebted middle-income; MIMIC-Moderately indebted middle-income

Table 8 Terms of trade, 1992

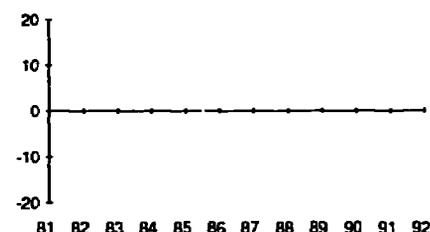
Barter terms of trade index, 1987=100; ratio of terms of trade effect to GNY in constant 1987 prices (%)

Index Ratio		Index Ratio		Index Ratio	
Low-income					
Bangladesh	102	0.2			
Benin	74	-1.9			
Bhutan	..	..	
Burkina Faso	88	-0.7			
Burundi	38	-7.6			
Central African Rep.	61	-4.8			
Chad	78	-4.1			
China	99	..			
Egypt, Arab Rep.	95	-0.4			
Ethiopia	79	..			
Ghana	45	-15.7			
Guinea	..	..	
Guinea-Bissau	115	0.4			
Honduras	79	-3.5			
India	92	-0.4			
Indonesia	92	-2.6			
Kenya	67	-6.0			
Lao PDR	90	..			
Lesotho	..	..	
Madagascar	85	-1.9			
Malawi	90	-2.8			
Mali	86	-3.3			
Mauritania	107	2.9			
Mozambique	..	..	
Myanmar	119	0.7			
Nepal	97	..			
Nicaragua	75	-2.8			
Niger	100	0.0			
Nigeria	84	-5.4			
Pakistan	77	-4.3			
Rwanda	..	..	
Sierra Leone	80	-6.0			
Somalia	..	..	
Sri Lanka	90	-2.4			
Sudan	91	..			
Tajikistan	..	..	
Tanzania	71	..			
Togo	91	-1.4			
Uganda	42	-3.7			
Yemen, Rep.	..	..	
Zambia	..	..	
Zimbabwe	101	0.2			
Lower middle-income					
Albania	..	..	
Algeria	..	..	
Armenia	..	..	
Azerbaijan	..	..	
Bolivia	53	-11.4			
Bulgaria	..	..	
Cameroon	..	..	
Chile	118	4.4			
Colombia	79	-5.3			
Congo	86	-9.0			
Costa Rica	85	-5.2			
Côte d'Ivoire	65	-42.1			
Czech Republic	..	..	
Dominican Republic	113	1.0			
Ecuador	91	-2.1			
El Salvador	65	-3.8			
Georgia	..	..	
Guatemala	79	-3.3			
Iran, Islamic Rep.	92	-0.8			
Jamaica	96	..			
Jordan	116	..			
Kazakhstan	..	..	
Kyrgyz Republic	..	..	
Latvia	..	..	
Lithuania	..	..	
Moldova	..	..	
Mongolia	..	..	
Morocco	100	0.0			
Namibia	..	..	
Panama	93	-0.6			
Papua New Guinea	81	-6.7			
Paraguay	88	-1.7			
Peru	86	-2.5			
Philippines	105	1.0			
Poland	86	-3.4			
Romania	100	0.0			
Russian Federation	..	..	
Senegal	106	0.7			
Slovak Republic	..	..	
Syrian Arab Rep.	89	..			
Thailand	91	-3.1			
Tunisia	97	-0.8			
Turkey	111	1.6			
Turkmenistan	..	..	
Ukraine	..	..	
Uzbekistan	..	..	
Upper middle-income					
Argentina	110	0.8			
Belarus	..	..	
Botswana	..	..	
Brazil	108	0.9			
Estonia	..	..	
Gabon	89	-5.6			
Greece	101	0.1			
Hungary	102	0.9			
Korea, Rep.	106	..			
Malaysia	94	-4.3			
Mauritius	102	0.9			
Mexico	120	2.3			
Oman	87	..			
Portugal	104	..			
Puerto Rico	..	..	
Saudi Arabia	83	..			
Slovenia	..	..	
South Africa	104	1.2			
Trinidad & Tobago	100	..			
Uruguay	97	-0.5			
Venezuela	157	11.4			

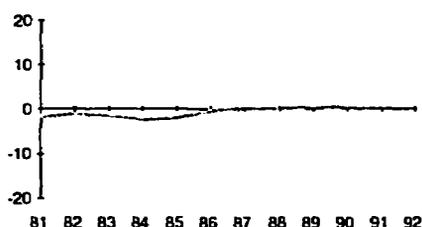
Sub-Saharan Africa



East Asia and Pacific

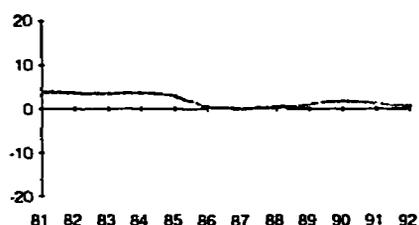


Middle-income Europe

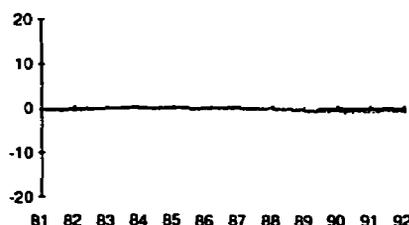


Terms of trade effect
(as percentage of GNY, 1981-1992
1987 = 0)

Latin America



South Asia



Middle East and North Africa

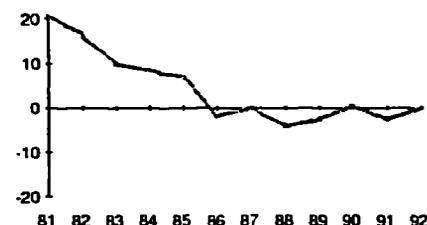
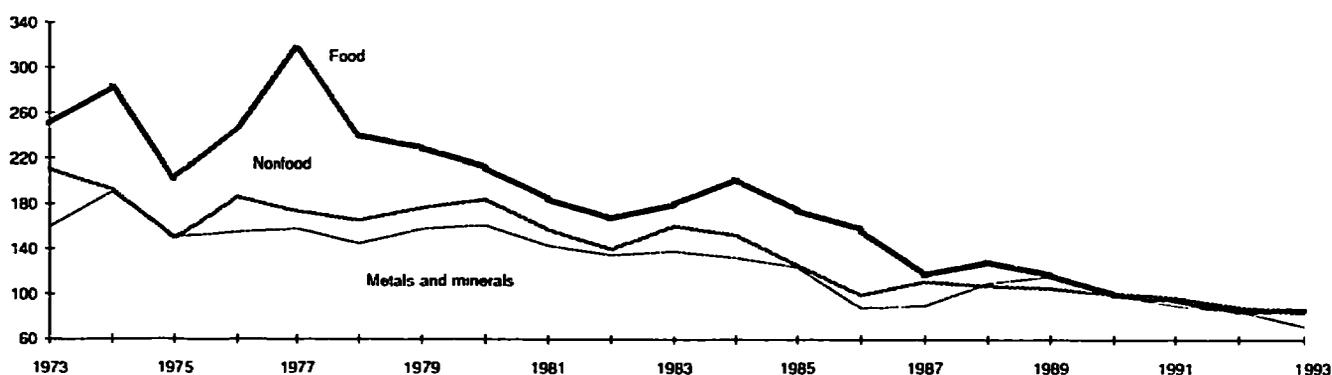


Table 9 MUV, LIBOR, and commodity prices

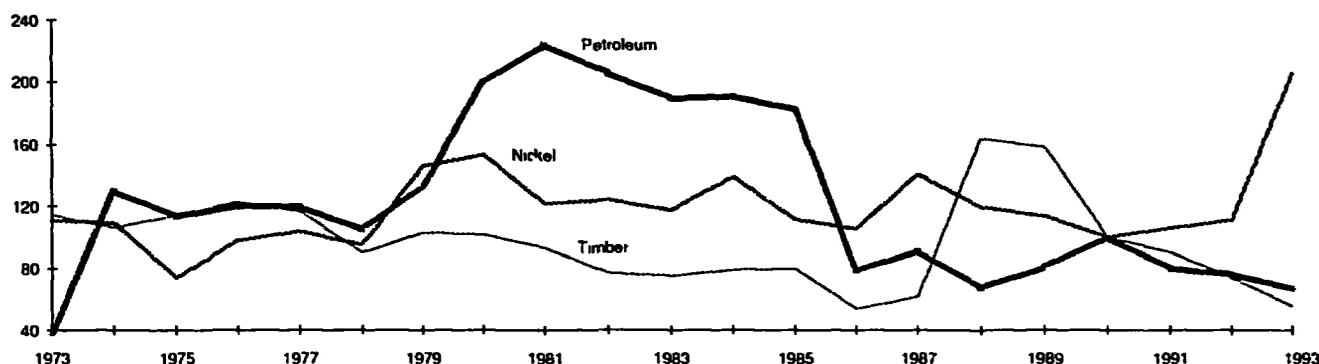
		1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1990
G-5 unit value index of manufactures 1/		21	22	25	26	29	33	41	45	46	50	58	66	77
LIBOR 2/		..	5	9	7	6	9	11	8	6	6	9	12	14
Commodity price indexes 3/	weights													
Petroleum		7	6	6	8	9	13	53	51	55	60	61	88	144
33 commodities excl energy		41	43	47	44	46	71	96	79	94	122	114	130	199
Agriculture	67.7%	47	46	51	48	51	81	107	86	107	144	130	143	199
Food	53.2%	44	47	53	49	53	84	115	91	114	159	139	150	199
Nonfood	14.4%	57	44	43	43	44	70	78	68	85	87	96	116	199
Timber	5.2%	16	18	21	21	21	37	44	34	45	52	55	96	199
Metals and minerals	27.1%	30	41	43	39	39	53	77	68	71	79	84	103	199
Commodity prices	units													
Agriculture														
Cocoa	cents/kg	59	37	68	54	64	113	156	125	205	379	340	329	200
Coffee	cents/kg	92	100	115	99	110	137	145	144	315	517	359	382	347
Tea	cents/kg	142	129	110	105	105	106	140	139	154	269	219	216	200
Sugar	cents/kg	7	5	8	10	16	21	16	45	26	18	17	21	20
Banana	\$/mt	143	159	165	141	161	165	184	247	257	275	287	326	270
Rice	\$/mt	125	136	144	129	147	350	542	363	255	272	368	331	424
Palm oil	\$/mt	228	273	260	261	217	378	669	434	407	530	600	654	594
Soybean oil	\$/mt	225	270	307	323	270	465	795	619	438	576	607	662	597
Cotton	cents/kg	65	63	63	74	79	136	142	116	169	155	157	169	206
Rubber	cents/kg	84	57	46	40	40	79	87	66	87	92	111	142	182
Other														
Logs	\$/cm	29	32	37	38	38	66	79	59	80	93	97	170	199
Sawnwood	\$/cm	0	0	93	93	110	156	143	166	168	154	205	339	299
Urea	\$/mt	0	0	48	46	59	95	316	198	112	127	145	173	222
Metals and minerals														
Copper	\$/mt	677	1,290	1,413	1,080	1,071	1,786	2,059	1,237	1,401	1,310	1,367	1,985	2,182
Aluminum	\$/mt	503	474	556	561	511	589	674	797	896	1,050	1,088	1,230	1,555
Nickel	\$/mt	1,631	1,735	2,846	2,932	3,080	3,373	3,825	4,570	4,974	5,203	4,610	5,986	6,310
Phosphate rock	\$/mt	14	13	11	11	12	14	55	67	36	31	29	33	47
Steel products index (1990 = 100)		25	25	31	28	30	46	66	52	54	53	68	76	70
Energy														
Crude petroleum	\$/bbl	2	1	1	2	2	3	11	11	12	13	13	19	31
Coal	\$/mt	0	0	0	0	0	0	0	0	0	33	40	35	70

Price indexes (relative to MUV, 1990=100)



1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	
72	71	70	68	69	81	89	95	95	100	102	107	107	G-5 unit value index of manufactures 1/
17	14	10	11	9	7	7	8	9	8	6	4	3	LIBOR 2/
Commodity price indexes 3/													
161	146	132	130	126	64	81	64	77	100	82	81	72	Petroleum
120	108	113	117	104	104	98	114	109	100	97	93	94	33 commodities excl. energy
129	114	123	130	113	118	103	118	109	100	98	92	91	Agriculture
133	119	126	137	120	128	104	122	111	100	98	91	92	Food
113	99	112	103	87	81	99	102	100	100	99	94	89	Nonfood
88	88	82	94	77	85	125	113	108	100	108	118	220	Timber
103	95	97	90	86	71	80	104	110	100	92	91	77	Metals and minerals
Commodity prices													
Agriculture													
208	174	212	240	225	207	199	156	124	127	120	110	112	Cocoa
287	309	291	319	323	429	251	303	239	197	187	141	156	Coffee
202	193	233	346	198	193	171	179	202	203	184	200	186	Tea
37	19	19	11	9	13	15	22	28	28	20	20	22	Sugar
401	374	429	370	380	382	365	478	547	541	560	473	443	Banana
483	293	277	252	216	211	230	301	320	287	314	287	270	Rice
571	445	501	729	501	257	343	437	350	290	339	394	378	Palm oil
507	447	527	724	572	342	334	463	432	447	454	429	480	Soybean oil
185	160	185	179	132	106	165	140	167	182	168	128	128	Cotton
125	100	124	110	92	94	112	129	112	102	101	102	99	Rubber
Other													
156	156	145	167	136	151	221	201	191	177	191	210	390	Logs
314	302	304	307	276	266	276	307	422	524	472	513	538	Sawnwood
216	159	135	171	136	107	117	155	132	157	172	140	107	Urea
Metals and minerals													
1,742	1,480	1,592	1,377	1,417	1,374	1,783	2,602	2,848	2,662	2,339	2,281	1,913	Copper
1,263	992	1,439	1,251	1,041	1,150	1,565	2,551	1,951	1,639	1,302	1,254	1,139	Aluminum
5,953	4,838	4,673	4,752	4,899	3,881	4,872	13,778	13,308	8,864	8,156	7,001	5,293	Nickel
50	42	37	38	34	34	31	36	41	41	43	42	33	Phosphate rock
82	71	67	70	61	62	72	94	106	100	99	88	91	Steel products index (1990=100)
Energy													
34	31	28	28	27	13	17	14	16	21	17	17	15	Crude petroleum
57	52	45	49	47	44	36	37	41	42	42	41	38	Coal

Price indexes (relative to MUV, 1990=100)



Notes

1/ Unit Value Index (MUV index) in US dollar terms (1990=100) of manufactures exported from the G-5 countries (France, Germany, Japan, UK, and USA), weighted by the country's exports to developing countries

2/ London interbank offered rate on six-month US dollar deposits

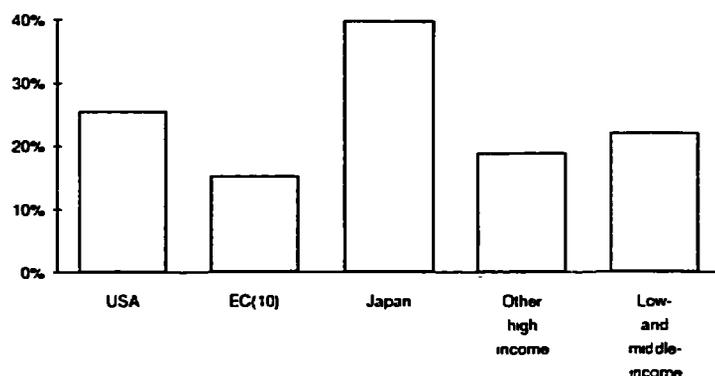
3/ Indexes are in current US dollar terms (1990=100), 33 commodity price index is weighted by developing country export values

Table 10 Direction of merchandise trade, 1992

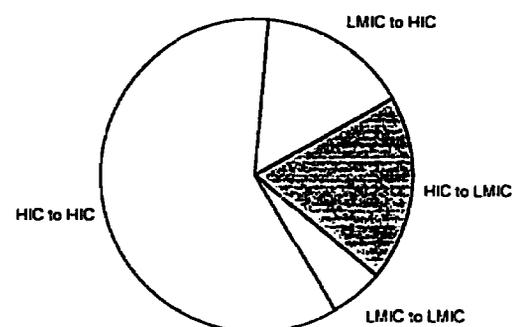
Percentage of world trade

From:	High-income countries					Low- and middle-income countries 2/								All
	USA	EC(10)	Japan	Other HIC	All HIC	East Asia	South Asia	Europe	MENA	SSA	LAC	LMICs		
All high-income	10.3	34.3	3.4	15.1	63.2	5.2	0.7	3.6	2.5	1.2	3.7	16.9	80.1	
USA	..	2.7	1.3	4.0	8.0	1.0	0.1	0.3	0.4	0.2	2.0	4.0	12.0	
EC(10)	2.7	24.2	0.8	5.9	33.5	1.0	0.3	2.7	1.4	0.8	0.9	7.0	40.6	
Japan	2.7	1.7	..	2.4	6.9	1.7	0.1	0.1	0.3	0.1	0.4	2.8	9.7	
Other high-income	4.9	5.7	1.3	2.8	14.7	1.5	0.2	0.5	0.3	0.1	0.4	3.1	17.8	
All LMICs 1/	3.3	5.9	2.3	3.6	15.2	1.1	0.3	1.2	0.6	0.4	1.1	4.8	19.9	
East Asia & Pacific	1.4	1.1	1.4	2.6	6.4	0.8	0.1	0.2	0.2	0.1	0.2	1.6	8.0	
South Asia	0.2	0.3	0.1	0.1	0.7	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.9	
Latin America	1.1	1.1	0.2	0.2	2.6	0.1	0.0	0.1	0.1	0.0	0.7	1.0	3.6	
Other LMICs	0.7	3.5	0.7	0.7	5.5	0.2	0.1	0.9	0.3	0.2	0.2	1.9	7.4	
All countries	13.7	40.2	5.7	18.7	78.4	6.3	1.0	4.8	3.1	1.6	4.8	21.6	100.0	

Share of merchandise imports from low- and middle-income countries, 1992



Direction of merchandise exports, 1992


Table 11 Growth of merchandise trade, by direction, 1981-92

Average annual growth rate (%)

From:	High-income countries					Low- and middle-income countries 2/								All
	USA	EC(10)	Japan	Other HIC	All HIC	East Asia	South Asia	Europe	MENA	SSA	LAC	LMICs		
All high-income	5.4	6.6	7.7	5.9	6.3	7.7	2.0	3.6	-5.7	-3.6	2.5	1.5	5.1	
USA	..	4.5	6.1	6.1	5.5	6.5	0.3	1.1	-3.5	-4.7	4.2	2.8	4.6	
EC(10)	3.7	6.6	12.7	5.1	6.2	8.4	2.2	5.7	-5.6	-3.0	0.8	0.7	5.0	
Japan	5.0	9.4	..	6.0	6.3	5.9	-1.3	-3.6	-9.7	-5.3	-0.8	0.3	4.3	
Other high-income	6.7	7.1	7.0	7.2	6.9	10.3	5.0	0.2	-4.8	-3.4	2.3	3.3	6.2	
All LMICs 1/	5.1	6.5	5.8	8.0	6.4	8.7	1.9	1.4	-1.1	3.8	3.3	2.6	5.3	
East Asia and Pacific	10.3	11.9	8.5	12.1	10.7	14.9	7.4	8.2	3.4	9.1	9.7	10.2	10.6	
South Asia	11.1	12.7	7.3	9.6	10.7	8.3	4.9	1.5	-2.0	-1.1	11.1	1.9	7.4	
Latin America	3.0	4.0	2.6	2.3	3.3	7.8	-0.7	-5.8	-1.0	-6.4	3.1	1.3	2.8	
Other LMICs	7.5	18.8	13.5	8.0	15.3	5.5	2.9	10.7	-7.0	14.9	2.8	4.4	9.7	
All countries	5.3	6.6	6.9	6.2	6.3	7.8	2.0	2.8	-4.8	-2.2	2.7	1.8	5.2	

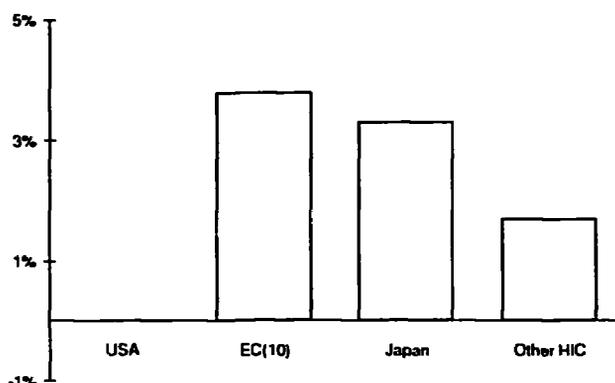
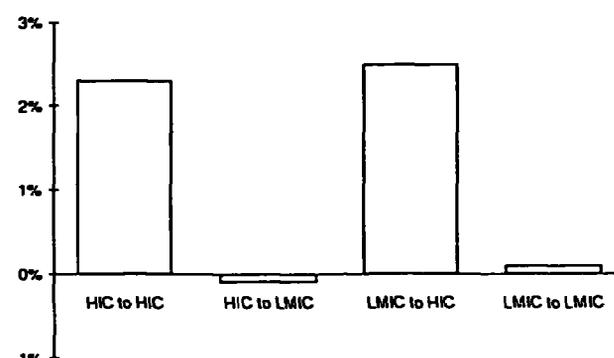
1/ Low- and middle-income countries: some regions not shown because of limited data availability

2/ HIC -- High-income countries, LMIC -- Low- and middle-income countries, MENA -- Middle East and North Africa, SSA -- Sub-Saharan Africa, LAC -- Latin America and Caribbean

Table 12 Direction of trade in primary commodities, 1992

Percentage of world trade

From:	To: High-income countries					Low- and middle-income countries 2/							
	USA	EC(10)	Japan	Other HIC	All HIC	East Asia	South Asia	Europe	MENA	SSA	LAC	All LMICs	All
All high-income	5.9	29.4	6.1	8.5	49.9	3.6	0.7	3.0	1.6	0.8	2.4	12.1	62.0
USA	..	1.9	2.1	2.2	6.2	0.9	0.1	0.5	0.3	0.2	1.4	3.5	9.7
EC(10)	1.3	21.1	0.5	3.2	26.2	0.3	0.1	2.0	0.9	0.5	0.4	4.3	30.4
Japan	0.1	0.1	..	0.4	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.4	1.0
Other high-income	4.4	6.4	3.5	2.7	16.9	2.0	0.4	0.5	0.3	0.1	0.6	3.9	20.9
All LMICs 1/	5.1	13.1	5.9	4.1	28.2	2.3	0.8	1.7	1.1	0.8	1.5	8.3	38.0
East Asia and Pacific	0.7	0.9	2.9	1.8	6.4	1.4	0.2	0.2	0.2	0.1	0.1	2.1	8.5
South Asia	0.1	0.2	0.2	0.1	0.5	0.1	0.1	0.2	0.1	0.0	0.0	0.5	1.1
Latin America	2.3	4.4	0.4	0.3	7.5	0.2	0.0	0.2	0.2	0.1	1.0	1.7	9.1
Other LMICs	2.1	7.6	2.4	1.8	13.8	0.6	0.5	1.2	0.7	0.6	0.4	4.0	19.3
All countries	11.0	42.5	12.0	12.5	78.0	5.9	1.5	4.8	2.7	1.6	3.9	20.4	100.0

Growth of primary commodity imports from low- and middle-income countries, 1981-92**Growth of primary commodity exports, by direction, 1981-92****Table 13** Growth of trade in primary commodities, by direction, 1981-92

Average annual growth rate (%)

From:	To: High-income countries					Low- and middle-income countries 2/							
	USA	EC(10)	Japan	Other HIC	All HIC	East Asia	South Asia	Europe	MENA	SSA	LAC	All LMICs	All
All high-income	1.4	2.0	4.3	2.8	2.3	3.5	0.6	0.4	-5.4	-4.6	1.7	-0.1	1.6
USA	..	-2.8	2.6	2.8	0.7	1.3	-1.6	-1.9	-2.3	-8.6	0.2	-0.7	0.2
EC(10)	-2.8	2.1	9.0	1.2	1.8	6.6	-0.9	3.0	-6.3	-4.0	1.9	-1.0	1.3
Japan	-1.2	-1.1	..	6.2	2.9	3.9	-8.5	-9.7	-15.0	-15.0	-3.4	-0.8	1.1
Other high-income	3.2	3.7	4.9	4.7	3.9	4.4	2.9	-3.2	-5.1	-1.4	5.8	1.4	3.4
All LMICs 1/	0.0	3.8	3.3	1.7	2.5	4.6	-0.5	-1.3	-1.4	1.8	-1.6	0.1	2.1
East Asia & Pacific	0.1	3.8	4.0	3.7	3.4	10.5	6.4	1.2	2.9	2.1	-6.2	6.4	4.0
South Asia	1.2	4.2	2.1	3.7	3.1	2.5	-3.2	-0.8	0.4	-7.2	2.9	-1.5	0.6
Latin America	-0.6	3.2	0.5	-2.6	1.0	4.1	-6.4	-8.0	-2.0	-12.0	-2.2	-3.2	0.1
Other LMICs	3.0	15.0	12.5	7.2	12.2	5.7	6.6	4.5	-9.7	17.0	5.0	0.3	8.7
All countries	0.7	2.6	3.8	2.4	2.4	4.0	-0.1	-0.4	-3.8	-1.8	0.1	0.0	1.9

1/ Low- and middle-income countries: some regions not shown because of limited data availability

2/ HIC -- High-income countries; LMIC -- Low- and middle-income countries; MENA -- Middle East and North Africa; SSA -- Sub-Saharan Africa; LAC -- Latin America and Caribbean

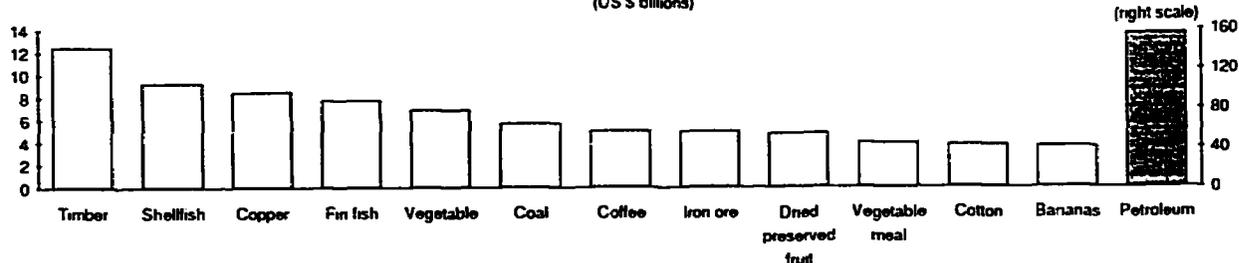
Table 14 Export concentration ratios, 1992

Share of top three primary commodity exports in merchandise exports (%); share of merchandise exports to major markets (%)

Share	Top three primary commodity exports	Year	Share of exports to		
			USA	EC(10)	Japan
Low-income					
15.7	Shellfish; jute; tea	92	31.8	37.1	2.7
..
..
..
..
51.5	Coffee; timber; cotton	89	0.7	88.8	..
..
6.5	Crude petroleum; vegetables; maize unmilled	92	10.1	8.5	13.7
46.8	Crude petroleum; petroleum products; vegetables	92	9.4	36.3	2.4
87.0	Coffee; hides, skins, furs undressed; crude vegetable materials nes	91	4.9	52.6	22.9
..
..
..
63.8	Bananas; coffee; shellfish	92	52.9	25.9	2.5
8.1	Shellfish; vegetable meal; petroleum products	92	19.0	26.9	7.8
31.6	Crude petroleum; gas; petroleum products	92	13.1	13.5	31.8
51.8	Tea; coffee; dried preserved fruit	91	4.2	42.9	1.2
..
..
51.7	Spices; shellfish; coffee	91	14.6	46.6	8.9
..
..
..
43.2	Shellfish; misc fruits; cotton	92	8.1	9.5	6.1
67.4	Timber; vegetables; shellfish	92	5.3	5.3	6.2
5.8	Crude vegetable materials nes; misc oilseeds; jute	90	32.9	45.3	0.5
52.5	Coffee; beef and cattle; cotton	92	26.4	24.4	9.4
..
..
96.2	Crude petroleum; petroleum products; cocoa	92	47.8	31.2	0.0
15.1	Cotton; rice; fin fish	92	12.8	25.9	7.7
..
..
..
19.2	Tea; natural rubber; misc fruits	92	34.2	31.6	5.2
..
..
..
74.7	Natural phosphates; cotton; cocoa	91	0.1	21.0	0.0
79.3	Coffee; cotton; hides, skins, furs undrssd	92	7.9	62.6	2.3
..
79.6	Copper; cotton; tobacco unmanufactured	92	6.7	27.5	23.4
45.5	Tobacco unmanufactured; nickel; cotton	91	5.8	38.3	7.2
Lower middle-income					
..
96.9	Crude petroleum; gas; petroleum products	91	17.3	62.5	0.7
..
..
53.0	Zinc; gas; tin ore	92	20.0	36.9	0.2
..
67.9	Crude petroleum; cocoa; timber	91	0.4	53.9	0.3
54.6	Copper; timber; animal feeds (excluding vegetable meals)	92	15.1	24.4	17.7
43.8	Coffee; crude petroleum; coal, coke, briquettes	92	39.4	23.2	2.9
..
49.0	Misc fruits; coffee; crude vegetable materials nes	91	47.6	25.7	1.3
58.6	Cocoa; timber; coffee	92	9.5	82.7	0.8

Top 13 commodity exports from low- and middle-income economies, 1992

(US\$ billions)



* Based on import data provided by trading partners

Technical notes

The principal sources for the data contained in this statistical annex are the World Bank's central databases and the U.N. Statistical Office's international trade database (COMTRADE).

The classification of economies by income group and region follows the Bank's standard definitions (see country classification tables that follow), and all regional aggregates refer to low- and middle-income economies. Small economies have been omitted from the tables. The region labeled "Middle-Income Europe" refers to Europe and Central Asia excluding the former Soviet Union. For the years before 1991, the data for Germany refer to the Federal Republic of Germany before unification. Data for Belgium include Luxembourg. In tables 10 through 13, the EC(10) aggregate refers to the ten high-income members of the European Community and excludes Portugal and Greece.

Most data are for 1992, but figures in italics indicate 1991 data. If data for both 1991 and 1992 are missing, the not-available symbol (..) is used. Growth rates are for the twelve-year period between 1981 and 1992; when fewer than ten observations are available, the growth rate is reported as not available. Current price data are reported in U.S. dollars.

Notes on tables

Tables 1 and 2. Merchandise exports and imports exclude trade in services. Export and import data for 1992 for the former Soviet Union republics are World Bank and IMF estimates and exclude interpublic trade. Regional aggregates include intraregional flows. Growth rates are based on constant price data. Effective market growth is the trade-weighted import growth rate of the country's trading partners. Comparative data for the world share and growth of trade include high-income countries.

Table 3. Foreign direct investment refers to the net inflows of investment from abroad. Outward investment is excluded, but negative flows may result from divestment. Portfolio investment is excluded. Gross domestic investment includes changes in inventory.

Table 4. The present value of scheduled debt service is the discounted value of future debt service; discount factors are based on interest rates charged by OECD countries for officially supported export credits. IBRD loans and IDA credits are discounted using the most recent IBRD lending rate. For more

information on the present-value methodology, consult the *World Debt Tables, 1993-94*.

Tables 5 and 6. Long-term debt includes public, publicly guaranteed, and private nonguaranteed external debt having a maturity of more than a year, but excludes IMF credits. Concessional debt is debt with an original grant element of 25 percent or more. Variable interest rate debt includes all long-term, nonconcessional debt whose terms depend upon movements of a key market rate. This item conveys information about the borrower's exposure to changes in international interest rates. Nonconcessional fixed-rate debt is calculated as a residual. For complete definitions, see the *World Debt Tables, 1993-94*.

Table 7. Exchange rate impacts are measured by the change in long-term external debt caused by exchange rate revaluation. Interest rate impacts are the change in debt service caused by changes in interest rates for variable rate debt. Both types of impact are measured from end-of-year 1991 to end-of-year 1992. Exports of goods and services include net worker remittances.

Table 8. Implicit price deflators are calculated from current and constant price data for merchandise trade. The "barter terms of trade" are calculated as the ratio of the export price deflator to the import deflator. The index base is 100 in 1987. The "terms of trade effect" is calculated as the difference between exports deflated by the import price deflator and constant price exports. This measures the income gain or loss caused by a change in the terms of trade. To "normalize" this indicator, it is divided by gross national income. It has a value of zero in 1987.

Table 9. See notes at the bottom of the table. Commodity price data are collected by the International Economics Department of the World Bank.

Tables 10, 11, 12, and 13. Merchandise trade flows have been calculated from the U.N.'s commodity trade database supplemented by World Bank estimates.

Table 14. Data on primary commodity exports have been calculated from the U.N. COMTRADE database. Data on major markets have been calculated from the U.N. COMTRADE database, supplemented by World Bank estimates. The top thirteen primary commodity exports from low- and middle-income economies are derived from the U.N. COMTRADE database.

Commodity Description

Energy

Petroleum, average OPEC price: OPEC government sales weighted by export volumes through 1981; beginning 1982 OPEC spot prices weighted by OPEC export volumes.

Thermal Coal, (12,000 BTU/lb, less than 1 percent sulfur, 12 percent ash), f.o.b. piers, Hampton Roads, Norfolk, Va.

Food

Coffee (ICO), indicator price, other mild Arabicas, average New York and Bremen/Hamburg markets, ex-dock for prompt shipment.

Cocoa (ICCO), daily average price, New York and London, nearest three future trading months.

Tea (London Auction), average price received for all teas.

Sugar (World), ISA daily price, f.o.b. and stowed at greater Caribbean ports.

Bananas (Central and South American), first-class quality tropical pack, importer's price to jobber or processor, f.o.r. U.S. ports.

Cereals

Rice (Thai), white, milled, 5 percent broken, government standard, Board of Trade posted export price, f.o.b. Bangkok.

Fats and Oils

Palm Oil (Malaysian), 5 percent bulk, c.i.f. N.W. Europe.

Soybean Oil (Dutch), crude, f.o.b. ex-mill.

Nonfood

Cotton (Outlook "A" Index), Middling (1-3/32"), c.i.f. Europe.

Rubber (any origin), RSS No. 1, in bales, spot, Rubber Traders Association, New York.

Timber

Logs (Southeast Asian), Philippines, Lauan for plywood and veneer, length over 6 M, diameter over 60 CM, average wholesale price in Japan through 1976; from 1977 to 1987, Malaysian, Meranti, Sabah SQ Best Quality, sale price charged by importers, Tokyo; 1988 through January 1993, average of Sabah and Sarawak in Tokyo weighted by their respective import volumes in Japan; beginning February 1993, Sarawak in Tokyo.

Sawnwood (Malaysian), Dark Red Meranti, select and better quality, standard density, c.i.f. French ports.

Metals and Minerals

Copper (LME), cash wirebars through November 1981; from December 1981 through June 1986, high-grade cathodes, settlement price; subsequently, grade A.

Aluminum, indicative price of U.S. unalloyed primary ingot in the European Market through 1978; subsequently LME standard grade, minimum 99.5 percent purity, cash price.

Steel composite price index, a weighted index (1990=100) based on available price data for eight steel products, in base size: cold-rolled coil/sheet, hot-rolled coil/sheet, galvanized iron sheet, merchant bars, medium plates, H-shape sections, wire rod, concrete-reinforcing bars (rebars). Weights used are shares of apparent consumption of each product in the Federal Republic of Germany, Japan, and the United States during the period 1984-86. Price quotations refer to shipments f.o.b. Japan, excluding those to China and the United States.

Fertilizers

Phosphate Rock (Moroccan), 72 percent BPL, FAS Casablanca through 1980; from 1981, 70 percent TPL contract.

Urea (any origin), bagged, f.o.b. N.W. Europe.

Classification of Economies

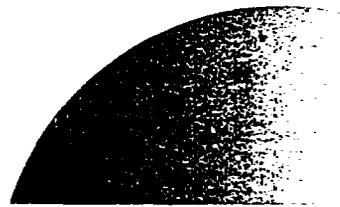


Table 1 Classification of economies by income and region, 1993-94

Income group	Subgroup	Sub-Saharan Africa		Asia		Europe and Central Asia		Middle East and North Africa		Americas
		East and Southern Africa	West Africa	East Asia and Pacific	South Asia	Eastern Europe and Central Asia	Rest of Europe	Middle East	North Africa	
Low-income		Burundi Comoros Eritrea Ethiopia Kenya Lesotho Madagascar Malawi Mozambique Rwanda Somalia Sudan Tanzania Uganda Zaire Zambia Zimbabwe	Benin Burkina Faso Central African Republic Chad Equatorial Guinea Gambia, The Ghana Guinea-Bissau Liberia Mali Mauritania Niger Nigeria São Tomé and Príncipe Sierra Leone Togo	Cambodia China Indonesia Lao PDR Myanmar Viet Nam	Afghanistan Bangladesh Bhutan India Maldives Nepal Pakistan Sri Lanka	Tajikistan		Yemen, Rep.	Egypt, Arab Rep.	Guyana Haiti Honduras Nicaragua
Middle-income	Lower	Angola Djibouti Namibia Swaziland	Cameroon Cape Verde Congo Côte d'Ivoire Senegal	Fiji Kiribati Korea, Dem. Rep. Marshall Islands Micronesia, Fed. Sts. Mongolia N. Mariana Is. Papua New Guinea Philippines Solomon Islands Thailand Tonga Vanuatu Western Samoa		Albania Armenia Azerbaijan Bosnia and Herzegovina Bulgaria Croatia Czech Republic Georgia Kazakhstan Kyrgyz Republic Latvia Lithuania Macedonia FYR* Moldova Poland Romania Russian Federation Slovak Republic Turkmenistan Ukraine Uzbekistan Yugoslavia, Fed. Rep.	Turkey	Iran, Islamic Rep. Iraq Jordan Lebanon Syrian Arab Rep.	Algeria Morocco Tunisia	Belize Bolivia Chile Colombia Costa Rica Cuba Dominica Dominican Republic Ecuador El Salvador Grenada Guatemala Jamaica Panama Paraguay Peru St. Vincent and the Grenadines
	Upper	Botswana Mauritius Mayotte Reunion Seychelles South Africa	Gabon	American Samoa Guam Korea, Rep. Macao Malaysia New Caledonia		Belarus Estonia Hungary Slovenia	Gibraltar Greece Isle of Man Malta Portugal	Bahrain Oman Saudi Arabia	Libya	Antigua and Barbuda Argentina Aruba Barbados Brazil French Guiana Guadeloupe Martinique Mexico Netherlands Antilles Puerto Rico St. Kitts and Nevis St. Lucia Suriname Trinidad and Tobago Uruguay Venezuela
Subtotal:	169	27	23	26	8	27	6	9	5	38

Table 1 (continued)

Economic group	Subgroup	Sub-Saharan Africa		Asia		Europe and Central Asia		Middle East and North Africa		
		East and Southern Africa	West Africa	East Asia and Pacific	South Asia	Eastern Europe and Central Asia	Rest of Europe	Middle East	North Africa	Americas
OECD countries				Australia Japan New Zealand			Austria Belgium Denmark Finland France Germany Iceland Ireland Italy Luxembourg Netherlands Norway Spain Sweden Switzerland United Kingdom			Canada United States
	Non OECD countries			Brunei French Polynesia Hong Kong Singapore CARE ^a			Andorra Channel Islands Cyprus Faeroe Islands Greenland San Marino	Israel Kuwait Qatar United Arab Emirates		Bahamas, The Bermuda Virgin Islands (US)
	208	27	23	34	8	27	28	13	5	43

^a Former Yugoslav Republic of Macedonia.

^b Other Asian economies—Taiwan, China.

Definitions of groups

These tables classify all World Bank member economies, and all other economies with populations of more than 30,000.

Economic group: Economies are divided according to 1992 GNP per capita, calculated using the *World Bank Atlas* method. The groups are: lower-income, \$675 or less; lower-middle-income, \$676–2,695;

upper-middle-income, \$2,696–\$8,355; and high-income, \$8,356 or more.

The estimates for the republics of the former Soviet Union are preliminary and their classification will be kept under review.

Table 2 Classification of economies by major export category and indebtedness, 1993-94

Low- and middle-income									
Group	Low-income			Middle-income			Not classified by indebtedness	High-income	
	Severely indebted	Moderately indebted	Less indebted	Severely indebted	Moderately indebted	Less indebted		OECD	nonOECD
Exporters of manufactures			China	Bulgaria Poland	Hungary Russian Federation	Armenia Belarus Estonia Georgia Korea, Dem. Rep. Korea, Rep. Kyrgyz Republic Latvia Lebanon Lithuania Macao Moldova Romania Ukraine Uzbekistan		Canada Finland Germany Ireland Italy Japan Sweden Switzerland	Hong Kong Israel Singapore OAE ²
Exporters of nonfuel primary products	Afghanistan Burundi Equatorial Guinea Ethiopia Ghana Guinea-Bissau Guyana Honduras Liberia Madagascar Mali Mauritania Myanmar Nicaragua Niger Rwanda São Tomé and Príncipe Somalia Sudan Tanzania Uganda Viet Nam Zaire Zambia	Guinea Malawi Togo Zimbabwe	Chad	Albania Argentina Bolivia Côte d'Ivoire Cuba Peru	Chile Guatemala Papua New Guinea	American Samoa Botswana Mongolia Namibia Paraguay Solomon Islands St. Vincent and the Grenadines Suriname Swaziland	French Guiana Guadeloupe Reunion	Iceland New Zealand	Faeroe Isl. Greenland
Exporters of fuels (mainly oil)	Nigeria			Algeria Angola Congo Iraq	Gabon Venezuela	Bahrain Iran, Islamic Rep. Libya Oman Saudi Arabia Trinidad and Tobago Turkmenistan			Brunei Qatar United Arab Emirates
Exporters of services	Cambodia Egypt, Arab Rep.	Gambia, The Maldives Nepal Yemen, Rep.	Benin Bhutan Burkina Faso Haiti Lesotho	Jamaica Jordan Panama	Dominican Republic Greece	Antigua and Barbuda Aruba Barbados Belize Cape Verde Djibouti El Salvador Fiji Grenada Kiribati Malta Netherlands Antilles Seychelles St. Kitts and Nevis St. Lucia Tonga Vanuatu Western Samoa	Martinique	United Kingdom	Bahamas, Bermuda Cyprus French Polynesia

Low- and middle-income									
Group	Low-income			Middle-income			Not classified by indebtedness	High-income	
	Severely indebted	Moderately indebted	Less indebted	Severely indebted	Moderately indebted	Less indebted		OECD	nonOECD
Classified	Central African Republic Kenya Lao PDR Mozambique Sierra Leone	Bangladesh Comoros India Indonesia Pakistan	Sri Lanka Tajikistan	Brazil Cameroon Ecuador Mexico Morocco Syrian Arab Rep.	Colombia Costa Rica Philippines Senegal Tunisia Turkey Uruguay	Azerbaijan Dominica Kazakhstan Malaysia Mauritius Portugal South Africa Thailand	Yugoslavia Fed. Rep.	Australia Austria Belgium Denmark France Luxembourg Netherlands Norway Spain United States	Kuwait
Not classified					Gibraltar		Bosnia and Herzegovina Croatia Czech Republic Eritrea Guam Isle of Man Macedonia FYR ^a Marshall Islands Mayotte Micronesia, Fed. Sts. New Caledonia N. Mariana Is. Puerto Rico Slovak Republic Slovenia		Andorra Channel Islands San Marino Virgin Islands (US)
2008	32	13	9	21	17	57	20	21	18

^a Other Asian economies—Taiwan, China.

^b Economies in which no single export category accounts for more than 50 percent of total exports.

^c Former Yugoslav Republic of Macedonia.

Definitions of groups

The tables classify all World Bank member economies, plus all other economies with populations of more than 30,000.

Export category: Major exports are those that account for 50 percent or more of total exports of goods and services from one country, in the period 1987–91. The categories are: nonfuel primary products (SITC 0, 1, 2, 4, plus 68), fuels (SITC 3), manufactures (SITC 5 to 9, plus 68), and services (factor and nonfactor service receipts plus transfers' remittances). If no single category accounts for 50 percent or more of total exports, the economy is classified as *diversified*.

Indebtedness: Standard World Bank definitions of severe and moderately indebtedness, averaged over three years (1990–92) are used to classify economies in this table. Severely indebted means either of two key ratios is above critical levels: present value of debt service

to GNP (80 percent) and present value of debt service to exports (220 percent). Moderately indebted means either of the two key ratios exceeds 60 percent of, but does not reach, the critical levels. For economies that do not report detailed debt statistics to the World Bank Debtor Reporting System, present-value calculation is not possible. Instead the following methodology is used to classify the non-DRS economies. Severely indebted means three of four key ratios (averaged over 1990–92) are above critical levels: debt to GNP (50 percent); debt to exports (275 percent); debt service to exports (30 percent); and interest to exports (20 percent). Moderately indebted means three of four key ratios exceed 60 percent of, but do not reach, the critical levels. All other classified low- and middle-income economies are listed as less-indebted.

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Global Economic Prospects and the Developing Countries 1994 is the fourth in the annual series issued by the World Bank on the long-term prospects for the world economy.

While economic activity in the industrial countries fell short of expectations in 1993, developing countries continued to exhibit real growth rates well in excess of 4 percent a year, as they have done since 1990. This aggregate performance reflects divergent regional trends, however. The apparent uncoupling between growth rates of developing and industrial countries can be ascribed partly to a surge of private capital flows to about twenty middle-income developing countries and China. These flows reflect low international interest rates and much greater confidence in the economic policies adopted by many of these countries in recent years. The growth divergence notwithstanding, the report emphasizes that the underlying links between developing and industrial countries are actually becoming stronger by the year because of increased openness to both trade and investment in developing countries. The recent successful conclusion of the Uruguay Round of trade talks bodes well for continuation of these trends, but multiplying instances of friction in trade matters do not encourage complacency.

Looking to the next ten years, the report projects moderate growth in the industrial countries, by postwar standards. Prospects for growth in developing countries are considerably better than in the 1980s because world trade growth is expected to accelerate, real interest rates will be much lower, private capital flows are likely to be sustained in the aggregate, and commodity prices are expected to regain some ground after a long period of decline. Continued low inflation rates in industrial countries are a vital ingredient in this favorable outlook. Low inflation greatly reduces the risk that developing countries will face adverse external shocks such as the sudden tightening of monetary policy, which was a factor in the start of the debt crisis in the early 1980s.

The report underlines that uneven integration of developing and industrial economies through trade and financial flows, aggravated by domestic instability in some economies, could produce dramatically uneven results among developing countries. Several developing countries in East Asia are on a path toward achieving the living standards of OECD countries. This is in contrast to the outlook for countries in Sub-Saharan Africa; and the prospects for many countries in transition in Europe and Central Asia continue to be governed by uncertainties about government commitment to reform. Downside risks to the report's projections are, in any event, significant—especially if the industrial countries fail to deal with an array of structural problems, most notably rising fiscal deficits.

This year's report focuses on commodity exports, which play a critical role in the prospects of developing countries and especially of the poorest developing countries. The outlook for primary commodities is relatively favorable over the next decade. Real commodity prices are projected to increase by around 1 percent a year from their current extremely depressed levels.

Over the longer term there seems little reason for pessimism about the prospects of commodity producers as such. Historically, many countries have used an increasingly productive commodity sector as a springboard toward higher living standards—such economies as Chile, Malaysia, and Thailand being prime examples in recent decades. Nor is there evidence that productivity growth is consistently lower in primary production. The apparent long-run decline in the price of export commodities relative to developing countries' imports of manufactured goods may also have been overstated because of a lack of allowance for quality improvements in manufactures.

The extreme volatility of commodity prices creates serious challenges for commodity producers, particularly for poor specialist producers whose livelihood may be jeopardized by seasonal factors or low prices. These impacts can be softened through saving when prices are high and drawing down these savings in periods of low income, but imperfect credit markets impose serious constraints on this option. Stabilization schemes have been tried at both the domestic and the international levels. Although these schemes are often successful in reducing price variability, many have failed when most needed, frequently creating serious market disruption. The recent rapid development of financial instruments for price stabilization provides some promising options for managing commodity price risks.