Global Economic Prospects

and the Developing Countries

2003

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Contents

Figures

Tables

Boxes

Foreword

Productivity increases and efficient investment are essential conditions for rapid growth and poverty reduction. The key to accelerating technological improvement and increasing investment is improving the "investment climate." In the broadest sense, this term encompasses the policy and institutional environment that fosters entrepreneurship, learning, and productive investment.

In this report, we argue that the investment climate for developing countries has both a global dimension and a national dimension. The global investment climate, although less amenable to policy initiatives of developing countries, nonetheless presents opportunities, risks, and at times obstacles for developing countries. In this report, we focus on two aspects of the global investment climate: the current state of the world economy as it affects developing countries' financial outlook, exports, and growth prospects (chapter 1) and the organization of global business, notably the proliferation of multinational companies and associated production networks (chapter 2). In previous reports we have studied other aspects of the global investment climate, including the world trading system (*Global Economic Prospects 2002*) and aspects of the global financial system (*Global Development Finance 2002*).

The national dimension of the investment climate for developing countries is discussed in chapter 3. This dimension is composed of the policy and institutional environment that fosters entrepreneurship—and that strongly influences the pace of productivity growth and the rate of investment. Differences in national policies help explain why some countries grow rapidly and others do not, even though all operate within the same international investment climate. In short, policymakers have considerable scope for choosing policies that influence the amount and productivity of investment.

For the purposes of this report, we focus on two types of national policies that affect how countries use globalization to grow. The first type is *investment policies*—for example, tax incentives, tariffs, subsidies, and policies to channel investment into particular activities, as well as public investment. The second type is *policies that promote or limit competition*—for example, tariffs, entry restrictions, and state monopolies as well as conventionally defined competition policy.

We chose these policy areas for three reasons. First, these policy areas directly link the domestic policy dimensions of the investment climate with the global economy. Second—in contrast to macroeconomic policies, property rights, and other institutional features that primarily affect the quantity of investment—policies fostering investment and competition work instead through microeconomic incentives to influence the quality of investment (as measured by its productivity). Finally, these policies are at the center of global debate, figuring prominently in discussions of the

Doha Development Agenda launched at the World Trade Organization (WTO) Ministerial Meeting in November 2001.

To inform that debate, the final chapter of this report asks how the international community can support developing countries in their quest for better investment climates, both global and national. The chapter focuses on synergies that can emerge from developing countries' participation in international agreements on investment and competition policies, topics that are not only central to the WTO Doha Development Agenda but that also figure prominently in many regional trade negotiations around the world.

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Summary

The global recovery is fragile, because investment spending is insufficient to underpin continuing growth—

Strong cyclical dynamics, together with an easing of macroeconomic policies in the United States and elsewhere, have boosted large parts of the global economy into the initial phase of a recovery in 2002. The driving forces behind the initial phase of the recovery were strong, but they have proved short-lived because inventory and high-tech cycles are short and appear to have peaked. Though consumption spending has held firm, this is precisely the time when investment demand should pick up and boost recovery onto a higher trajectory. So far it has not. Financial imbalances, evident in different forms throughout the world economy, seem to be weighing down growth. Wide-ranging uncertainty in financial markets may jeopardize the needed rebound in fixed investment and may thus diminish prospects for projecting the global recovery into the future. Falling and volatile stock markets, accounting scandals, accumulated debts (domestic and foreign, private and public), and reassessments of long-run profitability keep investors cautious, if not jittery, throughout the world. For these reasons, growth in 2003 seems certain to be weaker for almost all developing regions than we anticipated as recently as six months ago.

Analysis of long-term trends indicates that the investment cycle as a determinant of overall cyclical behavior is as important in low- and middle-income countries as it is in high-income countries. But the volatility of investment is greater in developing countries than in rich countries. Countries with sound investment climates experience far less volatility than countries with deficient policies and institutions.

Capital flows to developing countries have proved to be procyclical. But the direction of causality between investment and capital inflow appears to differ significantly between rich and poor countries. In rich countries, a boom in domestic fixed investment tends to attract foreign capital, while in middle-income countries it is the acceleration of capital inflows that typically stimulates domestic investment. Similarly, a fall in rich countries' investment tends to reduce net capital inflows, while for middle-income countries reduced net capital inflows (or increased capital outflows) are the driving forces behind contractions in domestic investment. This dependence on capital flows makes the middle-income countries especially vulnerable to tensions in global financial markets. Low-income countries, with greater reliance on official aid and with limited access to private capital markets, do not exhibit either of these patterns.

—but long-term prospects remain promising

Over the long run, new opportunities for technological advances (often driven by globalization), together with more stable

macroeconomic policies and an improved business climate, have the potential to accelerate growth and to increase investment ratios in developing countries that currently lag behind. The outlook for reductions in global poverty, while generally positive and of the same order of magnitude as in our previous report, is marginally dimmer because of the absence of a robust recovery today.

At the same time, demographics are likely to alter existing savings and investment patterns and will tend to push countries to become more interdependent through capital flows. Major demographically driven shifts in current account balances—particularly in Japan, which is moving toward reduced surplus, and in middle-income countries, which are moving toward increased surplus—are likely to accelerate financial integration. Underneath large swings in net flows are even larger movements of gross capital flows, as foreign direct investment (FDI) expands into growing markets in developing countries and as financial agents in developing countries seek to diversify their portfolios in rich countries. However, because international financial flows have at times fluctuated widely, they have sometimes proved damaging to growth and poverty reduction. The international community and developing countries have to search for mechanisms to provide greater stability in integration. Developing countries can do much on their own. Improving the domestic investment climate, particularly through sound macroeconomic policies and governance, can reduce the volatility of capital flows and attract less-volatile FDI.

Global competition is creating new opportunities for developing countries

Cross-border trade and direct investment have expanded rapidly over the past three decades. Global exports of goods and services increased from 14 percent of output in the early 1970s to 23 percent by the late 1990s, while global FDI flows have more than doubled relative to the gross domestic product (GDP). The surge in FDI flows accelerated in the late 1990s, rising from $331 billion in 1995 to $1.3 trillion in 2000, before falling off to an estimated $725 billion in 2001. Most of these flows are destined to rich countries.

FDI flows to developing countries are about $160 billion. This amount is still relatively small compared with all domestic investment in developing countries, now about $1 trillion. Nonetheless, in virtually every region, FDI is a driving force of globalization and has risen relative to total capital expenditures during the 1990s. It has doubled in middle-income countries and has tripled in low-income countries. However, recently FDI flows have fallen. They peaked in 1999 at $184 billion and are experiencing their most sustained fall since the global recession of 1981–83.

These trends over the past decade have increased competition in most markets around the world. Despite a sharp increase in mergers and acquisitions, the share of global economic activity accounted for by the largest companies does not appear to have risen over the 1990s. The profits of the top 50 companies accounted for 0.8 percent of world GDP in 2001. Although their share of aggregate profits amounted to 3.3 percent of global savings in 2000, up from 1.8 percent in 1994, this increase is likely to be the result of the boom in the United States and the overstatement of earnings of some large U.S. corporations. These factors point to a pattern of stability rather than a trend of increases. Similar patterns exist for the largest 500 companies.

Four changes in the organization of business are particularly important for developing countries. First, the rise of foreign investment in services is creating a new source of competition—and potential productivity gains—in developing countries, where staid state companies have often monopolized production for decades. Recent efforts to privatize these companies and to open industries to competition have allowed some developing countries to harness this competition for gains. In many developing countries, restrictions on services still remain high, because some countries have

privatized only slowly and others have privatized badly, creating private monopolies still insulated from competition.

Second, production networks that span the globe, once barely a dot on the horizon of international business, have now become a central feature. That so many large firms have chosen to outsource production of parts and equipment or to otherwise locate production facilities offshore offers new opportunities for developing countries. Firms choosing to "deverticalize" production through outsourcing create new opportunities for suppliers and create a foundation for a steady increase in trade for participating developing countries. The downside is that this production and the associated high rates of export growth are highly concentrated geographically, and so this door into a greater share of the global economy has, to date, opened only for relatively few countries. Taking advantage of networks requires a strong policy environment that fosters private investment and provides complementary public investments (see below).

Third, with growing concerns about risk, investors are becoming increasingly sensitive to investment climates in developing countries, and the result is that money is moving to the countries with large, rapidly growing, and relatively stable economic environments. Countries such as China, the Republic of Korea, and Mexico benefited from the largest inflows in 2000. As a share of domestic investment, however, small-market countries are proving they can keep pace—provided that they protect property rights, have stable macroeconomic environments, and have good institutions. Poor countries that fall short on policies and institutions compound the disadvantages they already experience from having small markets. Hence, they may be virtually shut out from foreign investment flows in any sector other than natural resources.

Finally, long-term private investment financing for infrastructure has fallen off to levels that may prove persistent. This retrenchment has two origins. First, the post-1997 rise in global risk premiums has reduced investors' appetite for risk and for projects with long gestations. Adversity to such projects is reflected not only in the average spreads over U.S. Treasury interest rates that developing countries must pay to their bondholders in the Emerging Market Bond Index (even excluding country "outliers" in crisis) but also more generally in spreads of high-risk corporate bonds in the United States. Both have more than doubled from under 500 basis points to more than 1,000. The recent collapse of the telecommunications sector, as well as difficulties experienced by major power companies associated with the Enron scandal, has diminished the number of players and enthusiasm among potential long-term financiers. Second, many projects have suffered payment problems because of the inability of contracts to weather sharp contractions in demands. From Argentina to Indonesia, the string of defaults associated with infrastructure projects and restructurings has left in its wake a severe retrenchment. Thus, governments throughout the developing world will have to do more to offset this risk—principally through better policies, and perhaps through a slowing of the retreat from government financing of infrastructure that has occurred under the banner of privatization.

Harnessing globalization requires reducing barriers to competition—
To raise the productivity of both foreign and domestic investment, developing countries have to harness the full force of competition inherent in globalization. Too often they have not done so. In many countries, policy barriers to competition—whether they are impediments to trade, restrictions on incoming foreign investment, administrative barriers to competition, or monopolies granted to state enterprises—have channeled domestic as well as foreign investment into less-productive activities that dampen productivity improvement and hobble growth. Import competition, for example, can limit what would otherwise be the shared monopoly pricing of a few local

producers. In a wide sample of developing countries, decreasing imports in concentrated industries from 25 percent of domestic sales to zero is associated with increases of 8 percent in oligopolistic markups on sales.

Competition-impeding regulations in recently privatized industries have undermined potential benefits from privatization and have insulated new owners—frequently foreign companies—from efficiency-improving competition; the result has been slow growth and resource misallocation. In Africa, for example, telephone services in countries with private monopolies have expanded growth only one-third as fast as telephone services in countries with competitive networks.

Over time, firms in countries with lower barriers to trade and to investment competition tend, as a general rule, to enjoy significantly higher productivity of investment, both foreign and domestic, and with it more rapid growth. This fact does not imply a single prescription for all countries irrespective of their stage of development. As the experience of China—among others—has shown, reforms have to be tailored to country circumstances and integrated into sustainable development strategies. The analysis does imply, however, that countries wishing to increase their opportunities from globalization would do well to look first at the incentive features of their investment climate, with special attention to barriers that impede competition.

—and using targeted interventions with care—

Governments may hope to make up for an unfriendly investment environment through incentive mechanisms. But while there are clearly examples in which targeted interventions—such as fiscal incentives, export processing zones (EPZs), or support for economic clusters—may indeed lead to higher investment levels (and the jobs and related spillovers that go along with them), there is, unfortunately, little evidence that such initiatives can be systematically successful. Instead, they tend to work best when they work *in support of* broader reform packages, either to catalyze support for emerging opportunities (such as clusters) or to create transitional mechanisms and initial constituencies for reform that can be progressively expanded (such as EPZs). But more broadly, investment incentives will generally not make up for serious deficiencies in the investment environment or generate sustained growth. To encourage productive investment and benefit from globalization, governments must tackle the challenges of promoting competition and entrepreneurship and of undertaking complementarily productive public investment in areas such as education.

—and therefore sound public investments are essential

Public investment also plays a crucial role in enhancing growth. Some countries get both the levels and the composition of investment right, and their growth rates are high. Other countries invest too much through the public sector and crowd out private investment. Because these effects are also associated with investments in state enterprises that enjoy monopoly positions protected from competition, the composition effects of public investment are negative. Other countries invest too little through the public sector. This problem is usually manifested in poor education, poor infrastructure, and poor public institutions generally—all of which reduce profitable investment opportunities for both domestic and foreign companies. Investing in effective public institutions has an especially high return.

International agreements on investment and competition policies can provide benefits through reciprocity—

Countries get most of the positive growth stimulus from domestic unilateral reforms tailored to local strategy and conditions, and these reforms should not be held hostage to international agreements. Nonetheless, reforming governments may be able to obtain additional benefits from international agreements. Benefits can take several forms. For

investment policies, participating in international agreements that are linked to greater market access may elicit more investment by signaling to investors that changes are permanent. Also, participating in international negotiations may strengthen the hand of domestic reformers by holding out the prospect of market access abroad in exchange for new domestic policies; simultaneously, negotiations can prompt reciprocal reforms among partners that would not otherwise occur. For competition policy, international agreements may lead to the removal of restraints that inhibit competition, thereby unleashing new price competition that benefits all countries.

—but agreements on investment policy are likely to have strong development effects only if they deal with the big issues facing developing countries—

The purposes of coordinating investment policy are to expand the flow of investment around the world, to minimize policy externalities that hurt neighbors, and to help improve economic performance. Agreements might contribute to achieving these goals through three main channels: *protecting investors' rights,* which increases incentives to invest; *liberalizing investment flows,* which permits enhanced access and competition; and *curbing policies that may distort investment* flows and trade at the expense of neighbors.

International agreements that focus on establishing protections for investors cannot be expected to expand markedly the flow of investment to new signatory countries. This is because many protections are already contained in bilateral investment treaties (BITs). Even the relatively strong protections in BITs do not seem to have increased flows of investment to signatory developing countries. These facts suggest that expectations for new flows associated with protections emerging from any multilateral agreement should be kept low.

International agreements that allow countries to negotiate reciprocal market liberalization and to promote nondiscrimination can reinforce sound domestic policies and can contribute to better performance. Since most of the remaining restrictions are on services, governments around the world can increase market access by using the existing multilateral framework rather than creating a new one. The General Agreement on Trade in Services (GATS) provides an as-yet-underutilized arrangement to negotiate reciprocal market access in services. To date, the coverage of commitments for a large number of countries is limited. About two-thirds of the World Trade Organization membership has scheduled 60 or fewer sectors (of the 160 or so specified in the GATS list). Moreover, in many cases, commitments do not reflect the actual degree of openness. Finally, in some countries, the commitments that have been made serve only to protect the privileged position of incumbents rather than enhance the contestability of markets. To remedy these problems, governments must take greater advantage of the opportunity offered by the GATS to lend credibility to reform programs by committing to maintain current levels of openness or by precommitting to greater levels of future openness. To advance the process of services reforms beyond levels undertaken independently and to lead to more balanced outcomes from the developing-country point of view, countries could better harness the power of reciprocity by devising negotiating formulas that widen the scope for tradeoffs across sectors (both in goods and in services) and across modes of delivery, particularly the temporary movement of workers. While difficult, such efforts may prove easier than designing a whole new international investment arrangement.

Similarly, curbing policy externalities that "beggar thy neighbor" can benefit developing countries, especially if the countries focus on two critical issues. The first is to reduce *investment-distorting trade barriers*. By depriving developing countries of market access and by discouraging their exports, many trade barriers also lessen the attractiveness of opportunities to invest in developing countries' export industries for both foreign and domestic

investors. In Canada, the European Union (EU), Japan, and the United States, average ad valorem–equivalent tariffs for manufactures are roughly twice as high for developing countries as they are for members of the Organisation for Economic Co-operation and Development. The ad valorem–equivalent tariffs on agriculture (to say nothing of subsidies) in those countries are also more than three times higher than such tariffs on manufactures. Reducing trade barriers among developing countries themselves is as important as reducing trade barriers in rich countries. Developing countries import from each other at average ad valorem–equivalent rates comparable to EU rates for imports from developing countries. This level of protection dampens investment—both domestic and foreign—in affected export industries, and removal of these barriers would have significant development effects.

The second critical issue is to curb the emerging competition among countries to lure foreign investment through *investment incentives*. Unfortunately, information on the extent of investment incentives is inadequate to assess their effects, and so a high priority for international collaboration is to systematically compile this information.

Finally, participation in international agreements on investment may also have benefits over and above unilateral reforms if the agreements include reciprocal market access in areas of importance to developing countries. These benefits can become clear only in the course of negotiation.

—and thus competition agreements should focus on restraints to competition that hurt developing countries

Greater competition is associated with more rapid development, and lowering policy barriers to trade and foreign investment in developing countries, as shown in chapter 3, is a powerful procompetitive force. Beyond unilateral actions, international agreements on competition policy might also bring benefits, provided they address the major restrictions that adversely affect developing countries.

Restrictions on competition in the global marketplace that most hurt development take three forms. The first form consists of *policy barriers in markets abroad* that limit competition among developing countries in these markets. These barriers, like those discussed above, discourage investment and create obstacles to competition. Particularly harmful are the $311 billion in agricultural subsidies and textile quotas, as well as the corresponding high border protection, tariff distortions (that is, tariff peaks and escalation), and protectionist use of antidumping. These practices are only too common in all countries, rich and poor alike. All of these trade restrictions limit the ability of exporters in developing countries to compete in international markets.

Second, *private restraints on competition* can adversely affect prices for consumers and producers in developing countries—much as they can in industrial countries. For example, cartel practices among companies based in high-income countries taxed consumers in developing countries by up to $7 billion in the 1990s. Actions that facilitate prosecution of cartels should be high on the priority list. Such actions can range from developing more systematic arrangements to exchange information among competition agencies, to granting standing for developing countries to sue under foreign antitrust laws when their trade is adversely affected. Indeed, both developing and industrial countries would benefit from much greater efforts to identify and document restrictive business practices that adversely affect prices of their trade.

Third, many governments in high-income countries *officially sanction trade restraints* through antitrust exemptions for their companies in domestic law. For example, many governments permit their companies to cartelize exports. Shrouded in the secrecy of government registries, these national export cartels may well raise prices to developing countries. Efforts should be made to make information on national export cartels transparent. Everyone would benefit from a decrease in cartels that have damaging price effects. Similarly, antitrust

exemptions for ocean transport have given rise to price-fixing arrangements that systematically hurt consumers everywhere, including those in developing countries. These restraints are estimated to cost developing countries more than $2 billion per year and entail similar costs to consumers in industrial economies.

Finally, competition policies in developing countries themselves can in many cases be improved through increased transparency, nondiscrimination, and procedural fairness. However, international cooperation in this complex area of regulation has to recognize that countries have different capacities and institutional settings, warranting caution in recommending—much less in mandating—across-the-board policies. In this area, voluntary programs that facilitate the learning and adoption of best practices in developing countries can pay high dividends.

Unlocking global opportunities begins with the efforts of developing countries to improve their investment climates. Deployed well, investment policies and policies to unleash competition can accelerate economic growth and reduce poverty. This report offers a general framework and lessons, but each country has to formulate its own development strategy. Nonetheless, the international community, working together, can help through development assistance, voluntary collaboration, and well-conceived international agreements. For these efforts to have greatest effect, they have to tackle the most pressing investment and competition problems—and that is the challenge ahead.

Abbreviations and Data Notes

ADB	Asian Development Bank
ASCM	Agreement on Subsidies and Countervailing Measures
BITs	Bilateral Investment Treaties
EPZ	Export processing zone
EU	European Union
FDI	Foreign direct investment
FSAP	Financial Sector Assessment Program
GATS	General Agreement on Trade in Services
GPA	Government Procurement Agreement
HIV/AIDS	Human immunodeficiency virus/acquired immune deficiency syndrome
ICC	International Chamber of Commerce
ICN	International Competition Network
ICSID	International Center for Settlement of Investment Disputes
IMF	International Monetary Fund
ITO	International Trade Organization
LDC	Least developed countries
M&A	Mergers and acquisitions
MAI	Multilateral Agreement on Investment
MERCUSOR	Latin America Southern Cone trade bloc (Argentina, Brazil, Paraguay, and Uruguay)
MFN	Most favored nation
MNCs	Multinational corporations
NAFTA	North American Free Trade Agreement
NGO	Nongovernmental organization
OAS	Organization of American States
OECD	Organisation for Economic Co-operation and Development
ROSC	Reports on the Observance of Standards and Codes
SOEs	State-owned enterprises

TNCs	Transnational corporations
TRIMs	Trade-Related Investment Measures
TRIPS	Trade-Related Aspects of Intellectual Property Rights
U.S. BEA	U.S. Bureau of Economic Analysis
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference for Trade and Development
UNDP	United Nations Development Programme
USAID	U.S. Agency for International Development
WTO	World Trade Organization

Data notes

The "classification of economies" tables at the end of this volume classify economies by income, region, export category, and indebtedness. Unless otherwise indicated, the term "developing countries" as used in this volume covers all low- and middle-income countries, including countries with transition economies.

1

The International Economy and Prospects for Developing Countries

Developments in early 2002 showed a cyclical rebound—

Macroeconomic stimulus, a rebound from a record trough in the high-tech sectors and a bottoming-out of inventory cycles, brought large parts of the global economy onto a recovery path at the end of 2001. Lower interest rates helped keep consumers' demand for durable goods strong. Together with fiscal easing, that demand provided support for the rebound in the United States and, to a lesser extent, in some East Asian and European countries. High-tech markets—in which technologies quickly become obsolete—returned to strong growth by creating replacements for old products. Inventory selloffs ceased, thereby contributing to an acceleration of gross domestic product (GDP) growth in early 2002.

The driving forces behind the initial phase of the recovery were strong, but short-lived, as business confidence remained weak. Inventory and high-tech cycles typically are short, and both appear to have peaked toward the middle of 2002. The effects of fiscal stimulus and monetary easing can also, under current circumstances, dissipate quickly.

—but uncertainty in financial markets has sapped momentum

In the second phase of a typical recovery, the upturn spreads to other sectors and other regions, and the driving force shifts from inventory dynamics to accumulation of fixed investment. In the current upswing, however, the second phase is in jeopardy because of tensions in financial markets, which reflect accumulated financial imbalances and significant uncertainties. These pressures have made the recovery in 2002 less uniform, and they are likely to moderate growth in 2003.

In Japan, deflation and high and rapidly growing government debt have placed severe limits on both monetary and fiscal stimuli. Combined with the fragility of the banking sector, which is burdened by bad loans and diminishing capital caused by lower equity values, financial uncertainty prevents the spread of recovery from export sectors to those that produce for the domestic market. The accounting scandals in the United States have undermined the trust in reporting systems. Investors, who have come to rely on continuously rising equity prices, now find it difficult to assess the profitability of firms. That difficulty sharply pushed up risk premiums in equity markets. European financial institutions were forced to adjust their balance sheets in the wake of large-scale defaults, notably by Argentina and several major U.S. firms, which probably played a role in suppressing a nascent recovery in European economies. In Europe and elsewhere, telecommunication sectors still suffer from overinvestment and high debt burdens, making a speedy recovery of capital spending in those sectors unlikely.

Uncertainty is keeping investors cautious, if not skittish, throughout the world. While

investors in high-income countries take their losses and replenish their reserves, they limit their exposure to developing countries and concentrate their assets in investment-grade borrowing countries.[1] Capital flows into large parts of Latin America dropped sharply, reflecting the aftermath of Argentina's default and the vicious combination of global uncertainty, domestic problems in some large countries, and intra-regional contagion. The reversal of capital flows—with the accompanying rise in spreads and depreciation of currencies—when combined with vulnerable balance-sheet characteristics triggered a dangerous worsening of debt dynamics in some Latin American countries. In such an environment, average per capita income in Latin America has fallen in 2002 for the second year in succession.

The rebound in 2002 was less uniform than anticipated—

Rapid recovery in the beginning of 2002, driven in part by sharp increases in the U.S. government's expenditure in the aftermath of terrorist attacks, has resulted in upward revisions of 2002 growth for the United States, East Asia, and Japan, relative to forecasts prepared in February (table 1.1). At the other extreme, growth in Latin America has been lowered by 1.6 percentage points for the year. This decrease reflects not only the crisis in Argentina, but also the major contractions of GDP in Uruguay and the República Bolivariana de Venezuela, plus slow growth in Brazil, Chile, and Mexico. Those events made the 2001–02 period the worst for the region since the debt crisis of the early 1980s. Consistent with higher-than-anticipated *global* growth, non-oil commodity prices in 2002 have risen more than anticipated. Nonetheless, the present rebound in commodity prices is modest from an historical perspective, thus highlighting the continuing downward pressures on prices tied to structural factors. Higher commodity prices have supported modestly improved performance in Sub-Saharan Africa.

—and the outlook for 2003 is for tepid growth

Reflecting financial uncertainty and the disappointing recovery of business confidence, projected growth for 2003 has been marked down for almost all developing regions, because a robust rebound in industrial country growth—driven by strong advances in investment—has become less likely. In line with these revisions, inflation, interest rates, and non-oil commodity prices are also likely to be lower. The sole exception to this pattern is the Middle East and North Africa region, where oil exporters have benefited from high oil prices during 2002. Several of these countries are seeing increased government expenditure, financed by rapidly mounting surpluses of oil revenues.

Investment cycles in developing countries are more volatile than in rich countries

With the sharp fall in global investment in 2001 and the uncertainty surrounding a rebound in capital expenditure, investment behavior has become a key element of the outlook. A closer look at investment cycles in developing countries suggests the following conclusions:

- Investment behavior in low- and middle-income countries is a determinant of overall volatility that is even more important than it is in high-income countries.
- Those developing countries with a stronger policy environment exhibit lower volatility in investment.
- Although in rich countries domestic fixed investment tends to drive foreign capital inflows, in middle-income countries the opposite tends to occur (that is, capital inflows typically drive domestic investment).

These conclusions imply that the middle-income countries are especially vulnerable to the current jitters in financial markets. Such countries are exposed to sudden reversals in

Table 1.1 Global conditions affecting growth in developing countries and world GDP growth

(percentage change from previous year, except interest rates and oil price)

	Current estimate		Current forecasts			*Global Development Finance 2002* forecasts	
	2000	2001	2002	2003	2004	2002	2003
Global conditions							
World trade (volume)	**13.1**	**−0.5**	**2.9**	**7.0**	**8.0**	**1.8**	**8.3**
Inflation (consumer prices)							
G-7 OECD countries[a,b]	1.9	1.7	0.9	1.2	1.5	0.9	1.6
United States	3.4	2.8	1.5	2.1	2.3	1.5	2.4
Commodity prices (nominal $)							
Commodity prices, except oil ($)	−1.3	−9.1	5.0	5.8	4.4	1.3	7.3
Oil price ($, weighted average), $/bbl	28.2	24.4	25.0	23.0	20.0	20.0	21.0
Oil price (% change)	56.2	−13.7	2.7	−8.0	−13.0	−17.9	5.0
Manufactures export unit value ($)[c]	−2.1	−1.4	0.5	3.0	2.2	−0.5	3.6
Interest rates							
LIBOR, 6 months (US$, percent)	6.6	3.6	1.8	1.5	3.1	2.3	4.0
EURIBOR, 6 months (euro, percent)	4.5	4.2	3.4	3.2	3.8	3.0	4.0
GDP (growth)[d]							
World	**3.8**	**1.1**	**1.7**	**2.5**	**3.1**	**1.3**	**3.6**
Memo item: World GDP (ppp)[e]	4.5	2.1	2.8	3.4	4.0	2.4	4.3
High-income countries	**3.5**	**0.7**	**1.5**	**2.1**	**2.7**	**0.9**	**3.3**
OECD countries[f]	3.4	0.8	1.4	2.1	2.6	0.8	3.1
United States	3.8	0.3	2.3	2.6	3.1	1.3	3.7
Japan	2.1	−0.3	0.0	0.8	1.3	−1.5	1.7
Euro Area	3.7	1.5	0.8	1.8	2.6	1.2	3.3
Non-OECD countries	6.8	−0.7	2.3	3.7	5.3	2.7	5.3
Developing countries	**5.2**	**2.9**	**2.8**	**3.9**	**4.7**	**3.1**	**4.9**
East Asia and Pacific[f]	7.0	5.5	6.3	6.1	6.4	5.6	7.1
Europe and Central Asia	6.6	2.3	3.6	3.4	3.6	3.2	4.3
Transition countries	6.4	4.6	3.5	3.3	3.5	3.4	4.0
Latin America and the Caribbean	3.7	0.4	−1.1	1.8	3.7	0.5	3.8
Excluding Argentina	4.5	1.2	0.7	1.9	3.6	2.1	4.3
Middle East and North Africa	4.2	3.2	2.5	3.5	3.7	2.7	3.3
Oil exporters	3.6	2.4	2.4	3.7	3.6	2.2	2.8
Diversified economies	3.7	4.3	2.2	2.7	3.6	3.1	4.4
South Asia	4.8	4.4	4.6	5.4	5.8	4.9	5.3
Sub-Saharan Africa	3.2	2.9	2.5	3.2	3.8	2.6	3.6
Memorandum items							
Developing countries							
Excluding the transition countries	5.0	2.6	2.7	4.0	4.9	3.1	5.1
Excluding China and India	4.6	1.7	1.5	2.8	3.8	2.0	4.1

Note: OECD = Organization for Economic Co-operation and Development, bbl = barrel, EURIBOR = European interbank offered rate, LIBOR = London interbank offered rate, ppp = purchasing power parity.
a. Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.
b. In local currency, aggregated using 1995 GDP weights.
c. Unit value index of manufactures exports from the G-5 countries to developing countries, expressed in U.S. dollars.
d. GDP in 1995 constant dollars: 1995 prices and market exchange rates.
e. GDP measured at 1995 purchasing power parity (international dollar) weights.
f. Republic of Korea income classification changed from middle to high income (July 2002). Both forecasts were adjusted for this revision.
Source: World Bank, November 2002 and *Global Development Finance 2002* projections of February 2002.

capital flows, which can dampen investment sharply and can undermine growth momentum. Countries with strong policy environments are more likely to avoid or smoothly absorb potential external financial shocks.

In the long term, faster growth can be achieved in most developing regions

Market reforms and trade liberalization during the 1990s have opened opportunities for accelerating technological advances throughout the developing world for the next 15 years. An exception is emerging East Asia, where some moderation of technological progress is anticipated, reflecting in part the extraordinarily rapid catching-up that occurred during the 1980s and 1990s. The acceleration of growth in many of the other regions is likely to coincide with increasing savings and investment rates. Demographic transitions are anticipated to boost saving rates in developing countries, while reducing them in high-income countries.

On balance, the declining availability of savings in the aging populations of high-income countries and the increased savings in the developing world—set against investment patterns needed to accommodate potential growth—imply that more and more developing countries will move toward surplus on the current account and that the recent shift from debt accumulation to debt reduction is likely to continue. As long as domestic credit markets continue to mature and public savings do not deteriorate, domestic savings can be expected to rise, and the required reduction in debt levels will not conflict with the required investment.

A recovery constrained by major risks

During the summer of 2002, investor risk perceptions increased and market sentiment deteriorated across large parts of the world's economy, thereby jeopardizing the global recovery that had started in the fourth quarter of 2001. Accumulated financial imbalances that had built up during the 1990s emerged as a critical factor that clouded the economic outlook. In the United States, the bursting of the equity bubble and cumulated private sector debt kept investors cautious and resulted in a continuous flight to quality, which moved the yield on government bonds to a 40-year low while hampering the recovery in private investment. In Japan, banking problems and the lack of scope for monetary easing and fiscal stimulus limited the spillover from an export-driven recovery to a rebound in domestic investment. In Europe, weakness was concentrated in the highly indebted telecommunications sector and in financial sectors that had to absorb sharp devaluations of their assets.

Bankruptcies and reductions in investment during the global downturn of 2001 and the subsequent first phase of recovery in early 2002 had not reduced corporate debt nor restored profitability sufficiently. In a number of cases, the downturn has generated new imbalances. Throughout the world, fiscal balances deteriorated and balance sheets of financial institutions weakened. Continued tension in financial markets made the recovery less uniform in 2002—as well as probably less robust in 2003—than would have been the case under more normal circumstances. Vulnerability to adverse shocks has increased, and even the potential for a "double-dip" recession scenario in the industrial countries cannot—at this juncture—be entirely ruled out.

Three distinct phases characterize recent developments. The first phase portrays the driving forces behind the initial phase of the recovery that started in late 2001, a recovery that was more robust in the United States and East Asia. These forces range from the end of inventory adjustment, monetary easing, and fiscal stimulus to a technical rebound in the high-tech industrial sectors. This picture normally would be characterized as a favorable environment for developing countries. That environment includes low inflation and interest rates, plus a significant recovery in global

trade and commodity prices, albeit a recovery from low levels. During the second phase, a recovery typically broadens to other regions and other sectors. Therefore, a recovery of profits and strong growth in fixed investment becomes the driving force that sustains or even accelerates growth. In the absence of such broadening and deepening, driving forces that underpin the initial phase would suddenly appear to become short lived, which is the situation today. Finally in the third phase—typically the shift from "recovery" to economic expansion—implications of the set of opposing forces (cyclical rebound and financial turbulence) for the medium-term global outlook (2003–04) are analyzed. The lack of uniformity in growth performance during 2002, following an almost synchronized slowing of growth across regions in 2001, is particularly notable. The growth projections for 2003 are more uniform across regions, but are distinctly weaker than would have been anticipated in a strong, synchronized global recovery.

The first phase of the global recovery was driven by policy stimulus—

In the wake of the terrorist attacks in September 2001, forceful monetary easing in the United States—and to a lesser extent in Europe—helped prevent a deepening of the global downturn. U.S. consumers benefited from historically low interest rates to boost their purchases of durable goods. Combined with double-digit growth in government spending—mainly driven by security, defense, and reconstruction efforts—the stimulus was sufficient to turn U.S. GDP growth positive, to 2.7 percent (annualized), in the fourth quarter of 2001. One quarter later, Japan, which suffered steep output declines for three quarters in succession, and Europe, having experienced only a modest fall in GDP, broke away from negative growth rates as well.

The importance of U.S. domestic demand in this recovery is striking. During the first half of 2002, GDP advanced at a 3 percent annual rate, despite a drag of nearly 1.5 percentage points stemming from a deterioration of net exports. In contrast, output in Japan increased by 2.5 percent, of which foreign trade contributed 1.8 percentage points, while in the Euro Area, GDP growth of 1.6 percent was supported by almost 1 percentage point from positive net exports contributions.

—inventory dynamics—

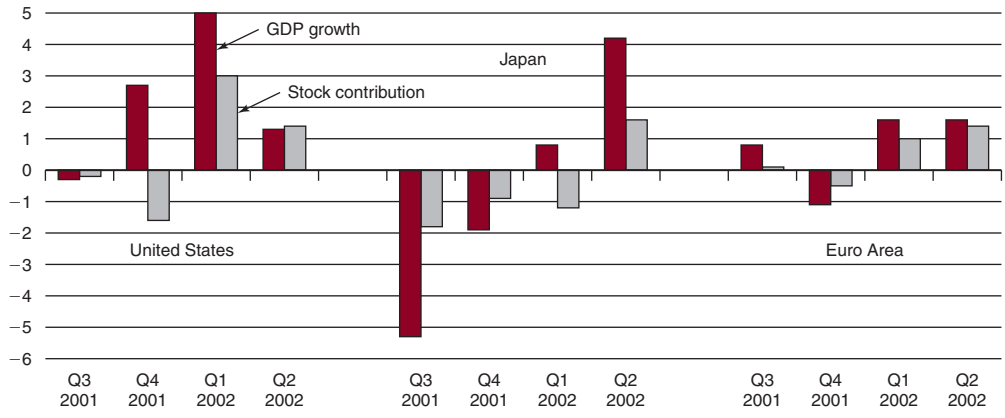
Inventory dynamics played a pivotal role in the recovery, thus complementing macroeconomic stimulus efforts. The same reduction in the inventory stock that led to a negative contribution of stock building to GDP growth in 2001 implied a positive contribution of stock building to GDP growth in 2002. Once the lower level of desired inventories was achieved, stock building shifted from sharply negative to close to zero. The slowing of inventory liquidation significantly shifted the contribution to GDP growth from the second half of 2001 to the first half of 2002: that shift added 1.2 percentage points to the acceleration of GDP growth in both Japan and the Euro Area, and a full 2.2 percentage points in the United States (figure 1.1).

—a high-tech rebound—

Recovery in global high-tech markets was an equally powerful stimulant. After demand for semiconductors and related equipment plummeted during 2001, markets were anticipated to rebound sharply, but the scope of recovery exceeded expectations. There are several natural limits to declines at rates of up to 50 percent. The nature of the product—the technology of which becomes obsolete quickly—warrants a periodic return to high growth, as old products are replaced by new ones and as the introduction of advanced technologies generates new and growing markets. Defense- and security-related spending in the United States also played a role in bolstering demand (U.S. manufacturing orders for computers and communications equipment ratcheted to annual rates of 40 and 90 percent, respectively, in early 2002). As the

Figure 1.1 The recovery was initiated in a typical fashion

(growth in percent)



Source: U.S. Department of Commerce; Japan Economic Statistics and Research Institute (ESRI) and Eurostat.

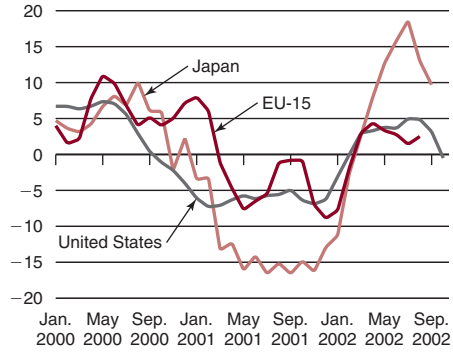
rebound intensified, a strong boost was given to manufacturing output in industrial countries, and especially to production and exports from East Asia (figures 1.2 and 1.3).

Macroeconomic stimuli, inventory dynamics, and a powerful turnaround in high-tech markets in the industrial countries set the stage for a broader global recovery through the traditional channels of international transmission. With world trade increasing, commodity prices firming, and interest rates—fostered by low inflation—standing at historically low

Figure 1.2 A brief rebound in industrial countries was underway

Manufacturing production

(percent change, 3m/3m saar)

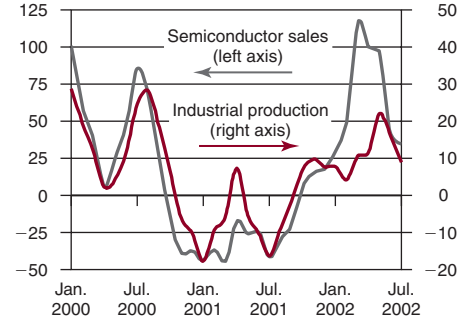


Note: 3m/3m saar refers to 3-month/3-month seasonally adjusted annualized rate.
Source: Datastream.

Figure 1.3 Rebound in industrial countries boosted production in East Asia

Semiconductor dollar sales and industrial production*

(percent change, 3m/3m saar)



Note: Through July 2002. *Republic of Korea, Malaysia, Singapore, and Taiwan, China.
Source: Semiconductor Industry Association (SIA) and national sources through Datastream, World Bank staff estimates.

levels, developing countries faced a broadly favorable environment during the early part of 2002.

—and a recovery of global trade

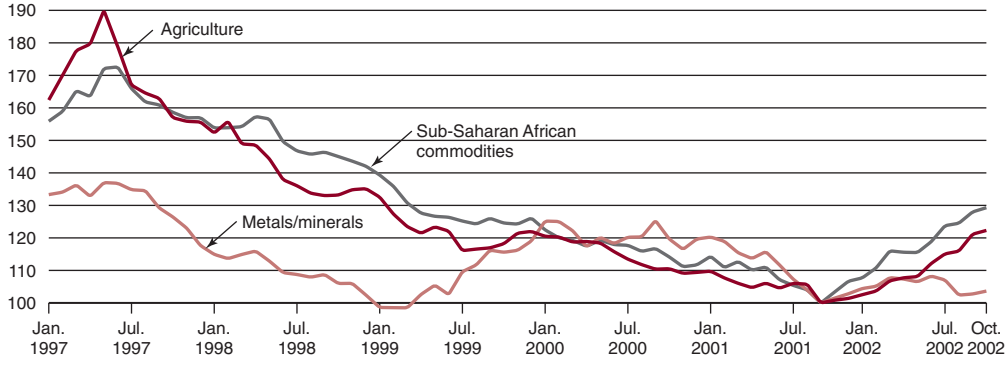
World trade began to grow at near double-digit annual rates, recovering from a fall to negative territory during 2001. The World Bank's non-oil commodities price index gained 19.2 percent between October 2001 and October 2002 (figure 1.4), while the relevant index for Sub-Saharan African (SSA) countries rose further—by 30 percent. However, commodity prices are still one-third below their peak levels, which occurred during the summer of 1997, and several exporters, notably those in Caribbean countries that specialize in coffee and sugar, did not benefit from the rebound in average prices during the first half of 2002. Historically low inflation characterized not only the high-income economies, but also those in the majority of developing countries. The median inflation rate in developing countries is presently one-third of that during the 1990s, despite relatively high oil prices and more widespread adoption of flexible exchange rates. Indeed, double-digit inflation rates have become an exception, and countries experiencing recent crisis, such as Argentina and Turkey, have posted inflation peaks of just 20 to 40 percent.

The second phase of the recovery is on uncertain footing

Notwithstanding the positive environment taking shape in early 2002, it became apparent before the middle of the year that financial strains were clouding the outlook. In the wake of large corporate bankruptcies and the accounting scandals in the United States, stock markets still seemed overvalued and debt levels seemed underestimated. Falling equity prices further eroded the capital base of Japanese commercial banks and other financial institutions. The growth outlook for Latin America deteriorated noticeably. Following Argentina's default, Uruguay and Paraguay were also hit hard through financial and trade linkages. Political uncertainty in the República Bolivariana de Venezuela triggered capital flight, and in several other countries debt dynamics worsened as a result of a combination of domestic problems and increased risk aversion in international capital markets (box 1.1). In Europe, financial institutions were hit hard by defaults in the United States and in Argentina, as well as by falling equity prices and a weakening of the dollar. And the

Figure 1.4 Non-oil commodities are recovering but stand well below previous peaks

(index, Sept./Oct. 2001 = 100)



Source: World Bank staff.

Box 1.1 Is Latin America going against the rising tide?

Economic activity in Latin America and the Caribbean (LAC) has fallen behind production trends in other developing countries (box figure). The region's per capita gross domestic product (GDP) is estimated to have dropped by 2.6 percent in 2002, the only developing region where per capita output contracted during the year. This decline was the second consecutive year of contraction in per capita incomes—the worst performance since the beginning of the debt crisis in the early 1980s. Why is LAC going against the tide of rising global income growth?

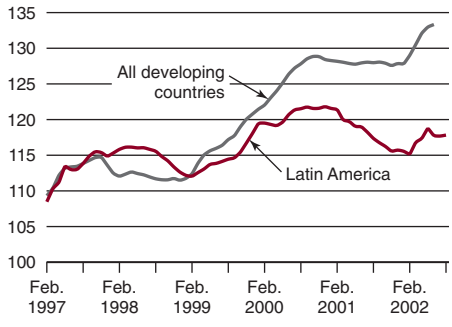
The crisis in Argentina and the spillover effects on Southern Cone Common Market (MERCOSUR) countries (particularly Uruguay and Paraguay) clearly contributed the most to the decline in regional output during 2002. In Brazil, the combination of rising public debt, of declining export revenues tied to the collapse of demand in Argentina, and of expanding political uncertainties in the run-up to the October elections all contributed to a weakening in financial market sentiment toward the country. The combination also resulted in a sharp reduction in private financing flows, which, in turn, led to a deterioration of public debt dynamics.

With financial markets increasingly averse to taking risks through financial flows to the major LAC countries over the course of the year, other countries in the region were unable to obtain significant new financing from international capital markets at reasonable terms. This lack of financing limited growth in high-debt countries with significant financing requirements. Political instability in República Bolivariana de Venezuela—an aborted coup in March that came on top of poor economic management in previous years—led to a large contraction in GDP of some 6 percent.

The crisis in Argentina and its fallout is a classic example of a vicious circle of instability in international financial markets and domestic vulnerabilities: high levels of debt; large financing requirements; and, in some countries, fixed exchange rates, political uncertainties, and weak banking systems. Once a crisis erupts, the vicious circle turns into a brutal downward spiral in which a depreciation of the currency, debt burdens, a deterioration of dollar returns, a rise in spreads, and a reversal of capital flows reinforce each other. Argentina's peso lost more than two-thirds of its value in the year to September. In a comparative perspective, stock prices increased over the same period by 20–30 percent in several countries in East Asia and Central Europe, currencies were stable and spreads did not increase substantially.

Latin America falls behind

(industrial production, index, 1995 = 100, 3-month moving average)



Source: National statistics; World Bank staff.

Source: World Bank staff.

plight of European telecommunications sectors continued to deepen under the weight of overinvestment and mounting debt loads.

Bankruptcies and sharp reductions in investment expenditure, driven by the erosion of equity values and a tightening of credit standards, have reduced some of the corporate debt, but they have also led to a deterioration of the balance sheets of financial institutions. To improve their reserves and to decrease their risk exposure, these financial institutions, in turn, sold part of their equity assets. In doing

so, they further fueled the fall in stock prices and amplified new imbalances. Similarly, the drop in capital flows has increased debt problems in several vulnerable middle-income countries.

Another example of new or deteriorating imbalances is the public sector deficit across the industrial countries. The U.S. general government deficit deteriorated from a surplus position of 2.3 percent of GDP in calendar year 2000 to a deficit of 2.5 percent in 2002, with 2.5 percentage points of that shift attributed to structural deterioration. In turn, the United States has not taken advantage of the recession to narrow its deficit on current account. Despite increases in the household savings rate and declines in the private investment rate, the current account deficit widened to a watershed mark of 5 percent of GDP as of the second quarter of 2002.

In the Euro Area as well, fiscal deficits have deteriorated from a 0.9 percent surplus to a like level of deficit, though this deterioration reflects mainly the work of automatic stabilizers. Unlike the U.S. fiscal deficit, it is not a structural deterioration. France, Germany, Italy, and Portugal are now approaching the current limits of a 3 percent of GDP deficit, limits that were imposed by the European Monetary Union Growth and Stability Pact. The original plan to eliminate deficits by 2004 has been abandoned and replaced by an agreement to reduce structural deficits by at least 0.5 percentage points per annum over the coming years. Japanese fiscal deficits remain extraordinarily high, at levels above 7 percent of GDP. And East Asian emerging economies, on average, continue to run relatively high deficit levels—above 4 percent of GDP—contrasted with a deficit of 1 percent before the 1997 crisis. In other parts of the developing world, primary surpluses are increasing, but improvement of the overall deficit remains difficult to achieve, given the burden of debt service.

Deteriorated government deficits, combined with low nominal interest rates, have left little room for further fiscal stimulus or monetary easing, although some lowering of interest rates seems still likely, especially in the Euro Area. The limited scope for macroeconomic policy makes the risks surrounding the recovery even more severe. Policy solutions in the industrial world may best be focused on eliminating bad debts and restoring investor's sentiment by strengthening institutional oversight.

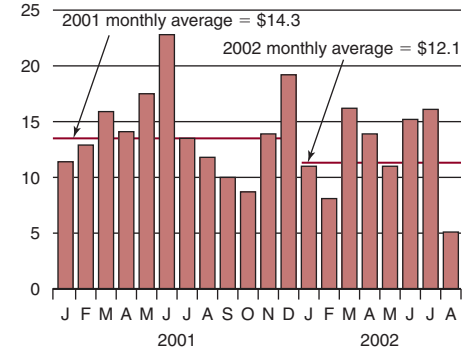
Capital flows to emerging markets are declining

Also important for middle-income countries was a continued decline in international market-based capital flows, despite low international interest rates and the initial phase of recovery in the industrial world. New gross capital market flows fell from $228 billion in 2000 to $175 billion in 2001, falling further to near $140 billion during 2002 (figure 1.5), with bank lending showing the steepest falloff. The latter point highlights the cautious position that international banks have adopted following financial crises in Turkey and Argentina and following defaults by several large U.S. corporations. These capital flow figures suggest that total external debt in the developing world continues to contract.

Net foreign direct investment (FDI) inflows to developing countries also trended down-

Figure 1.5 Private sector creditors have cut debt exposures so far in 2002

(gross market-based monthly flows in billions of dollars)

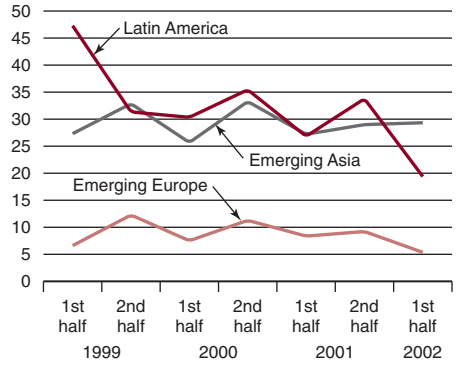


Source: Euromoney and World Bank staff estimates.

Figure 1.6 FDI flows to emerging Asia are proving to be quite resilient

Net inflows of FDI by region

(billions of dollars, half yearly rate)



Source: World Bank staff estimates.

ward, from about $170 billion in both 2000 and 2001, to an estimated $145 billion during 2002 (figure 1.6). The decline can be almost wholly attributed to reduced flows into Latin America, as FDI into Central Europe and East Asia retained a resilient tone. That resilience underscored the importance of the course of integration into global and neighboring markets that China [recently gaining membership in the World Trade Organization (WTO)] and Central European countries [anticipating European Union (EU) accession] are following at present.

Financial strains may inhibit corporate investment—

During the fall months of 2002, investment was still declining in both high-income and developing countries, although the declines were bottoming out, which indicated the beginning of a turnaround (figure 1.7). In a typical recovery, once investment growth returns to positive territory, the recovery gets new impetus, because a virtuous circle of adjustments in the capital stock and in expected market growth may easily generate double-digit advances in capital spending. However, financial strains currently battering corporate sectors are likely to have a restraining effect on investment. Falling equity prices, concerns about corporate debt, uncertainty about profitability, and cautious commercial bank lending in high-income countries tend to curtail financing for investment. Moreover, current business uncertainty regarding future demand growth serves as an additional restraining force on capital spending. Reduced capital flows to emerging markets place a damper on investments in the developing world. If one looks further ahead, large and increasing public sector deficits carry the potential to "crowd out" private investment in high-income and developing countries alike, although low interest rates on government bonds show that such crowding out is not yet a problem.

—and driving forces for the initial phase could be short-lived—

Without a solid upswing in investment and a concomitant broadening of recovery, the forces driving the first phase of the rebound

Figure 1.7 Investment recovery is still uncertain

(4-quarter moving average, percentage change q/q, saar)

Note: q/q refers to quarter over quarter.

*Argentina, Brazil, Chile, Mexico, Czech Republic, Poland, Turkey, Indonesia, Rep. of Korea, Malaysia, Philippines, Thailand, and South Africa (45% of developing country total).

Source: Datastream and World Bank staff estimates.

could well become short-lived. Widening public sector shortfalls limit the range of options for fiscal policy. As France, Germany, and Italy approach Maastricht limits; as the U.S. deficit widens; and as Japan remains encumbered by continuing massive fiscal imbalance, opportunities for further fiscal stimulus in the industrial world have indeed become quite scarce. Moreover, it appears that several other driving forces for the initial recovery could quickly run out of momentum while their stimulative properties dissipate. Official interest rates now standing at historically low levels (particularly in Japan and the United States) leave little prominent role for further monetary easing. And the inventory and high-tech cycles—typically of short duration—probably reached peak levels by mid-2002.

Japanese output growth is now largely grounded in export growth, although consumers have begun to spend at more rapid rates—despite softening labor market conditions. Japan's strong export performance stands at risk and could fade quickly should foreign demand conditions worsen, should the yen resume its appreciation against the dollar, or both. In the United States, considerable uncertainty is attached to the outlook for consumer spending. Following robust purchases of durable goods during the third quarter—particularly automotive sales that were induced by zero interest incentives—questions arise concerning the tenor of growth into the final quarter of the year. Incentives cannot continue indefinitely, and massive equity-based wealth losses of the past two years could play a larger role in households' consumption decisions. Though low interest rates have spurred mortgage refinancings and "cash outs," which are anticipated to place some $100 billion to $200 billion of additional liquidity into the hands of consumers during 2002, this trend could prove limited if the recovery falters seriously. U.S. business remains cautious in investing or rehiring, in part because of the clouded outlook for growth in final demand. And in the Euro Area, especially in Germany, domestic demand is lackluster, and near-term growth appears to be dependent on (and exposed to) global demand and financial conditions. Growth was disappointing in the first half of 2002, and expectations for only a sluggish advance in output during the second half of the year have now become more widespread.

—implying a much less supportive external environment for developing countries

Against this background—particularly the lack of a rebound in fixed investment across industrial countries and the intensification of financial uncertainties—the environment for developing countries is much less favorable. International interest rates may remain low, but borrowing costs have risen in step with increases in interest rate spreads. Trade volumes and commodity prices may be on the rise, but they are still at low levels, and momentum is weakening. Metal prices started to decline again in the middle of 2002, adding to the doubts about the strength of the global recovery. The further rise in agricultural prices was mainly due to specific supply disruptions—as civil strife in Côte d'Ivoire jeopardized cocoa production and as droughts in Australia, Canada, and the United States boosted wheat prices—and was not a sign of rising demand. Inflation remains low, but the danger of outright deflation has emerged in parts of developing and industrial East Asia—China, Hong Kong (China), Singapore, Taiwan (China), and Japan. Stable and low inflation is a prerequisite for solid growth and creates a favorable environment for effective monetary policy. However, in several cases, a sharp drop in inflation has increased real interest rates and has worsened debt problems. Although deflation limits the options for monetary policy, it tends to depress investment and demand for durable goods.

With market emphasis on financial strains and risk perceptions, it is important not to lose sight of several brighter spots in the developing world. Market reforms, including a diminution of trade barriers and an opening up to foreign competition achieved in

many countries during the 1990s, are noteworthy. These changes have contributed to faster growth in trade and in welfare gains, and the process continues across many countries. China and several Central European countries are examples of successful reforming economies that are preparing for even further integration into foreign markets. This integration

Box 1.2 Integration pays off where policies are supportive

The recent global downturn has depressed export growth across the developing world, leading to a contraction in aggregate volume from the third quarter of 2001 through the first quarter of 2002. However, several countries—notably China, the Czech Republic, Hungary, and Poland—have been able to record impressive export volume growth (box figure). They have done so by increasing their market share, which has allowed them to partially offset the dampening effect of the global downturn. This increase in market share, in turn, reflects a continuing pattern of their intensifying integration into the global economy and of attendant inflows of FDI.

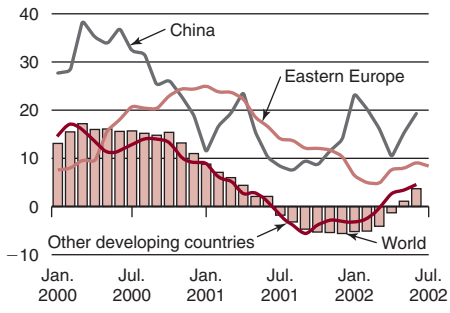
Greater integration with world markets has been achieved by China, for example, through its recently gained membership (December 2001) in the WTO, after years of negotiations and efforts to comply with WTO rules and standards. The three Central European countries have raised their trade integration with global markets largely through the EU accession process, association agreements, and lower trade barriers, which will culminate with full membership in the EU, which appears now on track for 2004.

Reduction of trade barriers is but one factor that has made these countries successful and able to take advantage of trade opportunities. Macro stability, rapid institutional reforms toward liberalization of domestic markets, good or adequate levels of education, and competitive wages (relative to productivity growth) all contribute to the success.

These four countries have benefited from strong and sustained inflows of FDI from Western investors that have been building production capacity and transferring management skills and technical know-how, in addition to financing, such that these countries can gain additional market share as integration deepens. FDI inflows help expand production capacity and raise productivity (that is, they help to improve the recipient country's competitiveness). All four countries have posted high FDI inflows according to various measures. For example, using the ratio of the economy's share of world FDI inflows to the economy's share of world GDP, China, the Czech Republic, Hungary, and Poland all posted ratios of above 1 (or the world average) for 1998–2000—of 1.3, 2.7, 1.2, and 1.5, respectively. As a share of gross fixed capital formation, FDI inflows to these countries have also been high, particularly in China, where FDI inflows averaged 13 percent of gross fixed capital formation during 1990–99. In the Czech Republic, Hungary, and Poland, FDI inflows averaged 25, 19, and 16 percent, respectively, as a share of gross fixed capital formation during 1997–99.

Several developing countries show solid export performance

(volumes, 3-month moving average, percent y/y)



Note: y/y refers to year over year.
Source: Datastream and World Bank staff estimates.

Source: World Bank staff.

not only pays off in the long run, but also has assisted these countries in absorbing or even avoiding short-term shocks and fluctuations, by promoting business confidence and by facilitating export-oriented FDI. Perhaps more important, through relatively large inflows of FDI, these countries have become less vulnerable to turmoil in international financial markets (box 1.2).

The medium-term outlook calls for modest growth in the global economy—third phase

The baseline forecast reflects the interaction of strong opposing forces: the stimulative policies and the intrinsic recovery in stock building and high-tech production that work to accelerate global growth on the one hand, and the financial strains—high and rising debt levels, falling equity prices, and uncertainty about profitability—on the other hand. These driving and restraining forces affect the outlook in three ways:

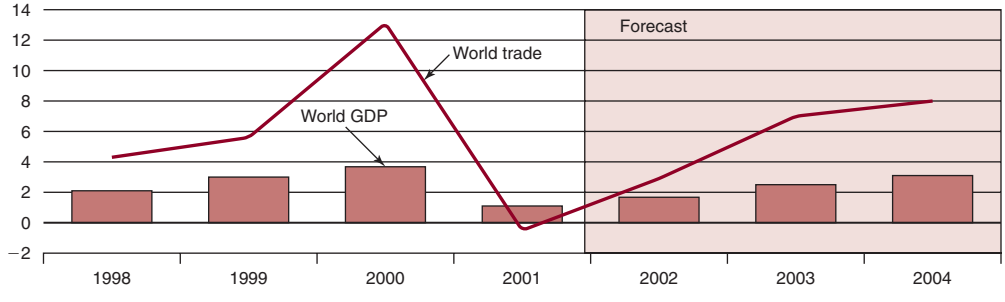
- Global growth in 2002, the initial year of the forecast, shows little resemblance to the uniform recovery that one would normally expect after an almost synchronous downturn in 2001. Instead, it displays quite diverse patterns of activity across industrial as well as developing countries.
- Growth in 2003–04 is anticipated to be moderate. World GDP reflects a combination of a more gradual recovery in Latin America, an emergence of modest growth in Japan, and a generally subdued rebound in other parts of the global economy. The average outturn does not follow the typically strong patterns of recovery and expansion that is concurrent across regions and reinforced by accommodating macro policies.
- Downside risks to the baseline forecast are substantial. The global recovery appears vulnerable to additional shocks. (These points are discussed after we review the external environment and outlook for developing countries.)

The external environment is mixed

The driving forces may be found in expectations for growth of global trade volumes: 2.9 percent in 2002 and an average of 7.5 percent in the following two years (figure 1.8 and table 1.2). The restraining forces make a substantial rise in capital flows unlikely over the medium term. The modestly firming trends in non-oil commodities prices—5 percent in 2002 and averaging 5.1 percent in the following years—reflect the subdued recovery. The 5 percent gains in commodity prices remain far below historical patterns during booms. Increases in real commodity prices are expected

Figure 1.8 World trade rebounds along with GDP, 1998–2004

(percentage change)



Source: IMF, OECD, World Bank, and World Bank projections.

Table 1.2 External environment for developing countries, 1991–2004

(percentage change from previous year, except interest rates and oil price)

				Current estimate	Current forecasts			
Growth rates/ratios	1991–2000	1999	2000	2001	2002	2003	2004	2002–04
Industrial country GDP growth	2.4	2.9	3.4	0.8	1.4	2.1	2.6	2.0
World trade growth[a]	7.2	5.6	13.1	−0.5	2.9	6.7	7.7	5.7
Industrial country import demand	6.9	8.5	11.6	−1.0	1.3	5.3	6.8	4.4
United States	9.4	12.4	13.7	−3.6	4.4	8.1	8.0	6.8
Japan	5.6	6.6	10.7	−2.8	−2.0	7.7	8.6	4.7
Euro Area	6.6	6.4	11.2	0.8	−0.5	4.0	6.6	3.3
Developing-country import demand	8.2	−1.3	16.9	4.5	5.6	10.1	10.0	8.0
Market growth for developing countries[b]	10.7	5.3	13.1	0.2	2.6	7.0	8.4	6.0
Non-oil commodity prices (nominal)	−1.4	−11.2	−1.3	−9.1	5.0	5.8	4.4	5.1
Agriculture	−1.3	−13.9	−5.5	−9.1	8.4	8.5	4.8	7.0
Metals and minerals	−1.8	–2.3	12.6	−9.6	−3.5	5.6	5.7	2.5
Real non-oil commodity prices[c]	−1.1	−11.0	0.8	−7.8	4.5	2.8	2.2	3.2
Oil price ($, weighted average), $/bbl	19.1	18.1	28.2	24.4	25.0	23.0	20.0	22.7
Manufactures unit value index[d]	−0.3	−0.2	−2.1	−1.4	0.5	3.0	2.2	1.9
Developing-country terms of trade	0.1	3.3	2.8	0.3	−3.2	−1.4	−1.3	−2.0
Terms of trade/GDP (%)[e]	0.1	0.7	0.6	0.1	−0.8	−0.4	−0.4	−0.5
LIBOR (US$, 6 months)	5.6	5.5	6.6	3.6	1.8	1.5	3.1	2.2
EURIBOR (euro, 6 months)	5.4	3.1	4.5	4.2	3.4	3.2	3.8	3.5

Note: bbl = barrel, LIBOR = London interbank offered rate, EURIBOR = European interbank offered rate.
a. Goods and nonfactor services.
b. Weighted average growth of import demand in export markets.
c. Deflated by manufactures unit value index.
d. Dollar-based export prices of manufactures in the G-5 countries.
e. Change in terms of trade, measured as a proportion to GDP (percent).
Source: World Bank, November 2002.

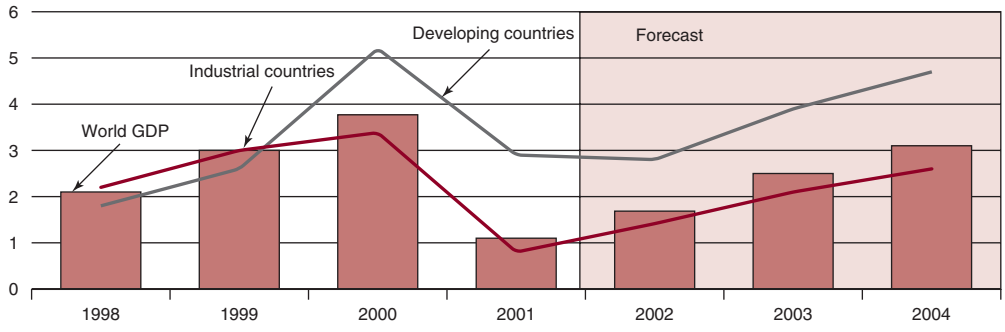
to be even more moderate, about 2.5 percent per year. Most of the increase in commodity prices in 2002 was due to a surge in agricultural prices, which bounced off cyclical lows: the agricultural index had dropped 40 percent below its peak, which was reached in 1997. The recent surge is to a large extent induced by supply factors: for example, droughts in Australia and the United States have boosted grain prices, and supply disruptions in Côte d'Ivoire and Ghana did the same for cocoa prices. Conversely, the rally in metal prices that started in October 2001, which is normally strongly correlated with the business cycle, stalled in the second quarter of 2002. The forecast for metal prices is one of decline in 2002, and of a return to 5–6 percent gains thereafter. This trend is another indication that the tenor of global recovery is anticipated to be modest.

The base forecast assumes that the current risk premium in the oil market gradually dissipates and that increased supply, both from Organization of Petroleum Exporting Countries (OPEC) and non-OPEC sources, can easily meet moderate increases in demand. This forecast would imply oil prices of around $20 per barrel by 2004. The lack of strength in the recovery is also reflected in the interest rate projections. The London interbank offered rate (LIBOR) and European interbank offered rate (EURIBOR) are anticipated to drop modestly further during 2003, but to increase in step with firming economic activity by 2004, at rates below 4 percent.

The recovery in global markets is shaped primarily by developments in industrial countries. At 1.4 percent in 2002 and an average of 2.3 percent in the following years, growth remains at or below potential, which is a rare phenomenon during a recovery (figure 1.9). In this forecast, inflation will accelerate little, remaining below 2000 or 2001 levels.

Figure 1.9 2002 marks the start of a moderate recovery

(GDP growth rate in percent)



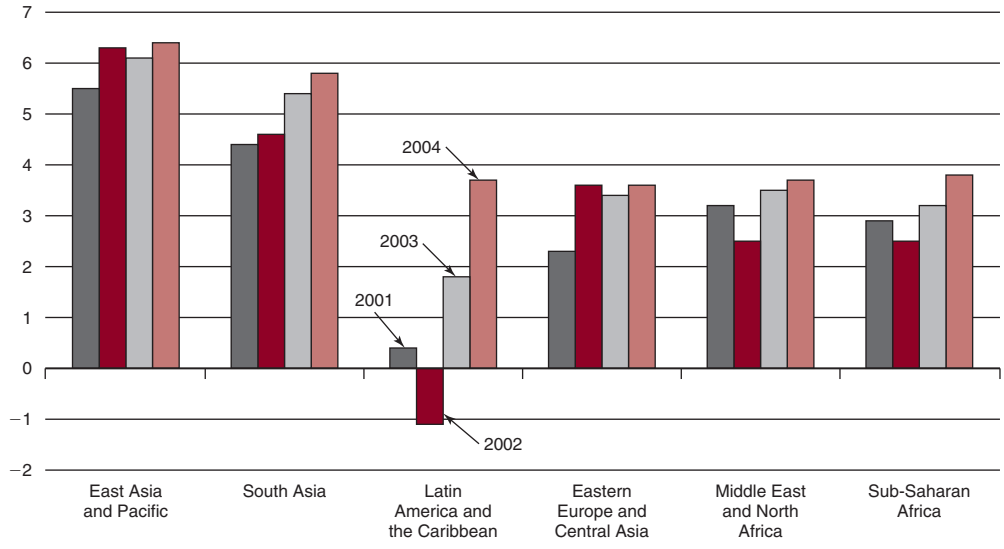
Source: World Bank data and projections.

An outlook for moderate growth across developing regions—

What does this environment imply for output growth in the developing countries? In 2002, a strong recovery in East Asia coincides with a disappointing performance in Latin America, where GDP declined by 1.1 percent (excluding Argentina, where GDP plummeted by nearly 12 percent, and growth in the region slowed from 1.2 percent in 2001 to 0.7 percent in 2002). The region's per capita income fell 2.6 percent after a drop of 1.2 percent in 2001, which was the worst performance across two years since the debt crisis in the early 1980s (figure 1.10). Oil exporters, particularly in the Middle East and North Africa (MENA),

Figure 1.10 LAC and MENA are not experiencing the recovery

(developing countries GDP growth, percent change)



Source: World Bank projections.

follow an independent growth pattern, which, to some extent, is the same for developing countries that are rapidly integrating into foreign markets (for example, Central European countries, China, and Mexico), where exports were recently able to outperform world trade growth as a whole (see box 1.2).

Average growth in 2002 for developing countries is anticipated to be 2.8 percent, 0.3 percentage points lower than was expected in the February 2002 forecast and 0.8 percentage points lower than was projected in the December 2001 forecast. Even with the benefit of hindsight, it is quite difficult to disentangle the set of recent shocks and their effects on developing countries. Yet the downward revisions do not contradict the assessment made in the fall of 2001 that adverse effects stemming from the terrorist attacks of September 2001 would not be limited to the United States, but would spread to developing countries as well (box 1.3).

Sharply different growth patterns are likely to characterize economic activity across countries and regions in the short run, as jittery financial markets affect the vulnerable and

Box 1.3 The terrorist attacks of September 11, 2001 had an economic effect

Shortly after the terrorist attacks of September 11, 2001, the World Bank concluded that the economic effects would be most severe in the United States but would be significant in developing countries. The main transmission mechanisms were thought to be:

- Tourism revenues would decline, especially in South Asia, the Middle East, and the Caribbean.
- Increased risk perceptions in international markets would make oil prices more volatile, foreign capital less readily available, and transportation more costly.
- There would be delayed recovery in the United States, where immediately after the attacks air traffic was constrained, equity prices had declined sharply, and consumer confidence had plummeted. That delay would also hamper the recovery in world trade, commodity prices, and financial flows.

Of the developing world, Latin America was thought to be the hardest hit because of its proximity to the United States, its dependence on tourism revenues and commodity prices, and its vulnerability to financial shocks. Countries in Sub-Saharan Africa were also vulnerable because they have limited options to absorb adverse shocks.

Even with the hindsight of a year, it still remains quite difficult to assess the independent effect of 9/11 on the global economic environment. Not only are the counterfactuals unknown but new shocks, such as the financial crisis in Argentina or the emergence of accounting scandals in the United States, complicate the picture.

The fiscal stimulus and rapid monetary easing in the United States probably prevented a serious delay in the U.S. recovery and in world trade growth. Non-oil commodity price increases have slightly outperformed forecasts made in the fall of 2001. However, the steep decline in tourism revenues and the increase in risk perceptions did materialize, and the outlook for developing countries has further deteriorated, especially for Latin America. This observation suggests that 9/11 did exert strong influence in shaping ensuing economic trends in developing countries, albeit reinforced by other factors.

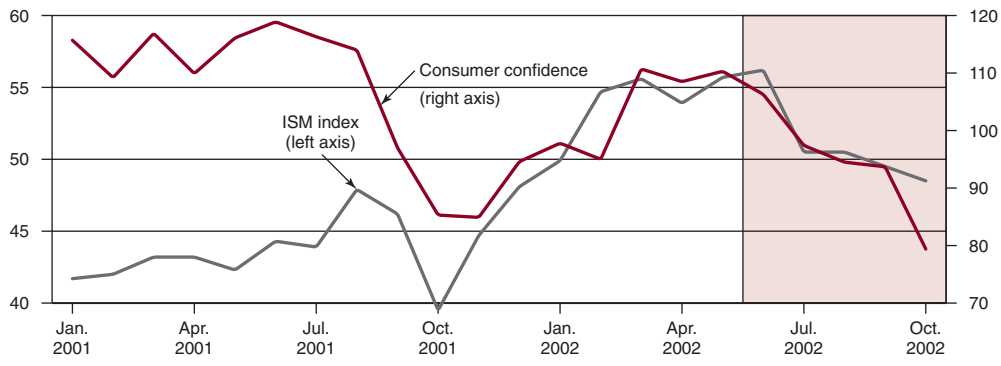
Following continuous and robust growth over the past decade, global tourism arrivals declined by 0.6 percent in 2001, tied in large measure to the effect of the terrorist attacks. The most-affected developing regions were South Asia (down 6 percent), Latin America (down 4 percent), and the Middle East (down 3 percent).

Business and consumer confidence across the industrial centers fell abruptly in the aftermath of the attacks. Although the losses evaporated within 2 months as the recovery took shape, the tenor of business and financial market confidence has continued to be exceptionally fragile (box figure). This factor was one underlying the decline of capital market flows to emerging market recipients in 2002, as well as the rise in bond markets.

Box 1.3 *(continued)*

U.S. confidence plummets

(ISM and Conference Board business and consumer sentiment indices)



Source: Institute for Supply Management and Conference Board, through Datastream.

Developing countries' GDP growth in 2002 has been limited to 2.8 percent—about 0.8 percentage point below that expected one year ago (notably, figures that included an assessment of the 9/11 effects). Although not all barriers to stronger growth are linked directly to the terrorist attacks, most of these developments took form under the influence of a global environment that was highly unsettled by the destruction of the New York World Trade Center.

Source: World Bank staff.

highly indebted developing countries more severely than countries with lower debt ratios. Though the forecasts for 2003—and especially for 2004—display acceleration of growth that tends toward more uniformity across regions, that acceleration is weaker than one would expect in a strong, synchronized global recovery.[2]

The forecast for Latin America and the Caribbean (LAC) assumes some rebound in Argentina, where output has fallen some 20 percent below 1998 levels, but the rebound is insufficient to return to earlier prevailing levels within the time horizon of this forecast. Modest growth rates are anticipated for Brazil and most other countries of the region. That growth is grounded in a recovery in global trade and an end to the freefall in Argentina, together with the pursuit of policies geared toward reducing financial strains. Mexico and some Central American and Caribbean countries are in position to benefit most from the expected upswing in the United States, and Mexico's growth in particular is anticipated to exceed that of most Latin American countries.

—has the strongest growth evident in East Asia—

Prospects for developing East Asia and Pacific (EAP) appear more buoyant than those for other regions, as growth is expected to reach 6.4 percent by 2004. Continued solid expansion in China and recovery in most other countries—albeit with growth rates that remain below the robust performance of 2000—underpin this view. Favorable prospects do

not imply that risks are negligible, however. East Asia remains vulnerable to oil price spikes, to uncertain demand conditions in the United States, and to the fragile state of the Japanese commercial banking system and growth prospects there. Moreover, the dynamics in high-tech markets remain volatile. Options for domestic stimulus are more limited than in previous years because in most countries fiscal deficits have widened and interest rates stand at low levels.

In Europe and Central Asia (ECA), growth is expected to remain strong, but it will be grounded in a highly differentiated outlook between the Central and Eastern European (CEE) group of countries and the hydrocarbon exporters that dominate growth trends in the Commonwealth of Independent States (CIS—Russian Federation, Kazakhstan, and several smaller states). For the former group, output growth is projected to accelerate from 2.3 percent in 2002 to 3.1 percent and 4.3 percent in 2003 and 2004, respectively. Activity is expected to be driven by increased import demand from the EU and by intensification of the EU's accession process. For Turkey (included in this group), assuming that there is relative political stability and that the new government continues to pursue the current reform path, recovery is expected to strengthen in 2003. In contrast, growth is anticipated to ease in the CIS subregion in the years through 2004 (through fiscal and trade linkages to the hydrocarbon exporters in particular), assuming a significant medium-term decline in the oil price. CIS GDP is anticipated to decelerate from 4.4 percent in 2002 to 3.5 percent and 3 percent in 2003 and 2004. These divergent trends combine to shape the path of growth for the broader region, from 3.6 percent in 2002 to an average of 3.5 percent in the years following.

Growth in the Middle East and North Africa (MENA) region is expected to revive in 2003–04 to average 3.6 percent, as hydrocarbon output increases in line with global energy demand, and as accumulated oil-surplus funds are progressively committed and expended on infrastructure and other development activities, especially in Algeria, the Islamic Republic of Iran, and Saudi Arabia. Growth among the diversified exporters should increase to an average of 3.2 percent, as drought conditions ease in Morocco and Tunisia and as fiscal deficits are brought under tighter control and business confidence returns in Egypt—as the government there sets an appropriate interest rate and pushes ahead with policies, such as privatization, that will increase international investor confidence. Risks to this outlook are substantial, however, with political tensions mounting during apparent preparations for military action in Iraq. At this juncture, the baseline does not explore these potential developments, but rather focuses on the country-specific and region-specific economic fundamentals, as well as global factors that contribute to shape the outlook.

—and South Asia

A forecast of consistent growth in the South Asia region (SAR) of well above 5 percent over 2003–04 comes after a significant cyclical downturn in 2001, when manufacturing output in India and Pakistan stopped growing and when GDP growth mainly reflected continued expansion in the service sectors. The main challenge for the subcontinent remains fiscal reforms to curb over-large government deficits and to promote further trade liberalization. With almost-balanced current accounts and with substantial capital flows into Pakistan, external financial tensions remain limited at present. But, it is expected that the effects of accumulated fiscal debt will, at some future point become an obstacle to achieving the acceleration in growth required for substantial alleviation of poverty levels.

Growth in Sub-Saharan Africa (SSA) remains restrained by unfavorable domestic conditions, ranging from civil strife, to droughts, to macroeconomic imbalances, and to the AIDS epidemic. Elements of the external environment should, however, provide some support for a modest acceleration of growth over the next years. Despite a relatively sluggish pickup

in world GDP growth in 2003–04, a robust recovery is anticipated for African trade volumes, ratcheting from growth of 3 percent in 2001 toward 6 percent by 2004. That recovery should be accompanied by generally firmer non-oil commodity prices (exceptions are cocoa and gold, where prices have surged to unsustainable levels). The resulting terms of trade gains should support relatively buoyant external performances by African non-oil exporters. For oil exporters of the region, the price of crude is expected to weaken in the medium term. Even so, oil sectors will remain profitable, and production and export volumes are anticipated to rise—from Nigeria and other producers in the Gulf of Guinea, as well as from Angola's offshore sector.

In the domestic sphere, agricultural production will benefit from a return to more normal weather patterns in southern Africa, thus contributing to a recovery of domestic output and expenditure. On balance, GDP growth for the region is expected to rise from 2.5 percent in 2002 to 3.2 percent in 2003 and 3.8 by 2004. The overall acceleration reflects gains by non-oil exporters, which will more than offset modest retrenchment by oil producers. The current projection for the region represents a slight deterioration of prospects compared with the spring 2002 forecast, which is consistent with the overall downgrading of expectations for world output and trade growth. Nevertheless, though performance will continue to lag behind other developing regions, per capita incomes are set to resume positive growth following several years of stagnation.

Risks to the base case are substantial

The world recovery is clouded by substantial uncertainties in the immediate to near term. These uncertainties carry with them implications for medium-term developments in global growth and financial flows. Among critical factors in the outlook are (a) continued financial turbulence in high-income countries that could jeopardize a rebound in investment; (b) a reversal in capital flows to emerging markets, thereby heightening tensions in several vulnerable middle-income countries; and (c) the risk of higher oil prices, which are associated with prospective developments in the Middle East.

The base case presents a moderate but steady recovery in investment; it effectively rules out financial crises in middle-income countries and foresees a gradual decline in oil prices. If downside risks materialize, adverse outturns in these domains could easily occur at the same time or could, in sequence, reinforce cumulative effects on the economy. To gauge the sensitivity of economic recovery to these risks, we have traced the possible effects on the economic outlook of these elements. The results underscore the set of tensions embedded in the base-case forecast and can illuminate the magnitude of potential downside risk to the projections—with particular focus on the implications for developing countries.[3]

Global recovery could be delayed until 2004

Table 1.3 outlines the global effects of a low-case scenario in which the risks highlighted above occur essentially at the same time, but each of the adverse shocks is fairly short lived. The scenario reflects the joint effects of a temporary relapse to negative growth in the industrial country's investment cycle, of short-lived financial disruptions in several middle-income countries, and of a momentary spike to $45 per barrel (bbl) in world oil prices. The scenario suggests that, rather than an acceleration of global growth in 2003 to 2.5 percent as in the base case, a continuation of sluggish output advance in a range of 1.9 percent could characterize the year. Contrasted with base-case forecasts, cumulative differences over 2003–04 in world trade growth, OECD inflation, and interest rates are fairly substantial. The latter element reflects a strong monetary policy response to the financial and real disturbances of the scenario. OECD output growth is dampened by 1 percentage point, and for developing countries, it is dampened by 0.8 point over the period (figure 1.11).

Table 1.3 Global effects in a low-case scenario, 2003–04

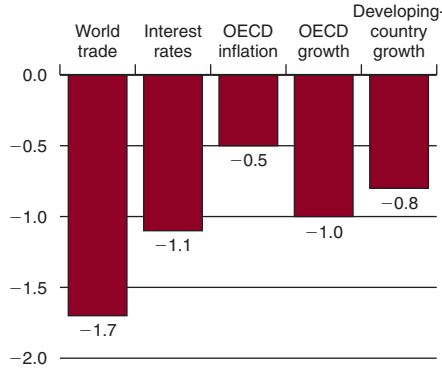
	2003		2004		2003–04
	Scenario	Diff. (base)	Scenario	Diff. (base)	Cum. diff.
GDP growth (%)					
World	1.9	−0.6	2.7	−0.4	−1.0
Industrial countries (OECD)	1.5	−0.6	2.2	−0.4	−1.0
Developing countries	3.0	−0.9	4.8	0.1	−0.8
Consumer price index inflation (%)					
Industrial countries	2.2	0.1	1.2	−0.6	−0.5
Developing countries (median)	5.0	0.6	4.4	0.0	0.6
Short-term interest rates (%)					
Industrial countries	2.9	−0.3	3.3	−0.8	−1.1
Trade volumes (%)					
OECD imports	5.5	−1.3	7.5	−0.4	−1.7
Developing-country exports	9.3	−1.0	9.2	−0.3	−1.3

Source: World Bank, November 2002.

Among industrial countries, growth profiles in the United States and Japan are more adversely affected. This is linked to the relapse of fixed investment spending during 2003, with less room for monetary easing than exists in the Euro Area. Among developing regions, Latin America will feel the initial brunt of diminished capital inflow during 2003 (growth falling substantially below baseline), but it will rebound with some vigor as conditions equilibrate in 2004. East Asia—with strong links to export markets in all three industrial centers—will also suffer a sharp falloff in growth, but less so than Latin America.

Figure 1.11 Low case: world trade and other indicators will be much lower than the baseline

(cumulative differences, 2003–04; low-case scenario versus base-case scenario, percent)



Source: World Bank.

Initially, inflation increases slightly in reaction to the rise in oil price. However, when oil prices start falling again and the effect of lower growth becomes noticeable, inflation will drop in high-income countries, thereby triggering substantial monetary easing compared with the baseline. In developing countries, inflation will remain on average above its base-case level, as higher oil prices are complemented by devaluation of several currencies in reaction to financial tensions.

Table 1.4 breaks out for 2003 the contributions of the individual risk scenarios (outlined below) to the overall low-case simulation. A relapse of investment in the industrial countries carries the largest downside potential to the global outlook, which affects output growth, world trade, and interest rates most acutely. Developing-country growth is more affected under the restraint of capital flow scenario, but is equally diminished by developments under the G-7 investment scenario and by higher oil prices. The latter scenario

Table 1.4 Low case: contributions to global effects in 2003

	Total	Diff. (base)	Investment	Capital flows	Oil prices
GDP growth					
World	1.9	–0.6	–0.3	–0.1	–0.2
Industrial countries (OECD)	1.5	–0.6	–0.3	–0.1	–0.2
Developing countries	3.0	–0.9	–0.2	–0.5	–0.2
Consumer price index inflation (%)					
Industrial countries	2.2	0.1	–0.1	0.0	0.2
Developing countries (median)	5.0	0.6	–0.1	0.1	0.6
Short-term interest rates	**2.9**	**–0.3**	**–0.3**	**–0.1**	**0.1**
World trade	**5.8**	**–1.3**	**–0.9**	**–0.1**	**–0.3**
OECD imports	5.5	–1.3	–1.0	0.0	–0.3
Developing exports	9.3	–1.0	–0.6	–0.2	–0.2

Source: World Bank, November 2002.

prospectively could hamper a fuller easing of monetary policy across the industrial centers, with growth suffering commensurately.

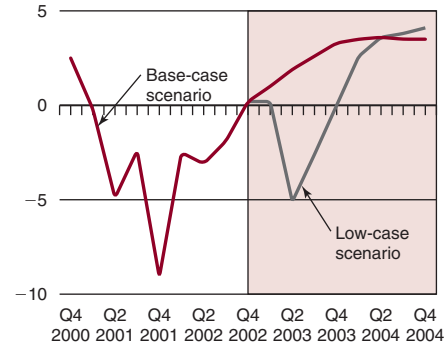
Financial market turbulence in high-income countries could trigger a relapse in the investment cycle—

Though investment growth momentum is now building in selected sectors and countries, the potential for relapse looms large as imbalances and uncertainties remain acute throughout the industrial world. The low-case scenario assumes that the growth of real business investment in industrial countries drops to negative territory (−0.7 percent) during 2003, which would be 3.5 percentage points of growth below the baseline path. Spillovers into 2004 carry cumulative growth differences in capital spending to 6.5 percentage points (figure 1.12).

If one examines the scenario environment among the industrial countries, cumulative inflation over 2003–04 is reduced by 0.5 percent. At the same time, the profile of short-term interest rates reflects reductions that are more than the improvement in inflation performance, which represents a substantial easing of monetary policy in the wake of developments. The rate of unemployment rises by 0.4 percentage points in OECD countries. Among prominent growth effects, industrial country output gains are dampened by 0.4 percent in 2003 and by a further 0.3 percent during 2004, as multiplier effects place pressure on household consumption. With the compression of imports, adverse growth effects in the major industrial countries are transmitted to smaller advanced economies, while weakened demand for commodities places downward pressure on nonenergy prices, thus affecting developing countries' terms of trade adversely. On balance, GDP growth in developing countries will decline by 0.3 percentage points relative to the base figures during 2003–04.

Figure 1.12 G-7 investment falls sharply

(base-case scenario and low-case scenarios, volume growth, percent saar)



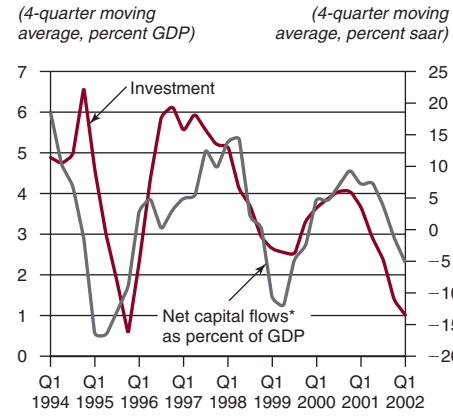
Source: National statistics; World Bank projections.

—while financial tensions pose difficulties for emerging markets—

Under a scenario of substantially lower inflows of private capital into countries with weak or declining credit ratings and with large financing requirements, interest rates rise, exchange rates depreciate, or both, which raises the cost of servicing debt and results in difficulties in meeting debt payments for both the public and private sectors. To understand the possible implications of such development, we performed a simulation in which capital flows to selected emerging market countries were assumed to drop by 15 percent below the baseline forecast in 2003, while spreads on international debt would increase substantially.

With these assumptions, the Latin America region will suffer an average falloff in output growth of 1.9 percentage points compared with the baseline in 2003. Rebound in response to eventual equilibration in exchange and interest rates, as well as to falling risk spreads, should be grounded in stronger exports, and output growth rises some 0.9 percentage point above the base in 2004. The cumulative fall in regional growth amounts to 1.1 percentage points during 2003–04. This fall is a reflection of the strong dependence of Latin America on capital inflows, whereas reversals in capital flows tend to have far-reaching consequences for domestic economies in that region (figure 1.13). Central Europe is another region that is affected by the reversal in international capital flows, although the greater diversity within the region makes the overall effect smaller than for Latin America.

Figure 1.13 Investment growth and net capital flows* into Latin America are strongly correlated



*Net capital flows defined as CAD—addition to reserves-IMF funds.
Source: Datastream and World Bank staff estimates.

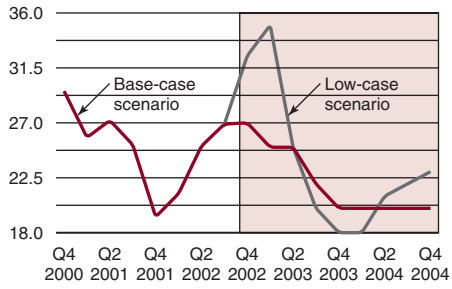
—and higher oil prices could temporarily (yet moderately) dampen recovery

Crude oil prices have risen to more than $29/bbl because of expectations of a supply disruption in Iraq and of increasingly tighter market fundamental conditions. Crude oil stocks fell sharply in the third quarter of 2002, particularly in the United States. The drop was due to high runs of refined products, a decline in Iraqi crude exports, and continued restraint by OPEC to limit exports in support of higher prices. A so-called war premium on prices has been estimated at up to $8–$9/bbl. The base case assumes that the oil market normalizes with further increases in non-OPEC supply, with a modest rise in OPEC quota, and with a dissipating of the war premium. These assumptions might turn out to be too optimistic.

With continued tensions in the Middle East and with the possibility that, for example, some 2 million barrels per day (mb/d) of Iraqi oil exports would be temporarily lost to the market, oil prices might rise well above $30/bbl—partly because of low stocks and tight market conditions—and might peak at $45/bbl during the height of the disruption. However, it is likely that any loss in supply will eventually be replaced by other OPEC producers. They currently have about 5 million barrels per day (mb/d) of spare capacity—of which Saudi Arabia alone has some 3mb/d. Or supply will otherwise be replenished. Prices could fall relatively quickly below $20/bbl by 2004 before OPEC begins to restrain output as world demand increases, as the organization attempts to bring prices back into its target price band of $22–$28/bbl (figure 1.14).

Figure 1.14 Oil prices spike

(base-case and low-case scenarios; oil price $/bbl)



Source: World Bank data; World Bank projections.

On a cumulative basis, a $2.50/bbl increase in oil price above baseline levels (but with dynamics as outlined above) will yield a moderate fall in global growth of 0.1 percent during 2003–04. Effects during 2003 will be somewhat more pronounced, however: a drop in world output of 0.2 percentage points. Inflation and interest rates in the industrial countries will be boosted modestly, by some 0.2 and 0.1 percentage points, respectively.

Investment cycles in developing countries

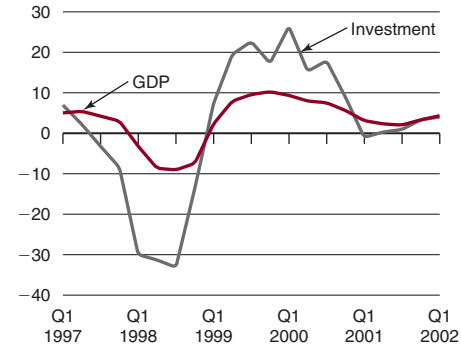
For developing countries, the risk of an untimely interruption to the recovery in global investment comes after a period of sharp swings in investment in the past five years. During the East Asian crisis, investment fell at an annual rate of 30 percent, three times the fall in output (figure 1.15). Crises in Argentina and Turkey dominated recent developments in Latin America and Central Europe, respectively, with regional investment declining at annual rates of 15–20 percent (figures 1.16 and 1.17). The dynamics of investment are much more forceful than that of output.[4]

This section looks at three important patterns:

- The volatility of investment, relative to the volatility of output, and comparisons of developing with high-income countries.
- The effects of improvements in the investment climate on the volatility of investment and output.
- The role of capital flows that influence the investment cycle in developing countries.

Figure 1.15 Investment is more volatile than GDP in East Asia

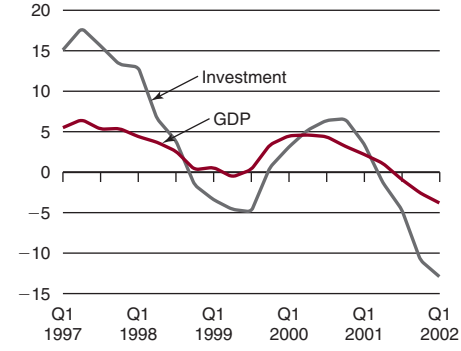
(4-month moving average, percentage change q/q, saar)



Note: Indonesia, Rep. of Korea, Malaysia, Philippines, and Thailand.
Source: Datastream and World Bank staff estimates.

Figure 1.16 Investment is more volatile than GDP in Latin America

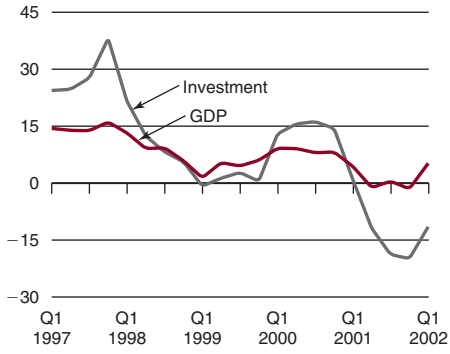
(4-month moving average, percentage change q/q, saar)



Note: Argentina, Brazil, Chile, and Mexico.
Source: Datastream and World Bank staff estimates.

Figure 1.17 Central Europe and Turkey experience greater volatility in investment than in GDP

(4-month moving average, percentage change q/q, saar)



Note: Czech Republic, Poland, and Turkey.
Source: Datastream and World Bank staff estimates.

Table 1.5 Relative volatility of investment is high in developing countries

	1971–80	1981–90	1991–2000
Low income	4.6	5.2	7.6
Middle income	4.9	3.6	4.5
High-income OECD	2.9	3.2	3.5

Note: This table presents unweighted averages of country-specific standard deviations of investment growth as a ratio to the unweighted average of standard deviations of GDP growth.
Source: World Bank.

Investment cycles are more pronounced in lower-income countries than in higher-income countries

The volatility of investment growth relative to the volatility of output growth is twice as large in low-income countries as in high-income economies—and volatility has increased over time (table 1.5). An understanding of the investment cycle is pivotal to the explanation of overall cyclical behavior in developing countries.

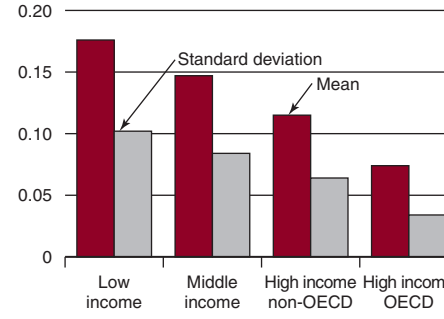
A similar picture emerges if one examines a different measure of the cyclical component of investment, namely the percentage deviation from trend.[5] Figure 1.18 displays the mean and standard deviation of that measure for some 160 countries over the 1990–2000 period.[6] The volatility of the cyclical components of investment declines steeply with higher income per capita.

Explanations for the high volatility of investment in low- and middle-income countries will vary from large external shocks relative to the size of the country to a poor investment climate. Properly functioning domestic financial institutions may smooth cycles by allowing additional savings to be channeled to investors during downturns.

Poor countries, on average, tend to be relatively small economies. Thus, the GDP of an average low-income country during the 1990s was $25.6 billion, barely 2.5 percent of the average high-income country. Baxter and Crucini (1993) and Crucini (1997) argue that, as a result, external shocks are relatively large in proportion to GDP, which explains reasonably well the patterns observed in figure 1.18. For example, international capital flows can easily be much larger from the standpoint of a small country, and reversals in capital flows can have a relatively large effect. The decision by a French multinational to invest $100 million in Senegal instead of at home would reduce France's investment spending in 2000 by

Figure 1.18 Investment volatility declines with income

(mean and standard deviation of volatility of investment)



Note: Investment volatility is defined as the standard deviation of the deviation from (HP filtered) trend.
Source: World Bank staff estimates.

just 0.04 percent, but it would raise Senegal's investment by 11.5 percent. The effects on the two economies of such a decision would be disproportionate. Similarly, idiosyncratic shocks—economic, weather-related, or the reflection of civil strife—have a relatively large effect on smaller countries. Low levels of development and small size will tend to imply less diversification in the output and export mix but stronger dependence on commodity prices, so that poor countries' terms of trade will tend to be more volatile than those of OECD countries.

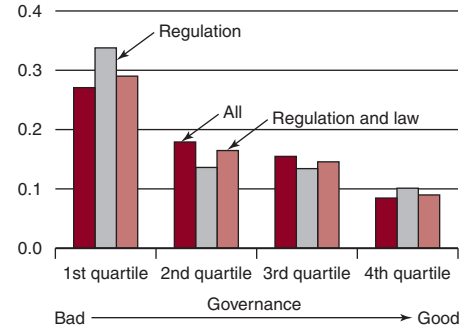
Improvements in the investment climate can reduce volatility

The quality of the *investment climate*, extensively discussed in the following chapters of this report, appears to be highly correlated with investment volatility. If one examines the investment climate, several candidates are available to proxy for this environment, all of which correlate highly with one another. Figure 1.19 is based on the quality of governance indicators compiled by Kaufmann, Kraay, and Zoido-Lobatón (2002), which have the advantage of comprehensiveness. Six subindexes attempt to capture various dimensions of policy and institutional quality. An unweighted average of all six is identified in the figure as "All." Meanwhile, two of the subcomponents seem especially pertinent to measuring the investment climate: "regulatory burden," which reflects the incidence of market friendly policies, and "rule of law," which measures respect for society's rules. "Regulation" consists of the first of these, while "Regulation and Law" is an average of the two. All three indexes show a similar pattern of declining volatility as the policy environment improves, suggesting the finding is robust.

One concern about the evidence presented in figure 1.19 is that all three indexes correlate very highly with income.[7] However, in regressions that explain volatility with both income and governance as explanatory variables, the coefficient for governance tends to be more significant than is the coefficient for income.

Figure 1.19 A better investment climate reduces volatility of investment cycles

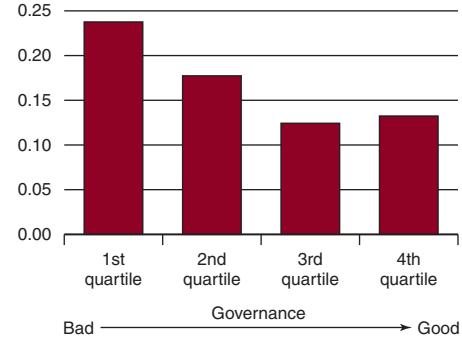
(standard deviation of cyclical component of investment)



Source: World Bank staff estimates using governance indicators developed by Kaufmann, Kraay, and Zoido-Lobatón (2000).

Figure 1.20 Impact of policy climate on investment volatility after correcting for income remains strong

(standard deviation of cyclical component of investment)



Source: World Bank staff estimates using governance indicators developed by Kaufmann, Kraay, and Zoido-Lobatón (2000).

The independent effect of governance on volatility can be shown in a different way. Figure 1.20 repeats the analysis, but it corrects for the possible influence of income by first regressing the governance index on income and then examining the relationship between the volatility of investment cycles and the residuals

from this regression (that is, in relation to that part of the governance indicator that is not correlated with income). Investment volatility continues to fall with a better investment climate.

International net capital inflows are procyclical, both in developing and high-income countries—

Because investment cycles are more pronounced than output cycles, investment as a share of GDP tends to rise during a boom and to decline during a downturn. For countries at all income levels, financing of the increase in the investment ratio during a boom comes from both domestic and foreign sources. During an upturn, domestic savings rates normally build, while current accounts deteriorate (table 1.6). In other words, foreign investors turn away during downturns, while domestic consumers reduce their savings and increase their consumption as a share of income. Clearly, procyclical capital flows do not prevent consumers from absorbing shocks by smoothing consumption over time (box 1.4).

Table 1.6 Upturns can be financed abroad and domestically

Correlation of cyclical investment components with changes in …	Low income	Middle income	High income OECD
Current account (as % of GDP)	−0.21	−0.39	−0.43
Domestic savings (as % of GDP)	0.16	0.16	0.45

Note: The table shows unweighted averages of correlation coefficients of variables in individual countries.
Source: World Bank.

—but capital flows tend to trigger domestic cycles in middle-income countries

Both "push" and "pull" factors are responsible for the procyclical nature of capital inflows. In a downturn, demand for investment financing is reduced as firms postpone investment plans and reduce capital stocks (the pull factor). At the same time, financial investors look for less risky or risk-free investments and show little appetite to invest in countries and sectors that suffer from declining growth and profit rates (the push factor). For developing countries, the push factors have often been emphasized as a major challenge. Sharp increases in external finance frequently preceded severe crises (such as in Mexico, East Asia, and Turkey), which were triggered by sudden reversals of these flows. The dynamics of net capital inflows and the changes of official reserves over the cycle do indeed indicate that the push factor is more important for middle-income countries, while the pull factor dominates in high-income countries. Net foreign capital inflows actually lead the domestic investment cycle in middle-income countries, while they lag the cycle in high-income countries. For example, one-year-lagged capital inflows are correlated with investment by 0.27 in middle-income countries, compared with a correlation of only 0.08 for high-income countries. In middle-income countries, one-year-lagged capital inflows are as strongly correlated with the domestic investment cycle as they are with contemporaneous capital inflows (table 1.7). In high-income countries, a one-year lead in capital inflows is, by contrast, as strongly correlated

Table 1.7 Capital inflows lead investment in middle-income countries: correlation between investment ratios and (past or future) capital flows

	2-year lag	1-year lag	No lag or lead	1-year lead	2-year lead
Net capital inflows					
Low income	−0.09	0.09	0.21	0.07	−0.01
Middle income	0.13	0.27	0.35	0.10	−0.11
High income (OECD)	−0.20	0.08	0.32	0.35	0.25

Source: World Bank staff estimates.

Box 1.4 Consumption in low- and middle-income countries is smoothed over the business cycle

In all country groupings, the savings rate is positively (or the consumption rate is negatively) correlated with GDP growth in the short run (see box figure). The correlation is relatively weak for developing countries, but that weakness is mainly because GDP is an inaccurate measure of income in the presence of terms-of-trade shocks. Real growth of gross national income (GNI), which includes terms-of-trade gains and losses, is much more volatile than growth of real GDP in developing countries. In industrial, high-income countries, the terms of trade have a much smaller effect (see box table). The correlation between the savings rate and real growth of GNI is decisively more similar across countries.

The strong evidence of consumption smoothing in low- and middle-income countries is remarkable, because the conditions in such countries for absorbing fluctuations in income are less favorable than in high-income countries. First, domestic credit markets tend to function less smoothly, and access to international capital markets is more difficult than in high-income countries. Second, as far as fluctuations in income are caused by terms-of-trade shocks, the smoothing of consumption over time is less attractive than in the case of volume shocks, which prevail in high-income countries. If, for example, import prices fall, the decline in price amounts to a rise in income, which could trigger an increase in the savings rate. However, a temporary price fall implies a future price rise, making future spending of current savings less attractive. In the case of a temporary rise in the volume of income, it is more appealing to save now and spend later, when income is back at a lower level.

Despite these impediments, developing countries' consumption is being smoothed over the business cycle, providing relief for consumers and supporting domestic financing of procyclical investment ratios.

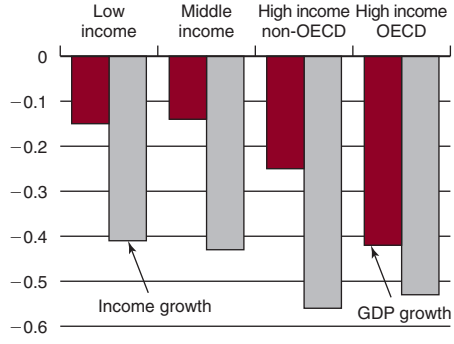
Relative and increasing vulnerability of low-, middle-, and high-income countries to terms-of-trade shocks

	1971–80	1981–90	1991–2000
Low income	2.1	2.2	2.8
Middle income	1.9	1.8	2.2
High income (non-OECD)	2.8	1.5	1.5
High income (OECD)	1.4	1.3	1.3

Note: Standard deviation of national income growth/standard deviation of GDP growth.
Source: World Bank data.

Consumption smoothing is strongest in high-income countries

(correlation of change in average propensity to consume and GDP growth)



Source: World Bank staff estimates.

Source: World Bank staff.

with the domestic investment cycle as with contemporaneous capital inflows.

The picture of capital inflows being a push factor for middle-income countries is strengthened when one considers the behavior of official reserves. Some of the foreign capital inflow that precedes a domestic investment boom in middle-income countries is temporarily accumulated as foreign reserves, while capital outflows that precede a domestic bust are

temporarily absorbed by reductions in official foreign exchange reserves.

In low-income countries, capital inflows are also procyclical, but the correlation with the domestic cycle is less significant. The weaker correlation reflects the specific character of these flows—official aid and FDI are less cyclical—and also the dependence of those countries on commodity prices. Part of the financing for investment booms comes not from foreign borrowing, but from increased export revenues as a result of terms-of-trade gains. Similarly, investment busts are not necessarily driven by a reversal of capital flows, but they can originate from terms-of-trade losses.

On the basis of these relationships, it appears that cycles are still a prominent feature of macroeconomic developments, which is even more important in developing countries than in industrial countries, and cycles were more pronounced during the 1990s than during earlier decades. Investment swings are financed both domestically and abroad, which makes current account deficits and capital inflows strongly procyclical. A major difference between developing countries and high-income countries is that middle-income countries are more exposed to independent reversals in capital flows, while capital flows are more accommodating in high-income countries, and the cyclical dynamics in low-income countries are to a significant extent influenced by terms-of-trade shocks and idiosyncratic disturbances.

Growth and poverty to 2015: coming changes in savings and investment patterns

After an impressive wave of market reforms and increased openness in developing countries during the 1990s—both of which prompted acceleration of technological progress and brought about a more stable macroeconomic environment—long-term economic growth prospects for developing countries are relatively optimistic. If the projections come to pass, growth patterns could lead to a significant reduction of poverty. Thus, the millennium development goal of halving poverty by 2015 could be reached on a global level, although growth will be insufficient to achieve poverty targets in all regions. At the same time, financial imbalances and volatility in international capital flows continue to jeopardize uninterrupted growth. Vulnerable countries will benefit from further debt reduction in their pursuit of sustained high growth.

The acceleration of growth in developing countries is expected to coincide with increases in investment ratios. Saving rates are also expected to increase, driven particularly by a declining proportion of youths and by the need for adults to save for retirement. Opposite movements are expected in industrial countries, where aging is bound to reduce savings rates and where a sharp decline in population growth will suppress investment ratios.

The long-term forecast suggests that, on balance, net inward capital flows toward developing countries could well decline, though gross flows will continue to play an important role in enhancing growth potential. These changes in global savings and investment behavior raise questions about the critical role of financial integration and the need for improvements in international financial intermediation.

Long-run per capita growth is expected to accelerate—

Developing-country growth, on a per capita basis, is projected to more than double during the 10-year period from 2005 to 2015 when compared with the performance of the 1990s (table 1.8). This projection reflects substantially improved growth prospects for Europe and Central Asia—leaving behind sharp contractions that characterized the transition to market economies during the 1990s—and for Sub-Saharan Africa. For Africa, the scenario is predicated as a continuation of broad trends toward better governance and economic policies, of progress toward resolving conflicts and diversification away from agriculture, and of export dependence on primary commodities.

Table 1.8 Long-term prospects are projected to be stronger for most regions
(real GDP per capita, annual average percentage change)

			Forecast scenario	
			Medium term	Long term
	1980s	1990s	2001–05	2006–15
World total	**1.3**	**1.2**	**1.1**	**2.1**
High-income countries	**2.5**	**1.8**	**1.5**	**2.4**
OECD	2.5	1.8	1.5	2.4
United States	2.2	2.2	1.6	2.4
Japan	3.5	1.2	0.4	2.0
European Union	2.1	1.7	1.9	2.4
Non-OECD countries	3.3	3.6	1.7	3.3
Developing countries	**0.7**	**1.6**	**2.4**	**3.5**
East Asia and the Pacific	5.6	6.4	5.1	5.4
Europe and Central Asia	0.7	–1.9	3.3	3.4
Latin America and the Caribbean	–0.9	1.6	0.3	2.6
Middle East and North Africa	–0.6	1.0	1.3	1.3
South Asia	3.4	3.3	3.5	4.0
Sub-Saharan Africa	–1.2	–0.4	0.8	1.6

Note: Aggregations are moving averages, reweighted annually after calculations of growth in constant prices.
Source: World Bank.

At the same time, a lack of human capital, poor infrastructure, and the AIDS epidemic remain pressing problems.

Per capita growth in Latin America is expected to accelerate by 1 percentage point under this scenario, but as a result of slowing population growth, the acceleration of real GDP growth is small. Latin American countries are expected to have benefited from reform efforts during recent years and from sustained improvements in macroeconomic stability. The East Asia and Pacific Region should witness a declining per capita growth rate from 6.4 percent in the 1990s to 5.4 percent in the longer term, as economies mature and as options for rapid catching up become less abundant. Per capita growth in the rest of the world, including South Asia, the Middle East and North Africa, and high-income countries, is projected to accelerate moderately.

—leading toward significant poverty reduction

As projected in previous *Global Economic Prospects (GEP)*, achieving the millennium development goal of halving extreme poverty by 2015 from the 1990 poverty level should be achieved on a global level, though with wide regional disparities. The revised poverty projections indicate a poverty rate of some 13.3 percent in 2015 compared with 29.6 percent in 1990. The actual number of poor would decline to around 809 million from 1.3 billion in 1990 and 1.1 billion in 1999. Asia should readily achieve the target, but the MENA and SSA regions will make little progress in improving poverty incidence (table 1.9).

Though the central message remains the same, the long-term outlook reflects rather significant changes from last year's forecasts. These changes are a combination of three factors:

- The economic projections reflect recent trends and a downgrading of the medium-term forecast, as detailed earlier in the chapter, page 5. The long-term forecast has remained relatively unchanged, but lower growth—actual and forecast—between 2000 and 2005 has slightly

worsened the poverty forecast, all else being equal.

- New surveys and methodology have significantly altered the 1999 estimate of poverty incidence. For developing countries, this change has led to a 1.6 percent rise in the estimate of the number of poor living on less than $1 per day. However, the revisions are not uniform across regions. There is a significant rise in East Asia and in Europe and Central Asia, while the estimated number of poor has dropped in Latin America.[8]
- The third factor is the change in the relation between economic growth and poverty reduction. This relation has been re-estimated using the new survey data. Overall, the relationship has weakened (that is, for the same growth rate, the rate of poverty reduction has declined).

The reader should bear in mind that these numbers are sensitive to the poverty line chosen and underlying assumptions and data (see box 1.5).

The relation between growth and poverty may not have changed in a fundamental way, but the change may be a consequence of past trends at a more disaggregated level. Recent studies[9] of poverty trends in India indicate that poverty has been successfully reduced in a number of states in which growth rates are high and in which the responsiveness of poverty reduction to growth is likewise higher. Moreover, the evidence suggests that these regions had significantly better initial conditions

Table 1.9 Large poverty reductions in EAP and SAR partially offset by poverty increases in SSA

	Number of people living on less than $1 per day (millions)					
	GEP 2002			*GEP 2003*		
Region	1990	1999	2015	1990	1999	2015
East Asia and Pacific	452	260	59	486	279	80
Excluding China	92	46	6	110	57	7
Europe and Central Asia	7	17	4	6	24	7
Latin America and the Caribbean	74	77	60	48	57	47
Middle East and North Africa	6	7	6	5	6	8
South Asia	495	490	279	506	488	264
Sub-Saharan Africa	242	300	345	241	315	404
Total	1,276	1,151	753	1,292	1,169	809
Excluding China	916	937	700	917	945	735

	$1 per day headcount index (percent)					
	GEP 2002			*GEP 2003*		
Region	1990	1999	2015	1990	1999	2015
East Asia and Pacific	27.6	14.2	2.8	30.5	15.6	3.9
Excluding China	18.5	7.9	0.9	24.2	10.6	1.1
Europe and Central Asia	1.6	3.6	0.8	1.4	5.1	1.4
Latin America and the Caribbean	16.8	15.1	9.7	11.0	11.1	7.5
Middle East and North Africa	2.4	2.3	1.5	2.1	2.2	2.1
South Asia	44.0	36.9	16.7	45.0	36.6	15.7
Sub-Saharan Africa	47.7	46.7	39.3	47.4	49.0	46.0
Total	29.0	22.7	12.3	29.6	23.2	13.3
Excluding China	28.1	24.5	14.8	28.5	25.0	15.7

(continued on page 31)

Table 1.9 (continued)

	Number of people living on less than $2 per day (millions)					
	GEP 2002			*GEP 2003*		
Region	1990	1999	2015	1990	1999	2015
East Asia and Pacific	1,084	849	284	1,114	897	339
Excluding China	285	236	93	295	269	120
Europe and Central Asia	44	91	42	31	97	45
Latin America and the Caribbean	167	168	146	121	132	117
Middle East and North Africa	59	87	65	50	68	62
South Asia	976	1,098	1,098	1,010	1,128	1,139
Sub-Saharan Africa	388	484	597	386	480	618
Total	2,718	2,777	2,232	2,712	2,802	2,320
Excluding China	1,919	2,164	2,041	1,892	2,173	2,101

	$2 per day headcount index (percent)					
	GEP 2002			*GEP 2003*		
Region	1990	1999	2015	1990	1999	2015
East Asia and Pacific	66.1	46.2	13.5	69.7	50.1	16.6
Excluding China	57.3	40.4	13.3	64.9	50.2	18.4
Europe and Central Asia	9.6	19.3	8.7	6.8	20.3	9.3
Latin America and the Caribbean	38.1	33.1	23.4	27.6	26.0	18.9
Middle East and North Africa	24.8	29.9	16.7	21.0	23.3	16.0
South Asia	86.8	82.6	65.5	89.8	84.8	68.0
Sub-Saharan Africa	76.4	75.3	68.0	76.0	74.7	70.4
Total	61.7	54.7	36.3	62.1	55.6	38.1
Excluding China	58.8	56.5	41.0	58.7	57.5	44.7

Note: The GEP 2002 figures include the Republic of Korea, which has been reclassified into the high-income group.
Source: World Bank staff estimates.

Box 1.5 Is the World Bank overestimating global poverty?

A recent study (Bhalla 2002) concludes that the World Bank has overestimated the number of poor in developing countries, and that the millennium development goal of halving extreme poverty by 2015 (from its 1990 level) was already achieved in 2000. The study estimates that the percentage of poor in developing countries in 2000 was only 13.1 percent and that the World Bank's estimate is 10 percentage points higher (see table 1.9). Three differences between the Bhalla estimates and the World Bank's explain Bhalla's different conclusion. These differences include the choice of the poverty line, his use of secondary data sources rather than primary surveys, and consumption adjustments. These differences highlight the complexity in counting the number of poor and are described here. A more complete critique of the Bhalla study can be found in a separate paper (Ravallion 2002).

The World Bank has chosen to use $1 per day and $2 per day poverty lines for global estimations, roughly spanning the range of national poverty lines in developing countries. Bhalla uses $1.50 per day. Because the cost of purchasing 2,200 calories differs from country to country, each country estimates its

Box 1.5 *(continued)*

own national poverty line. This approach also reflects the fact that the nature of poverty varies significantly across and within countries. Moreover, poverty has many dimensions: inadequate consumption of essential commodities, as well as low life expectancy, high child mortality, and low school enrollment rates, among other attributes related to the quality of life. Poverty is also a relative and subjective concept. What is deemed a necessity in some countries (for example, indoor plumbing in rich countries) may be a luxury in others. In Latin America, the regional estimate for the percentage of people living in extreme poverty is 17.8 percent in 1998 (Wodon and others 2002), compared with 11.1 percent in 1999 using the $1 per day poverty line. The former is based on national poverty lines and is from a regional perspective. This higher number—arguably a more accurate reflection of the incidence of poverty from a social point of view—is more relevant in determining policies for reducing poverty. However, for purposes of global comparisons, the World Bank has tried to select a level of real consumption that best measures the same level of consumption across countries so it can make aggregate judgments independent of where the poor live.

Unlike the Bhalla study—which relies on aggregate secondary data sources—the World Bank's poverty estimates rely exclusively on primary data from comprehensive household surveys. Since the 1980s, the World Bank and developing-country governments have been actively involved in undertaking national household surveys to get an accurate picture of the distribution of consumption across individuals. To date, more than 300 comprehensive surveys have been collated and used to estimate the number of poor. Currently, the surveys cover more than 90 countries, with surveys available for various years for most counties. The surveys used all have national coverage. They include consumption from own-production—a key feature in many developing countries—and the calculations are properly weighted to reflect survey design and differences in household size. Consumption is deemed to be the preferred measure to income, but income is used when consumption is not available.

Finally, Bhalla's study makes consumption adjustments, which may not be warranted and could lead to a biased poverty estimate. The headcount index (that is, the percentage of the population living at or below the poverty line) is calculated using an estimate of the per capita consumption level relative to the poverty line. There can be significant discrepancies between the survey-based mean consumption and the mean consumption as measured by the national accounts. Part of this discrepancy is explained by the way consumption is estimated in the national accounts (which typically includes consumption of non-household private agents such as nonprofit organizations). Other discrepancies can arise from measurement error (for example, misreporting of consumption in surveys). Adjustments for these discrepancies can lead to different estimates of poverty. If, for example, the misreporting is biased toward high incomes—that is, if only rich households underreport consumption in the surveys—and if an upward adjustment is applied to all households (including the poorest), then the number of poor will clearly be underestimated (see Ravallion 2002). The World Bank's poverty estimates rely on the survey-based consumption levels.

Transparency in the methodology and data used to assess the level of poverty is critical in this debate regarding how to count the number of poor. The ability of different researchers to easily assess and compare results will lead to improved estimates and to a better understanding of the nature of poverty and policies that accelerate poverty reduction.

Source: World Bank staff.

than did states with lower growth rates. This evidence implies that progress in the future will be harder to achieve with the same national growth rate. Poverty-reducing policies will, therefore, have to focus on raising the initial conditions in the laggard states and should not rely exclusively on raising the national growth rate.

The number of poor in last year's report was projected to be 753 million in 2015,

or a headcount rate of 12.3 percent. The current forecast shows the number of poor will decline to only 809 million by 2015, or a headcount rate of 13.3 percent. This change represents a 7.4 percent increase when compared with last year's figure. The percentage increase can be decomposed into two factors. The higher initial level of the number of poor in 1999 would lead to an increase of 2.3 percent in the 2015 forecast, all else being equal. The remaining 5.1 percent of the increase in the forecast is attributed to a weakening of the relation between growth and poverty.

Population, savings, and investment are factors underlying the long-term forecast

Some developing regions will need to see a reversal in performance of underlying growth factors—particularly in productivity and in savings and investment—from the last decade. That reversal should show either changes to policies or persistence with ongoing reforms. Assessing the factors underlying the long-term forecast—population and labor supply, technological progress, and savings and investment—will elucidate some of the underlying dynamics in the long-term growth forecast and its policy implications.

Population growth will ease in all regions—

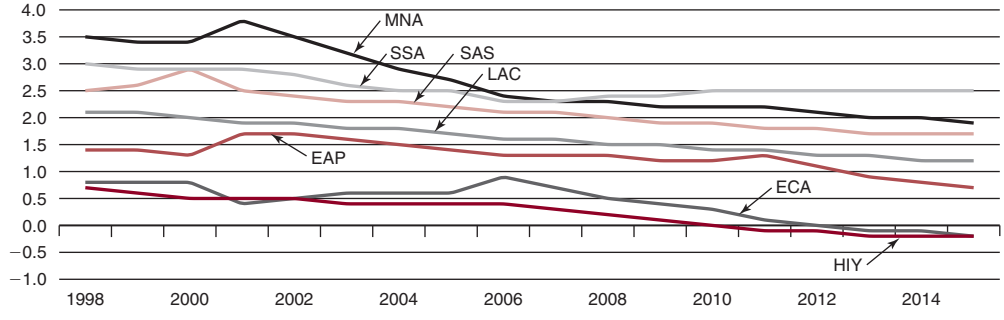
In virtually all countries, growth of the working-age population is slated to decline over the next 15-year period, thereby affecting labor supply and thus contributing less to GDP growth in the long run (figure 1.21). High-income countries and those in Europe and Central Asia are likely to see an absolute drop in the working-age population by 2015. Developing regions will see a slower pace of decline, although East Asia is expected to see its growth rate halved to 0.7 percent per year by the end of the period.[10] A slower growth rate in the labor force means that achieving the same rate of per capita growth will require an acceleration of investment, a higher level of productivity, or a combination of both.

—but technological progress should accelerate

The role of total factor productivity (TFP) growth in determining growth rates has been the subject of significant research over the past decade (see box 1.6), but there is a growing consensus that technological advances and efficiency improvements are pivotal determinants of growth patterns. If one looks forward, many countries are expected to reap the

Figure 1.21 Growth of working-age population decelerates

(annual growth of population for ages 15 to 65)



Note: HIY refers to high-income countries; SSA refers to Sub-Saharan Africa; EAP refers to East Asia and Pacific; SAS refers to South Asia; ECA refers to Eastern Europe and Central Asia; MNA refers to Middle East and North Africa; LAC refers to Latin America and the Caribbean.

Source: World Bank staff demographic projections.

Box 1.6 Technological progress is an important determinant of growth

A growing consensus in the economic literature is that TFP accounts for the bulk of cross-country differences in the level of income and the rate of GDP growth (Easterly and Levine 2001).[11] Whether TFP or capital and labor accounted for the bulk of income differences among countries has been an issue of dispute since seminal articles by Denison (1972) and Jorgenson and Griliches (1967, 1972). The debate sharpened in the 1990s when a number of comparative growth studies found that the success of the East Asian Tigers was driven mostly by increases in capital and labor rather than by increases in TFP (Young 1992, 1995; Collins and Bosworth 1996). Because capital is subject to diminishing returns, such studies implied that the high rates of growth achieved in East Asia were not sustainable (Krugman 1994).

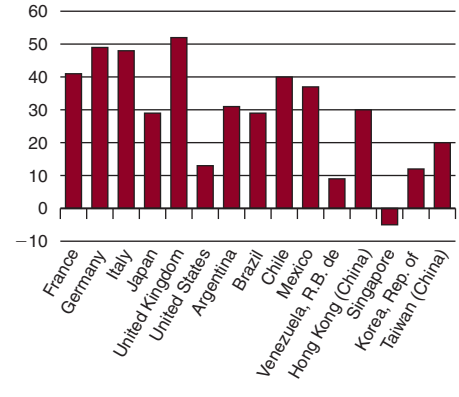
More recently, the weight of evidence appears to be moving toward the conclusion that TFP is the main driver of growth. The East Asian studies have been criticized for not accounting for the role that technological progress plays in encouraging greater capital accumulation (Hulten 2000; Barro and Sala-i-Martin 1992).[12] Nelson and Pack (1999) emphasize that learning, technology absorption, and forceful entrepreneurship were critical to the success of large investments in physical and human capital. Klenow and Rodríquez-Clare (1997) estimate that TFP made an important contribution to growth in all of the East Asian "miracle" economies, except Singapore. Easterly and Levine (2001) summarize studies that show TFP accounts for more than 40 percent of output growth in most of the industrial countries, 30 percent or more in most Latin American countries, and a wide range (from −5 percent to 30 percent) in East Asia (box figure). Some writers attempt to refine estimates of the contribution of TFP to growth by incorporating some measurement of the quality of inputs—for example, adjusting data on labor input for the degree of education or training (see Easterly and Levine 2001 and Parente and Prescott 2000 for recent contributions). In general, efforts have not been successful in greatly reducing the amount of growth or income differences that are accounted for by TFP.

The evidence that growth in TFP is the main driver of economic growth is essentially an optimistic sign for developing countries, because constraints on domestic resources and access to external financing severely limit a country's ability to raise growth rates by increasing the volume or improving the quality of physical and human capital. To the extent that differences in TFP growth will reflect differences in technology, then developing countries (which are well below the technological frontier) can potentially achieve high "catch-up" rates of growth by importing technology. Parente and Prescott (1994) see the main source of cross-country productivity differences as stemming from policy-induced barriers to adopting advanced technology. TFP growth also reflects other aspects of economic efficiency that are amenable to change through improving policies. For example, policies that increase competition may raise TFP by improving the allocation of labor and capital and by increasing the ability of the economy to respond to changes in the economic environment (Easterly and Levine 2001; Solow 2001; Hulten 2000).

Critiques of using this accounting approach include the fact that it typically relies on various restrictive assumptions (for example, constant returns to scale and competitive markets) that may not hold in reality (although models that incorporate

TFP is a major contributor to growth

(percent)



Source: Easterly and Levine (2001).

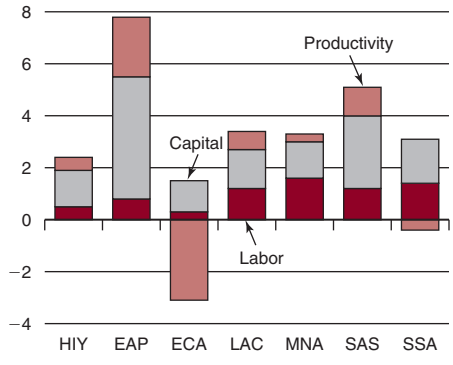
Box 1.6 *(continued)*

market imperfections also confront difficult econometric problems; see Brock and Durlauf 2001). Often, key parameters, such as the share of capital in output, are assumed to be based on limited empirical work (Senhadji 2000). Solow (2001) notes that the growth-accounting framework assumes that the economy is moving along the potential output frontier. In developing countries, the volatility of the business cycle means that actual output may be considerably different from potential at any point in time. Thus, growth-accounting estimates using time series data may be biased by differences between potential and actual output levels at the beginning and end points, even if a considerable time period is covered. Finally, growth accounting generally does not reflect either improvements in the quality of goods or the introduction of new products, which are also important for welfare (Hulten 2000). Those criticisms underscore the substantial methodological and measurement difficulties involved in quantifying the contribution of inputs and productivity to growth rates. Nevertheless, as Hulten (2000) stresses, this approach has provided a simple and internally consistent intellectual framework that has been used to gain vital insights into the process of economic growth.

Source: World Bank staff.

Figure 1.22 Productivity has not been the dominant source of growth in regions

(average percent per annum 1990–2000)



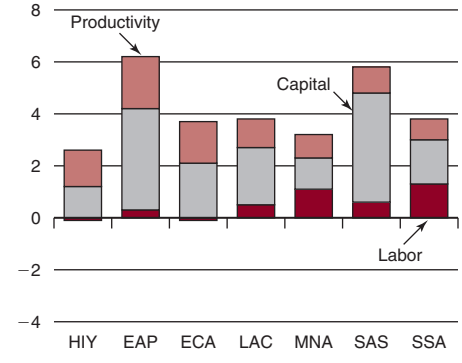
HIY = high-income countries.
Source: World Bank staff estimates.

benefit of reforms undertaken during the past 10 years. These benefits will likely show up as an acceleration of technological progress (figures 1.22 and 1.23). Among industrial countries, those countries in Europe will see accelerating benefits from the single currency plus greater capital and labor mobility. Japan, though still burdened with significant problems in its financial sector, is witnessing changes in its service sectors, which will have long-term payoffs. Both Europe and Japan, although lagging somewhat behind the United States, have the opportunity to reap gains from improved use of information technologies.

The East Asia region has been the leader among developing regions in terms of accelerating productivity over the past two decades. It has built on compositional shifts (from agriculture to manufacturing and services),

Figure 1.23 Productivity is expected to be more significant in the longer term

(average percent per annum 2005–15)



HIY = high-income countries.
Source: World Bank staff estimates.

educational improvements, and productivity-enhancing policies (for example, increasing openness). The region will continue to benefit from good policies and compositional shifts. After all, the largest country in the region, China, still has more than 60 percent of its work force in agriculture. However, as the gap with technologically more advanced countries closes, the opportunities for extreme advances in productivity diminish.

Europe and Central Asia is benefiting from the substantial reforms of the 1990s, accompanied by large FDI flows. Moreover, many of the accession countries will accelerate the reform process in preparation for joining the EU early in the forecast period.

In Latin America, progress has been visible regionwide. As has been positively demonstrated by Chile and Mexico, openness and stability are key elements in providing sustainable growth. A recent study of Latin American growth over the past three decades concludes that structural reforms and stabilization policies accounted for a large contribution to the overall acceleration in the rate of growth in the 1990s compared with the "lost decade" of the 1980s.[13] These trends are expected to continue in the next decade, with increasing investments in infrastructure and education and with greater openness to trade underpinning solid productivity growth. The key downside risk includes the vulnerability of the region to external shocks, particularly given its sizable external debt burden, and the effects that this debt could have on the stability of the domestic financial sector.

Sub-Saharan Africa has benefited from similar policy reforms and stabilization. FDI has been increasing, and the resolution of some long-term civil conflicts should provide a more enabling environment for sustained growth. South Asia and the Middle East and North Africa regions have maintained some of the highest trade barriers in the world. These barriers will slowly be removed under the impetus of multilateral and regional trade agreements, with ensuing efficiency gains.

Figures 1.22 and 1.23 summarize the decomposition of the various sources of GDP growth into three broad components: the labor supply, capital accumulation and productivity for the historical period 1990–2000, and the long-term projection for 2005–15. The decomposition profiles projected for the period 2005–15 are rather similar to the 1990–2000 period, with the significant exception of the contribution from technological progress. As argued on page 38, we have projected that most regions will see an acceleration of technological progress, which will drive the improvements in GDP growth. That progress will trigger further capital accumulation to accommodate and to further enhance growth prospects—hence the need for providing an enabling investment environment. Capital accumulation implies an investment profile—discussed in more detail below—linked, of course, to behavioral assumptions regarding savings during the coming decade.

Convergence of investment ratios is likely to continue

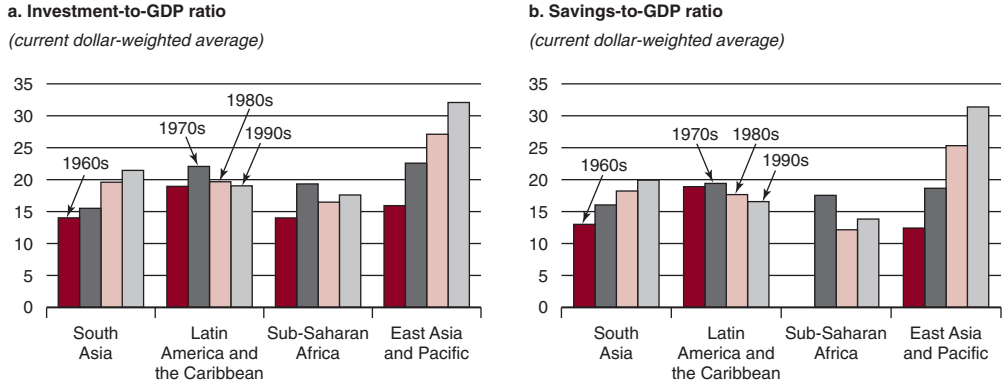
After a distinct divergence of investment ratios across regions during the past decades, some convergence is expected during coming decades, though disparities will remain significant. Investment rates in the developing East Asia and the Pacific region gradually increased from 15 percent of GDP during the 1960s to almost 30 percent during the 1980s (figure 1.24a). This increase coincided with rapid growth of the economies in the region, major sectoral shifts as a result of diversification, and regional and global integration, which all required expansion or replacement of capital stocks. During the first half of the 1990s, the average investment rate jumped further to 35 percent, of which a substantial part was used for real estate development when foreign capital streamed in. In 1997, investors realized that their collective behavior was based on overly optimistic expectations. The resulting financial crisis sharply lowered investment rates back to levels near 25 percent.

The investment rate in South Asia was extremely low until the mid-1970s, but then it started to rise. To a large extent, that rise is a reflection of the green revolution and industrialization programs in India. Although not as strong by far as in East Asia, the average rate continued to increase during the 1980s and 1990s, and the current level is now close to OECD levels of around 22–23 percent. That level is well above rates in Latin America and Sub-Saharan Africa.

Structural developments in the latter two regions (LAC and SSA) were quite different from the Asian experience. A gradual rise in investment rates during the 1970s, which was partly financed abroad, suddenly turned into a sharp decline when the debt crisis hit in the early 1980s. Investment rates dropped around 5 percentage points. Macroeconomic imbalances and hyperinflation in Latin America, as well as sharp terms-of-trade losses in Africa, led to extremely low growth during the 1980s. In this environment, investment rates continued to fluctuate around historical lows. During the 1990s, investment rates showed only a slight recovery, although the composition shifted significantly away from public to private investment, following major structural changes and privatization programs. One reason for the lack of a strong rebound in investment was the continued low domestic savings rate in both regions (figure 1.24b). Even with low investment rates, the current account showed large deficits during the 1990s.

Future investment trends will be influenced by expected GDP growth, by real domestic interest rates, and by expected domestic rates of return to capital compared with the average global rate of return. If one assumes a stable risk environment, the last effect should tend to benefit developing countries, where rates of return are higher than in rich counties. Table 1.10 summarizes the changes in investment behavior between the average of the 1997–2001 period and the final year (2015) of the baseline scenario. On average, the high-income countries will see a drop in the investment rate of about 2.9 percentage points (relative to GDP). This figure is derived largely from lower projected GDP growth rates and thus changes in the optimal capital to output ratio. The average investment rate in developing countries increases slightly by 0.2 percentage points, with higher investment rates in many regions offset by lower investment in East Asia. The latter region is still suffering

Figure 1.24 Major structural shifts in investment and savings behavior have occurred



Source: World Bank staff estimates.

Table 1.10 Savings fall in high-income countries, but increase in most other regions
(as a percentage of GDP)

	1997–2001			2015		
	Savings (S)	Investment (I)	Capital inflows (KA)	Savings (S)	Investment (I)	Capital inflows (KA)
Total	22.4	22.5	0.1	20.5	20.5	0.0
High income	22.0	21.9	−0.1	18.6	19.0	0.4
Low and middle income	24.2	24.7	0.5	26.0	24.9	−1.1
European Union	20.8	20.4	−0.4	17.5	17.4	−0.1
Japan	29.8	27.5	−2.2	26.0	25.4	−0.6
United States	17.5	19.5	2.0	14.5	16.3	1.9
Rest of high income	30.8	26.1	−4.7	24.9	23.2	−1.7
East Asia and Pacific	36.9	33.9	−3.0	35.0	29.3	−5.8
South Asia	21.3	22.2	0.9	23.7	23.5	−0.2
Middle East and North Africa	26.2	21.4	−4.8	23.1	22.2	−0.9
Sub-Saharan Africa	13.9	17.6	3.7	19.0	20.1	1.1
Europe and Central Asia	21.9	22.6	0.7	22.0	27.1	5.1
Latin America and the Caribbean	17.9	21.7	3.7	20.5	20.6	0.0

Note: The columns (S), (I), and (KA) represent, respectively, the national saving rate, the national investment rate, and the capital account, all as a share of GDP. The values for 2015 are simulated values from the global general equilibrium model (maintained by the Development Economics Prospects Group). The values for the 1997–2001 period represent the average observed values from the World Bank's statistical databases. For the high-income countries, these values are the 1997–99 or 1997–2000 averages, depending on data availability. For the totals, the averages cover only the years 1997–99.
Source: World Bank model simulations.

from past overinvestment, particularly in some sectors, and will adjust its investment needs to a slight deceleration in growth. Most of the other developing regions will see acceleration in investment in anticipation of higher growth. Investment in those regions will also provide relatively higher returns than in the more mature economies.

Future changes in investment rates do not necessarily lead to corresponding changes in current accounts. Despite capital mobility, investment rates tend not to correlate with current account deficits in the long run, the so-called Feldstein-Horioka puzzle (1980). Also in the coming 15-year period, the savings rate is expected to increase in those countries that are anticipated to enjoy an acceleration of growth, partly because of rapidly changing demographics.

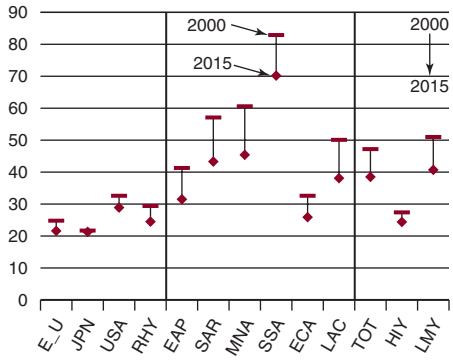
Changing demographics will raise savings in developing countries and will lower savings in industrial countries

Global population dynamics are evolving fairly rapidly at the beginning of the new millennium. Rich countries are seeing an extension of life spans and a rapid decline in birthrates, leading to a sharply aging population. Developing countries are witnessing a relatively sharp drop in the percentage of youths as well as modest increases in the number of elderly. Recent economic evidence suggests that these trends could have significant implications on national saving rates—lowering them in rich countries because of aging, but raising them in developing countries as workers save for future retirement. Lower birthrates also lead to a reduction in resource demand for the young.

The demographic transition with respect to the proportion of youths is largely over in the high-income countries (figure 1.25). The overall average was 27.4 youths per 100 workers[14] in 2000 and is expected to drop to 24.4 by 2015. Developing regions are likely to witness much greater changes. First of all, the proportion of youths is starting from a significantly higher base, with the dependency ratio averaging 51.0, which is nearly double the high-income average. The ratio is expected to drop to 40.7 by 2015, twice the percentage of the

Figure 1.25 Youth dependency ratio will fall everywhere except Japan

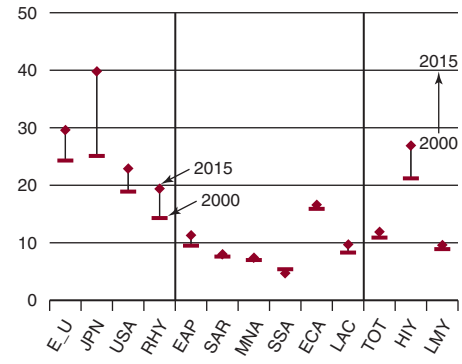
(number of youths, age 15 and under, per 100 working-age population)



RHY = rest of high income; TOT = global average; HIY = high-income average; LMY = low- and middle-income average.
Note: Working-age population is defined as those people between the ages of 15 to 65.
Source: World Bank staff.

Figure 1.26 Elderly dependency ratios will rise in some regions

(number of elderly, age over 60, per 100 working-age population)



RHY = rest of high income; TOT = global average; HIY = high-income average; LMY = low- and middle-income average.
Note: Working-age population is defined as those people between the ages of 15 to 65.
Source: World Bank staff.

fall expected in industrial countries. This anticipated decline is the consequence of two factors: a boom in births over the past two decades, leading to a rapid rise in the working-age population, and, more recently, declining birthrates, which are caused by a combination of economic growth and family-planning programs.

The elderly dependency ratio, defined as number of members of the population who are older than 65 per 100 workers, is rising in almost every region (figure 1.26). The transition is occurring rapidly in industrial countries as the Baby Boom generation ages and as life expectancy improves, but there will only be modest changes in developing countries through 2015 because relatively more recent improvements in health and life expectancy will affect elderly demographics only further in the future.[15] The elderly dependency ratio average in 2000 for industrial countries was 21.2 per 100 workers. It is expected to rise to 26.9 by 2015, surpassing the youth dependency ratio. Japan will witness the most dramatic increase, from 25.1 to 39.8. This change alone could have major macroeconomic implications for Japan and have consequences for the rest of the world, because Japan has long had large excess savings that have been recycled abroad. Outside the industrial countries, the average elderly dependency ratio is not expected to change significantly. The average was 8.9 in 2000, increasing to only 9.6 in 2015.

Several recent studies of private savings behavior have linked the private savings rate to a number of different factors: demographics, income levels and growth, interest and inflation rates, and degree of financial intermediation.[16] The results discussed next focus on only three channels affecting savings: the rate of per capita GDP growth, the youth dependency ratio, and the elderly dependency ratio. Other channels may prove to be equally important, however, such as improved financial intermediation and a stable macroeconomic environment. Combining these three effects suggests that global savings may decline by around 1 percentage point over the longer term, a figure that takes into account a

2.7 percentage point decline in high-income countries and a 3.7 percentage point rise in developing countries.

With relatively large swings in domestic savings rates, the scenario suggests a rather significant change in net capital flows. In 1997, the base year of model simulations, industrial countries were exporting around $67 billion in net investment to low- and middle-income countries, some 1.1 percent of low- and middle-income countries' GDP. East Asia was the only developing region that was a net exporter of capital in the base year.[17] By 2015, under these savings and investment assumptions, low- and middle-income countries would be significant net exporters (some 1.1 percent of their GDP), while industrial countries would be net importers. Among industrial countries, Europe would be in approximate investment-to-savings balance, but the United States could continue to be a significant net importer of capital. The United States would actually see little change in its capital account surplus from the base year (as a share of GDP), though it would experience a reversal from its present high level. Japan's capital account deficit would diminish sharply with a rapidly increasing elderly population leading to a decrease in savings.[18]

The actual magnitude of these changes in savings and investment rates remains speculative—even though they are grounded in empirically validated economic theory within a consistent accounting framework—because some of the underlying behavioral relations could change the savings rates, the investment rates, or both to some extent and could have a noticeable effect on the balance (that is, the capital account). Nevertheless, there is little doubt regarding the broad changes in the pattern in these projections. A clear trend emerges of further reduction in developing countries' foreign debt. East Asia could continue to show significant surpluses on the current account, while Latin America could converge toward a balanced current account. The latter would be the result of, and represent a rise in, the savings rate and a relatively stable investment ratio. Those figures would reflect no change in overall growth compared with the 1990s because declining population growth will counteract the acceleration in per capita growth.[19] These trends in savings and investment rates will require adjustments to relieve the strains on budget and other variables. Open capital and goods markets would facilitate the potential strains from demographic transition.

Major policy challenges are likely to emerge

While there is evidence in support of the economic growth projection in this long-run scenario, the degree of uncertainty regarding the projections is high. There is recognition that these trends will require good policies, because many developing countries are still subject to major shocks.

These scenarios raise important long-term policy issues. First, the changing savings and investment patterns will have consequences for net capital flows. Several developing countries that in past decades have relied on net capital inflows will find it harder to do so in the coming 15 years. Indeed, the recent shift from debt accumulation to debt reduction in many of these countries is likely to herald a new long-term trend of further declines in debt. If the expected increase in private domestic savings is accompanied by further maturing of domestic credit markets and is not thwarted by deterioration of public savings, then debt reduction will not conflict with the investment patterns needed to underpin growth.

Underlying large swings in net capital flows are even larger movements of gross capital flows, because FDI expands into growing markets in developing countries and because financial agents in developing countries seek to diversify their portfolios in rich countries. These capital movements will require further international financial integration. Because the history of financial integration has not been entirely felicitous—and at times has been damaging to growth and poverty reduction—

the international community and developing countries have had to search for mechanisms to provide for greater stability in integration.

Developing countries can further facilitate potential growth by improving their investment climates. A sound policy environment will trigger investment flows and, more important, will ensure that these flows go into internationally competitive activities. A sound investment climate in developing countries can also attract FDI, which is a form of less-volatile capital inflow.

Notes

1. Examples of investment-grade borrowing countries are Chile, China, the Republic of Korea, Malaysia, Mexico, Thailand, and several Central European countries.

2. See Appendix 1, "Regional Economic Prospects," for detail on recent developments, policy, and prospects for developing regions.

3. Simulation used the world model by Oxford Economic Forecasting Inc.

4. Investment is the most cyclical component of GDP and is the key driving force underlying the emergence of turning points in the economy. The flow of investment expenditures is volatile because investment, unlike consumption, represents the desired change of a stock. As the capital stock tends to move with income and consumption, the change in the stock shows sharper fluctuations than the change in income. Furthermore, a downturn in investment is inherently temporary and bears the seeds of subsequent recovery. Once the lower desired capital stock has been achieved, the flow of investment stops falling and starts increasing again to keep the capital stock stable at the new level.

5. The trends are computed with Hendrick-Prescott filters.

6. To reduce the potential risk of bad data contaminating the results, we have excluded outliers (investment volatility more than three standard deviations above the mean).

7. The correlation coefficient exceeds 0.75.

8. The large drop in the poverty incidence in Latin America comes from new surveys and from revisions to consumption levels. The surveys predate the recent turmoil in the region, particularly in Argentina, where the incidence of poverty has increased substantially after three years of recession. The large recent rise in poverty in Argentina reflects the national poverty line. The rise using the World Bank's $1 per day or $2 per day may have a lower magnitude because average per capita income in Argentina ($12,100 in purchasing power parity terms in 2001, and $7,750 in 1995 terms) is much higher than the $2 per day level.

9. See, for example Datt and Ravallion (2002).

10. The growth rates are weighted by labor value added, which may bias the regional estimates downward if high-wage countries have slower growth rates. Among other things, this method would affect a world total because industrial countries have significantly higher wages than developing countries.

11. TFP is not the same as technical progress, but instead includes all contributions to growth that are not captured by data on capital and labor. However, the integration of more efficient technologies into production can raise the level of TFP.

12. Technically, only the fraction of capital accumulation that arises from the underlying propensity to invest at a constant rate of TFP growth should be viewed as capital's independent contribution to output growth. Hulten (2000) found that correcting for the induced capital accumulation caused by higher TFP almost doubled estimates of the contribution of TFP to growth for the United States.

13. See Loayza, Fajnzylber, and Calderón (2002).

14. We will use the term "workers" as shorthand for the working population between ages 15 and 65.

15. With the significant exception of SSA, where AIDS has dramatically reversed life expectancy, and to a lesser extent ECA, where health systems deteriorated during the transition toward market economies.

16. See, for example, Loayza, Fajnzylber, and Calderón (2002) and Masson, Bayoumi, and Samiei (1998).

17. Model simulations start in the base year 1997, and net capital flows for that year are derived from the Global Trade Analysis Project (GTAP), release 5.0, database. Note that the GTAP data, though based on official statistics, are adjusted to ensure global accounting consistency (that is, the sum of the capital account across all regions is identically equal to zero). The world capital account has had a significant and increasing residual over the past few years. The values in the first three columns of table 1.10 (that is, the average savings to investment ratios for the period 1997–2001) are largely consistent with the initial 1997 base levels from the GTAP dataset. The only region where the sign of the capital account balance differs between 1997 and the 1997–2001 average is the MENA, which is subject to considerable volatility because of the price of oil, the region's main export.

For all other regions, the sign of the observed early period capital account balance is consistent with the 1997 base year, though the magnitude may differ. The difference in magnitude is easily magnified because the

capital account balance is a residual item. Thus, even if there is little volatility in the savings and investment components individually, there could be significantly more variation in the capital account balance.

Finally, as already highlighted in the table note, the capital account imbalance at the global level has been large of late—and is increasing. In the model simulations, the base data are adjusted to remove the global imbalance, and the model itself ensures global accounting consistency in each year of any simulation. (The model could track perfectly the observed saving and investment ratios for each country except one. Or there would have to be a residual country in the model that would absorb any adjustments to ensure global accounting consistency.) Even if the global capital account imbalance is small as a share of global GDP, squeezing out the $100 billion to 200 billion residual error is bound to have significant effects on the capital account of individual countries, even a large one such as the United States. If the U.S. imbalance is $400 billion and the entire adjustment is forced on it, the U.S. capital account imbalance could change by as much as 50 percent.

18. Note that this concept is flow based. All industrial countries have significant assets in other industrial countries as well as in developing countries. One would anticipate, as in the case of Japan, that as the population ages, the retired elderly will draw down their accumulated savings, including those funds invested abroad.

19. Table 1.10 compares the observed investment ratios over the 1997–2001 period with the end-of-period investment ratio generated by the model. The starting point of the model, 1997, has an investment ratio of 20.5 for Latin America. Thus, the scenario is forecasting virtually no change in the ratio.

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2

Changes in Global Business Organization

The organization of global business is rapidly changing in ways that affect the competitive opportunities open to developing countries. A principal feature of business organization is the steady expansion of multinational corporations and their related trade and investment activities. Multinational companies, including many based in other developing countries, are altering the competitive landscape by providing for developing countries a new source of entry into markets. Moreover, by taking advantage of falling communication and transport costs, multinationals have learned to manage different stages of production in multiple, distant locations, thereby creating opportunities for developing countries to produce during those stages of production—often labor-intensive stages—that correspond to their comparative advantage. But tapping into this potential source of competition is not automatic, and not all countries have benefited. Moreover, some observers have openly worried that the recent surge in global mergers among leading multinationals might be dampening competition and creating obstacles for developing countries.

This chapter reviews four recent trends in the organization of global business that affect developing countries' ability to harness foreign investment for greater competition: changes in global business concentration, the rise in service sector foreign direct investment (FDI), the growth of global production networks, and the growing importance of strong investment climates for the allocation of foreign investment.

Developing countries have benefited from the boom in global trade and investment—

Cross-border trade and direct investment have expanded rapidly over the past three decades. Global exports of goods and services increased from 14 percent of output in the early 1970s to 23 percent by the late 1990s, while global FDI flows have more than doubled relative to gross domestic product (GDP). The surge in FDI flows, with a large boost from cross-border mergers and acquisitions (M&A), accelerated in the late 1990s. FDI rose from $331 billion in 1995 to $1.3 trillion in 2000 before falling to an estimated $725 billion in 2001. Despite the sharp increase in M&A, the share of global economic activity accounted for by the top 50 companies does not appear to have risen significantly during the 1990s. The top 50 companies accounted for 0.8 percent of world GDP, and their aggregate profits amounted to 3.3 percent of global savings in 2000.

—the rise in service sector FDI—

A second change in global business organization creates an opportunity for developing countries to expand productivity-enhancing competition. Foreign investment in services—financial, wholesaling and retailing, real estate, and business services—is accelerating.

Today, services account for more than half of the FDI stock in most major industrial countries. The rise in service sector FDI helps developing countries to introduce new technology, to boost competition in services, and to increase the availability and quality of services. Because many services are essential inputs to production, with multiple linkages to virtually every dynamic part of the economy, increasing their efficiency directly boosts economy-wide productivity. However, many countries still maintain impediments to this new source of competition and technology and, as a result, are at risk of being left behind.

—and the growth of cross-border production networks—

Technological progress in transport, communications, and data processing—coupled with policy reforms—has fueled the growth of cross-border production networks, in which multinational corporations break down the production of final goods into stages that vary in the intensity of capital, skilled labor, unskilled labor, and other requirements, and multinationals produce each stage where it can be done at lower cost. In part, production through networks is accomplished by greater outsourcing of production, as multinationals become less vertically integrated. In part, networks are established through foreign subsidiaries.

Developing countries' increased participation in production networks is seen in the rapid growth in their exports of parts and components, as well as in their increasing importance in intra-firm trade by multinationals. Participation in networks has generated substantial gains for developing countries through improving access to technology, thus increasing the demand and supply of skilled labor, as well as providing the opportunity for moving up the value chain to produce more sophisticated products. However, production for networks is highly concentrated in countries with strong policy regimes, skilled workforces, and adequate infrastructure.

—but a strong investment climate is critical

The policy and institutional framework is an important determinant of whether countries have participated in the rise in FDI. During the 1990s, countries with strong investment climates captured an increasing share of rapidly expanding global FDI flows. The removal of restrictions on private investment in services (particularly infrastructure services) has increased private investment and has improved the quality of services available to firms in developing countries. The lowering of trade barriers and reduction in restrictions on FDI has facilitated developing countries' participation in cross-border production networks. External factors also play a role in determining access to FDI. For example, the recent deterioration of the global business environment has led to a reduction in investment in high-risk projects, and foreign investment in infrastructure has dropped all over the world. Still, those countries with macroeconomic stability, sound governance, and healthy institutions will attract an increasing share of available funds.

The surge in trade and FDI

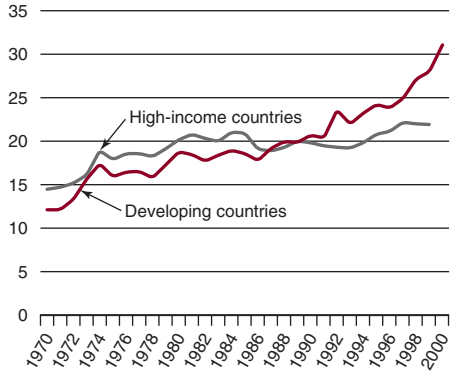
Trade and FDI have grown rapidly since the 1970s—

Cross-border trade and direct investment have expanded rapidly over the past few decades. Global exports of goods and services increased by 5.5 percent per year in real terms from 1978 to 2001, rising from just over 14 percent of output in the 1970s to almost 25 percent of output in 2001. High-income countries account for the bulk of world trade and hence the largest increment to trade flows. Developing countries' exports rose by just under 6 percent per year in real terms from 1978 to 2001, and their aggregate exports-to-GDP ratio increased by more than half over this period (figure 2.1).

Global FDI flows have also expanded rapidly. The surge in FDI flows accelerated in the late 1990s, rising from $331 billion in

Figure 2.1 Exports-to-GDP ratios have increased since the 1970s

(percent)



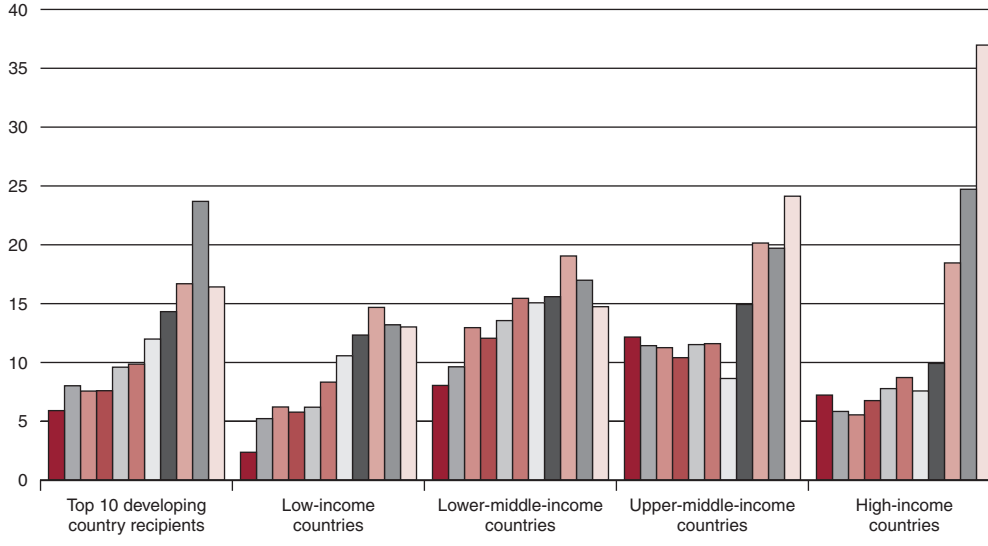
Source: World Bank data.

1995 to $1.3 trillion in 2000 before falling to an estimated $725 billion in 2001 (UNCTAD 2002a). All income groups experienced a sharp rise in the average ratio of FDI to investment during the 1990s (figure 2.2), with the largest increase in the industrial countries during the last years of the decade. Low-income countries have seen a five-fold rise in FDI relative to investment, to almost the same ratio as in lower-middle-income countries. FDI flows to developing countries equal about $160 billion, while domestic investment in developing countries equals about $1.5 trillion.

The rise in trade and FDI has played an important role in boosting the productivity of firms in developing countries. In part, developing countries may become more productive because trade improves the allocation of resources and because multinational subsidiaries may be more productive than domestic firms. In addition, domestic firms may increase their productivity through participation in trade and contacts with local subsidiaries of foreign firms, although the extent and channels are a matter of considerable debate in the economic

Figure 2.2 All regions have benefited from rising FDI flows

(FDI-to-investment ratios, 1990–2000, in percent)



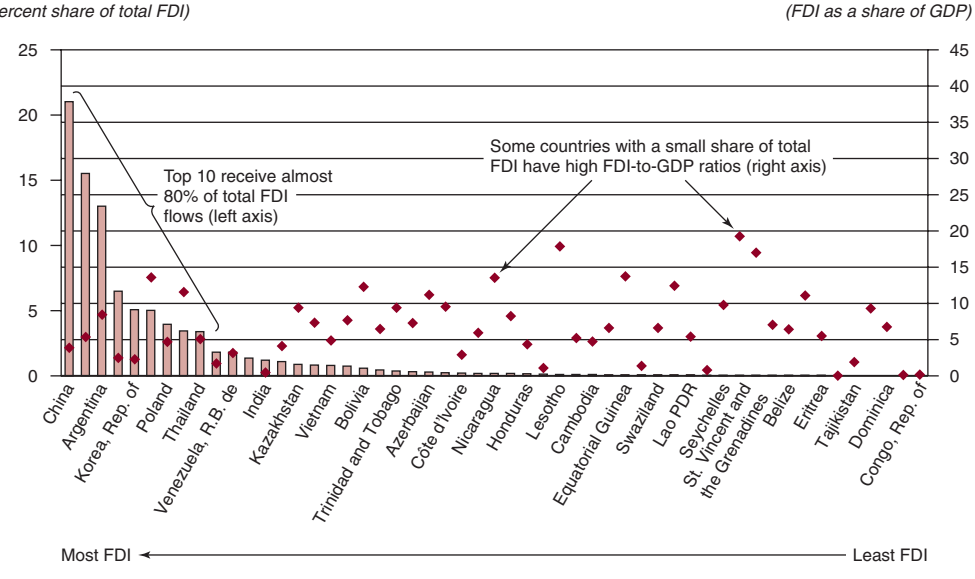
Note: Each set of bars represents the period 1990–2000; each bar represents one year during that period. The data on FDI include both greenfield and M&A transactions, whereas national income account data on investment represent only new investments. "Top 10 developing country recipients" refers to the 10 developing countries that received the largest inflows of FDI.
Source: World Bank data.

literature. Much empirical work has focused on the potential for technological spillovers through importing, exporting, and FDI (see chapter 3 for a full discussion). On balance, the evidence for technological spillovers through imports is strong, while the evidence that exporting promotes technology diffusion is less robust. Evidence for the existence of technology spillovers from FDI is mixed. Many industry-level studies (for example, Blomström 1986) have documented a positive correlation between FDI inflows and productivity, although the causal direction is unclear. Some firm-level studies have failed to find evidence of technological spillovers in developing countries. The effect of FDI will depend, in part, on the form that FDI takes. FDI directed to heavily protected industries or attracted by very costly incentives may have a low, or even negative, effect on growth and productivity. But FDI used to integrate domestic subsidiaries in production networks could have substantial spillover effects (Moran 2001).

—but not all countries have participated equally in the rise in FDI

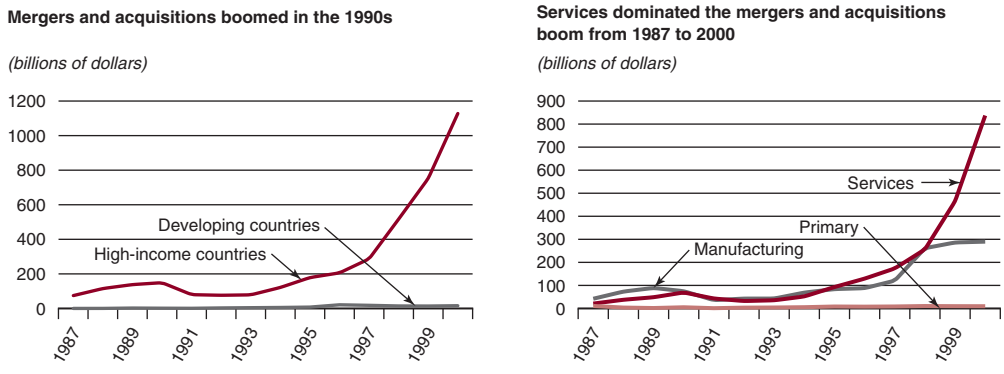
Among industrial countries, the top five recipients of net FDI flows accounted for 74 percent of total FDI. However, a few of the smaller countries (for example, Ireland and Denmark) have the highest ratio of FDI to GDP. The same pattern can be seen in developing countries, where the top 12 recipients captured 80 percent of total FDI flows, but some smaller countries had FDI-to-GDP ratios that were several times the average ratio. Figure 2.3 compares each developing country's share of total FDI with its ratio of FDI to GDP (the countries are ordered by the share of total FDI). Almost half of the 12 largest recipients of FDI (at the far right of the distribution in figure 2.3) have FDI-to-GDP ratios that are lower than the average. According to a more comprehensive measure developed by the United Nations Conference on Trade and Development (UNCTAD), FDI to developing countries is mildly concentrated: only 30 out of

Figure 2.3 FDI is concentrated in large countries, but many small countries receive large amounts relative to GDP



Note: Countries sorted by share of total FDI, 1999.
Source: World Bank data.

Figure 2.4 The service sector dominated the 1990s mergers and acquisitions boom



Source: UNCTAD (2001).

102 developing countries had shares of FDI that equaled or exceeded their average shares of world GDP, employment, and exports (see box 2.2 in World Bank 2002b). Obviously, many factors other than market size, particularly the policy and institutional framework, are important in determining a country's attractiveness to FDI.[1]

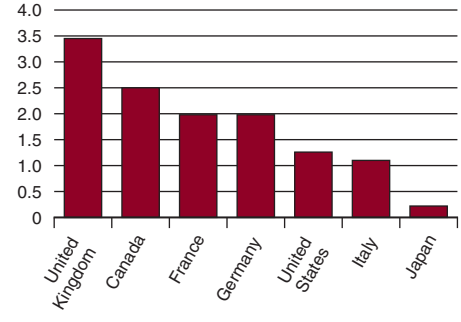
The takeoff in M&A transactions among industrial countries—driven in part by extraordinarily rapid increases in the stock prices of some major corporations and in part by expectations (during the boom) that continuing productivity increases would fuel continued rises in stock prices—was a driving force behind greater FDI (see figure 2.4). Global M&A rose more than five-fold between 1995 and 2000 (after increasing by only 24 percent in the first half of the 1990s) to a peak of $1.1 trillion in 2000, before dropping by some 45 percent in 2001 with the decline in stock markets and the global economic slowdown.[2] This experience was not unprecedented: through the 1980s and 1990s, the global economy experienced major waves of corporate mergers.[3] The bulk of the cross-border M&A transactions was in service sectors (more than half in finance, transport, storage, and communications alone), which accelerated rapidly beginning in 1998 (see also the discussion of FDI in service sectors, page 10).

Global concentration of ownership does not appear to be increasing

Contrary to popular perceptions, the boom in cross-border M&A does not appear to have had a major effect on the global concentration of ownership. Cross-border M&A transactions in the late 1990s represented only a small fraction of industrial countries' stock market capitalization. The dollar value of cross-border M&A transactions equaled less than 3 percent of stock markets in most of the top seven industrial countries (figure 2.5).[4]

Figure 2.5 Cross-border mergers and acquisitions are small compared with stock market capitalization

(average value 1997–99, in percent)



Source: Evenett (2002).

Of course, the M&A boom coincided with the sharp rise in stock market valuations in the late 1990s, particularly in the United States. Thus it is useful to keep in mind that both the numerator and the denominator in figure 2.5 are rising rapidly.

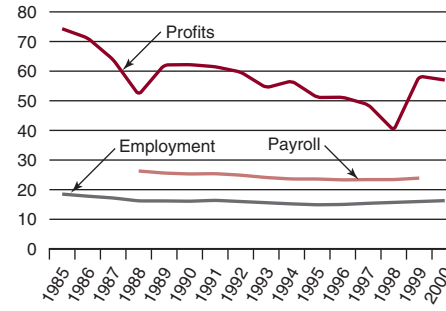
A related concern is whether the concentration of global economic activity, either in individual sectors or in total, has increased for reasons other than cross-border M&A. For social and political reasons, high concentration in an economy may be a matter of concern. For example, 5.5 million corporations are in the United States, with the largest 100 companies accounting for about 11 percent of employment and payroll.[5] The fabric of the U.S. economic (and socio-political) landscape would surely be different if there were no small enterprises, no start-ups, and no alternative places (beyond a few mammoth corporations) where someone with a new entrepreneurial idea might go to obtain financial support and institutional encouragement. Similar concerns would hold for a high level of concentration in the global economy. There may be an extra element of concern for developing countries in this regard. Few of the largest companies in the global economy are headquartered in and identified with a developing economy.[6] A global economy that is dominated by a relative handful of giant companies (if that were the case), which are headquartered in a relatively few industrial countries, may raise even greater socio-political concerns in developing countries that feel that they can exert little effective control over these enterprises.

Although the measurement issues involved are enormous, it does not appear that global concentration is high or has been rising significantly during the 1990s.[7] White (2001, 2002) reports declining or stable aggregate concentration in the U.S. economy from the 1980s through the late 1990s, depending on whether employment, payroll, or profit data are used (figure 2.6).[8] Note that this measure of aggregate concentration does not provide an indicator of market power in individual markets, because each firm may participate in multiple markets.[9]

Figure 2.6 U.S. aggregate concentration has held steady

Share of top 500 companies of U.S. private sector

(percent)

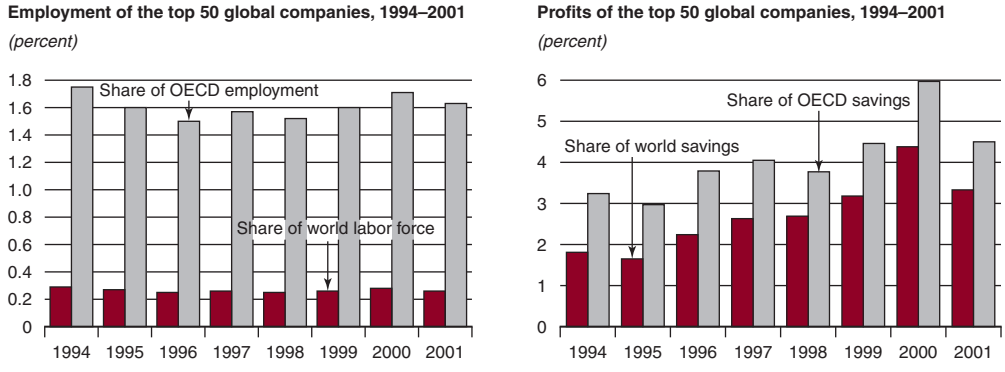


Source: White (2001).

Concentration at the global level appears to remain low, although one confronts enormous data problems and difficult tradeoffs in making such estimates. In 2001, total employment by the largest 50 global companies (as identified by *Forbes*) accounted for 0.3 percent of the world labor force, or 1.6 percent of employment in Organisation for Economic Co-operation and Development (OECD) countries. Those companies' profits amounted to 0.8 percent of world GDP and 3.3 percent of world gross domestic savings.[10] Although it is difficult to say what level of concentration should be viewed as a cause for concern, at least these aggregate data do not reflect a domination of the global or OECD economies by a small number of firms.

Global concentration does not appear to have risen significantly during the 1990s. The share of the top 50 companies (as measured by *Forbes*) in the world labor force and in OECD employment has fallen slightly since 1994 (figure 2.7).[11] The declining share of the large companies' employment levels is consistent with the trend for the United States reported by White (2001, 2002). Despite the merger wave of the 1990s, very large companies have

Figure 2.7 Global concentration has not increased significantly



Source: White 2002b.

not experienced a significant expansion of employment relative to other companies. This has been partly due to internal rationalizations and cost-cutting by those companies and partly due to significant numbers of spinoffs and divestitures.

The share of the top 50 companies' profits in global savings and OECD savings has risen since the mid-1990s (figure 2.7). The rise in profits among the largest companies is also consistent with the U.S. trend reported by White (2001, 2002a). However, in the United States, economy-wide profits were rising rapidly during the late 1990s; thus the ratio of the largest companies' profits to total profits was relatively constant. Unfortunately, time series data on global profits, or even OECD profits, are not available. Nevertheless, it is likely that OECD profits were rising more rapidly than nominal GDP or savings; hence the share of the top companies' profits may not have increased as much as indicated by the ratios given in figure 2.7. Moreover, the recent accounting scandals affecting telecommunications, energy, and other high-tech companies indicate a significant overstatement of profits in many of the largest companies during the late 1990s. Thus the rise in profits of the top 50 companies relative to global savings may be overstated.

A different approach to the calculation of global concentration is reported by DeGrauwe and Camerman (2002), with similar conclusions. They find that sales of the top 50 industrial corporations from the *Fortune 500* list have grown slightly less rapidly than world GDP from 1980 to 2000. Thus the 2000 sales of the 50 largest industrial corporations were slightly smaller in relation to world GDP than was true for the 50 largest corporations in 1980.[12]

These indicators of global concentration reveal nothing about the concentration of market power in individual sectors. Rising concentration at the sectoral level may reduce competition, thereby increasing prices faced by consumers and suppliers and shifting wealth from consumers and suppliers in competitive industries to producers in more concentrated industries. Unfortunately, comprehensive data do not exist on global sectoral concentration.

Sectoral data are available for some major countries, and they do indicate a rise in concentration ratios. The average concentration of industries at the Standard Industrial Classification (SIC) 4 level increased from 1947 to 1992 in the United States, while concentration declined slightly from 1983 to 1992 in Japan

before increasing sharply in 1992–98.[13] However, sectoral concentration ratios at the country level provide little information on the competitiveness of markets, because most of those companies face competition from imports. Indeed, the rapid rise in world trade over the past two decades, coupled with the emergence of developing-country exporters, indicates that competitive pressures may have increased in many industries.[14]

Despite the difficulties in measuring global sectoral concentration ratios and in determining the implications for competition, anticompetitive practices have clearly affected some industries. The 1990s saw the uncovering of a large number of international cartels, in which firms from more than one country made explicit agreements to fix prices, divide up markets, or rig bids for contracts (see chapter 4).

Table 2.1 FDI inward stocks in services and manufacturing, 1988–99
(growth rate and shares in dollars)

	Growth rate, 1988–99 (percent change per year)	Share, 1999 (percent)
World:		
Total FDI	12.3	
Manufacturing	12.2	41.6
Services	13.8	50.3
Industrial countries:		
Total FDI	9.9	
Manufacturing	9.1	36.4
Services	11.6	55.5
Developing countries:		
Total FDI	21.5	
Manufacturing	19.6	54.5
Services	28.2	37.3

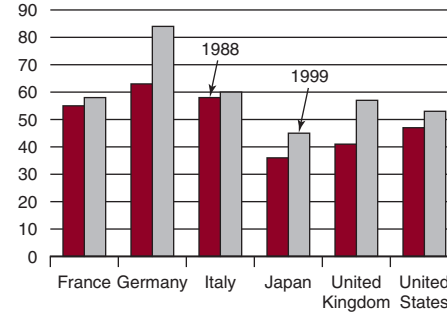
Note: Second column data for France are from 1998, and second column data for Japan are from 1994.
Source: UNCTAD (2001).

The rise in service sector FDI

FDI flows into services have overtaken those in manufacturing—

Service sector FDI has grown rapidly over the past few decades, and services are now the dominant sector for foreign investment.[15] The stock of FDI in services was only about one-fifth of the total in the 1950s (United Nations 1989), but by the mid-1970s the share of services in the stock of outward FDI of major industrial countries ranged mostly between 30 and 40 percent.[16] By 1990, this share rose to between 45 and 60 percent, and over the past decade, FDI in services has continued to rise more rapidly than FDI in manufacturing in both developing and industrial countries (table 2.1). By the end of the 1990s, services accounted for more than half of the stock of inward FDI in most major industrial countries (figure 2.8). Despite the rapid increase in service sector FDI, the global ratio of FDI to value added in services remains less than half the ratio of FDI to value added in manufacturing, thus indicating the potential for further increases in service sector FDI. The dominance of service sector FDI underlines the importance of an effective regulatory regime, because designing and enforcing an appropriate regulatory framework is more difficult in many service sectors (such as natural monopolies in infrastructure) than in manufacturing.

Figure 2.8 Share of FDI in the service sector increased in major industrial countries
(percent)



Source: OECD (2001) and OECD online database.

—reflecting the rising role of services in the global economy—

FDI in services has increased relative to manufacturing, in part because of the growing importance of the service sector in economic activity. By the late 1990s, the service sector had increased from half of global output in the early 1970s to 64 percent. Income growth has been the driving force behind the rise in services: cross-country comparisons show that the richest countries have the greatest share of services. Services account for 70 percent of output in industrial countries, 55 percent in middle-income countries, and 44 percent in low-income countries. The correlation coefficient between income level and the share of services is 0.6. The relationship between higher income and a greater share of services in part reflects consumer demand, because luxuries such as travel and entertainment often have a large services component. Also, higher incomes permit an allocation of more resources toward protecting assets (insurance and legal services), richer and complex societies require more resources devoted to education and advisory services, and technological advances associated with higher income widen the scope for the protection of health. Finally, the higher labor intensity of services and rising real wages have increased the nominal value of services relative to manufacturing.

—technological changes that have increased the demand and supply of services—

Technological progress has tended to increase the demand for services connected with the production of goods and to facilitate the separation of goods production from services production.[17] The larger scale of production, the greater technological sophistication of goods, and the increased trade in goods and management of enterprises across large distances have all contributed to the greater demand for services. The importance of management, marketing, distribution, and after-sale maintenance has risen relative to the value of manufactured products. Many information-and-knowledge-intensive services—research and development (R&D), engineering, design, computing and data processing, inventory management, quality control, design, accounting, legal services, personnel services, and so on—have become a critical part of the production process in the manufacturing sector. With modern manufacturing production and distribution becoming increasingly dependent on the processing and dissemination of information, the demand for those producer services is rising rapidly.

Moreover, the growing sophistication and variety of services, coupled with specialization emerging from economies of scale, have led manufacturing firms to rely more on outsourcing than on in-house departments to provide the services necessary for production. The immediate consequence is a statistical effect: the size of the service sector rises when services that were previously classified as manufacturing output are suddenly counted as services. Typical examples of these types of services are accounting, computer services (data processing and software), warehousing, public relations, information technology, and management information systems.

Technological progress has greatly reduced the cost of some services, thus increasing the scope of services that are feasible to supply (for example, mobile telephones, complex financial transactions such as derivatives, and a host of other services facilitated through advanced data processing). Technological progress has also generated new means of delivering services (for example, the dissemination of research over the Internet). This process is similar to what occurred during the industrial revolution, when technological progress and income growth greatly increased the importance of manufactures when compared with the primary sector.

Both the reduced cost of some services and the increased scope of services have increased the tradability of services, a trend that has, in part, been exploited through increased FDI. For example, software can be produced in low-cost locations such as India and sold directly to firms and consumers in the United

States over the Internet. Many multinationals have established centers in developing countries, where wages are low, to handle contacts with consumers in industrial countries. For example, call centers in the Caribbean manage phone calls to multinationals from U.S. clients (this is an example of participation of service firms in production networks; see page 13 for an elaboration of this concept in manufacturing). In some cases, the rising tradability of services may have reduced FDI by enabling firms to provide services at a distance rather than establishing a subsidiary. However, in general, increased tradability has created new opportunities for multinationals' subsidiaries to export services to home markets and, in some cases, to operate as international hubs to supply services to firms in other countries. Because industrial countries are the lead consumers of tradable services, developing countries have benefited from the establishment of subsidiaries to service the richer markets. Technological advances that increase services tradability have also imparted an advantage in service delivery to multinationals relative to domestic firms, thus enabling the former to overcome the natural advantages of proximity and knowledge of the market (Sauvant and Mallampally 1996).

Income growth and technological progress have boosted the provision of services through various forms of cross-border relationships in several sectors: (a) management and franchise contracts in hotels, restaurants, and car rentals (in which performance requirements can often be adequately codified, local managerial input is desirable, and the synergistic advantages of global reservations and referral systems can be obtained without the risks and costs involved in an equity stake); (b) joint ventures in some business services, in recreational activities, in some accounting and legal services, and in civil engineering in turnkey projects (in which individual customization and specialized knowledge of local practices are required); and (c) services in which a local partner is required for marketing and distribution (Dunning 1981). Firms that tend to provide services through subsidiaries, rather than other kinds of relationships, include (a) financial institutions, in which much of proprietary knowledge is tacit, is expensive to produce, and is complex and idiosyncratic; (b) firms that require control over production to maximize efficiency and to protect the quality of the end product (and thus customer goodwill) for trademarks (for example, in advertising, market research, construction, business consulting, consumer-oriented services, and goods-related personal services such as motor vehicle maintenance and repair); and (c) trade-related service affiliates set up by non-service multinationals to obtain inputs for domestic activities or to supply markets.

—and policy changes that encourage the private provision of services

The removal of restrictions on FDI and regulatory reforms that have improved competition in service sectors have contributed to the rise in service sector FDI. Until recently, many countries (including many industrial countries) prohibited foreign investment in sectors such as transport, communications, banking, finance, utilities, and media. Since the mid-1980s, governments in both industrial and developing countries have been gradually opening up those service sectors to foreign investment.[18]

Multinationals can enhance the efficiency of services industries in developing countries by providing services that developing-country suppliers cannot provide, as well as by intensifying competition. In particular, providing producer services (for example, managerial services, engineering, finance, and marketing) that are often subject to economies of scale and that have a much higher cost from a distance can generate important benefits to developing-country firms. Availability of producer services may be an important reason to form industrial complexes and may explain a significant share of the differences in economic performance among regions. Producer services are likely to be provided through FDI (rather, for example, than through training unaffiliated firms) because they involve knowledge-based assets

that are easily copied if firms lose control over the knowledge (Markusen, Rutherford, and Tarr 2000). FDI has surged in developing countries' banking sectors, in many cases reducing the costs of financial intermediation, increasing the scope of financial services available to local firms, and transferring skills to workers in developing countries.[19]

Global production networks

The globalization of production has helped fuel the growth in global trade

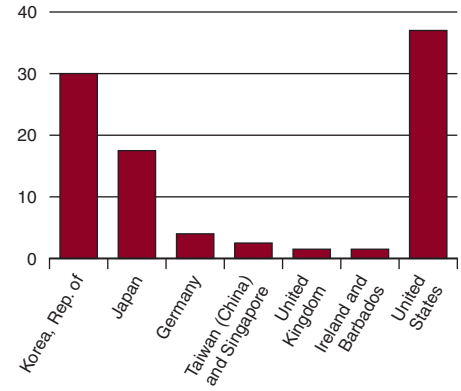
Rapid growth in trade and in FDI flows has reflected, in part, the expansion of production networks.[20] The production of many final goods, which formerly took place in one location, has been broken down into discrete steps, with each step moved to locations where it can be performed at the lowest cost (Venables 1999; Kimura 2001). Thus a significant portion of international trade and FDI has shifted from the exchange and production of final consumer goods to the exchange and production of parts and components. This globalization of producing individual goods has progressed to the point that it can become difficult to identify the nationality of some products. For example, the World Trade Organization (WTO [1998]) gives figures for the share of value added in producing a U.S. automobile, with countries grouped by category of production. The United States accounts for only 37 percent of value added (figure 2.9).

There is considerable evidence that the share of global trade accounted for by networks is increasing, although the results vary among countries and studies. Baldone, Sdogati, and Tajoli (2002) estimate that the share of intermediate products in total trade within the European Union (EU) rose only slightly in the 1990s, from 17 percent in 1990 to 19 percent in 1999.[21] One measure of international outsourcing—the ratio of imported to total intermediate inputs in manufacturing—doubled in the United States from 1974 to 1993 and increased in Canada and the United Kingdom, although it fell in Japan (figure 2.10). Using input-output tables, Hummels, Rappaport, and Yi (1997) calculate that the fraction of the total value of trade accounted for by inputs that are both imported and then embodied in exports rose in France, the United Kingdom, and the United States from 1970 to 1990, while dropping slightly in Japan.[22] Data from the U.N. Comtrade database show that exports of parts and components—a proxy for participation in global networks—increased by almost 2 percentage points faster than exports of total manufactured goods from 1981 to 2000 (table 2.2).[23]

The rise in the share of trade accounted for by global networks in part reflects the increasing importance in global production of goods

Figure 2.9 U.S. cars are produced in many countries

(percent share in value added)



Source: WTO (1998).

Table 2.2 Growth of exports of parts and components, 1981–2000

(average annual percentage change in dollars)

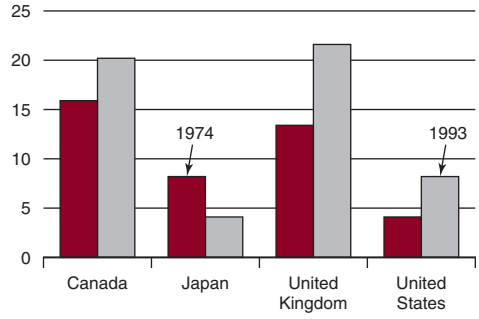
	1981–90	1990–2000
Manufactured exports	10.6	7.2
Parts and components exports	12.1	9.6
Memo item: Share of parts and components	13.2	18.5

Source: U.N. Comtrade database.

Figure 2.10 Cross-border networks capture increasing shares of production and trade

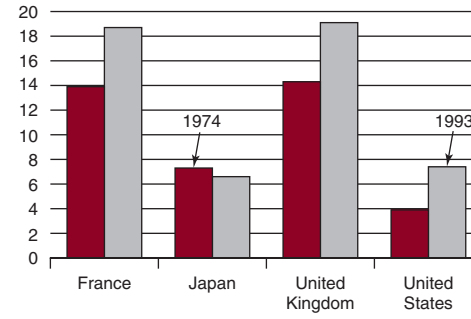
Imports of intermediate inputs increased, 1974–93

(ratio of imported to total intermediate inputs in manufacturing, in percent)



Production through networks increased, 1974–93

(percent share of trade accounted for by imported inputs that are embodied in exports)



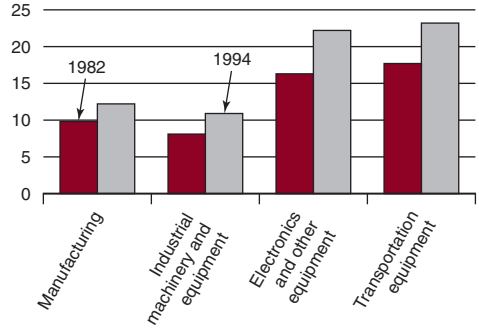
Source: Feenstra (1998); Campa and Goldberg (1997); Hummels, Rappaport, and Yi (1997).

such as electronics, chemicals, and transport equipment and machinery, where trade in components is most important. The share of those sectors in world trade rose from 27 percent in 1986 to 43 percent in 1997 (Schive and Chyn 2001). However, the increase also reflects a rise in components trade within the product classes. Hanson, Mataloni, and Slaughter (2001) report that the share of U.S. multinational affiliates' imports of intermediate inputs in their total sales rose significantly from 1982 to 1994 in electronics, transportation equipment, and industrial machinery and equipment (figure 2.11).

Figure 2.11 The role of production networks continued to increase through most of the 1990s

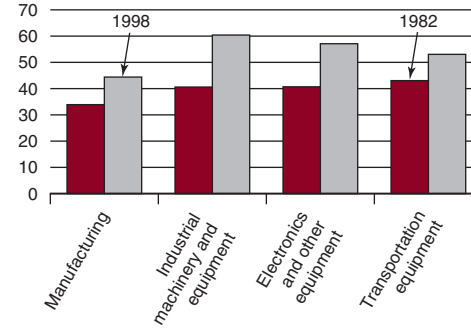
Use of intermediate inputs rose, 1982–94

(percent of U.S. affiliates' imports of intermediate inputs as a share of sales)



Exports by MNCs abroad rose, 1982–98

(percent of U.S. affiliates' exports as a share of total affiliate sales)



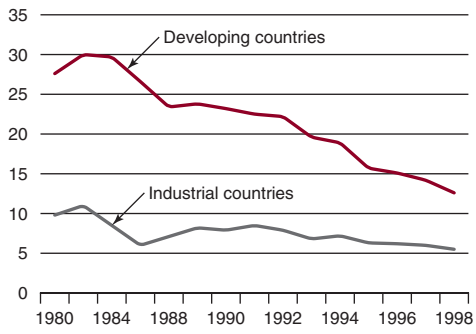
Source: U.S. Bureau of Economic Analysis, as reported in Hanson, Mataloni, and Slaughter (2001).

The establishment of global networks has been facilitated by technology—
Technological progress in transport, communications, and data processing has fueled increased FDI flows and the establishment of cross-border production networks. A nearly 70 percent decline in sea freight unit costs between the early 1980s and the mid-1990s (in part caused by a rise in the share of cargo carried in containers; see World Bank 1997)[24] and an increased reliance on air shipments, plus the growth of express services (such as overnight and two-day delivery)[25] have facilitated the shipment of components for processing in different locations. The low cost of long-distance telephone rates, the development of fax machines, and, most recently, the advent of the Internet have made it easier for multinationals to closely coordinate production at dispersed locations. Those changes have also greatly reduced the costs of finding and evaluating potential suppliers for more arm's-length transactions (Grossman and Helpman 2002). Finally, an increased ability to process and analyze vast amounts of data has facilitated the management of global networks. Electronic data interchange (EDI) systems greatly reduce the costs of procurement and improve the coordination of production across dispersed factories by automating the processing of routine transactions (Chen 1996).

—policy improvements—
Improvements in economic policies, notably the decline in barriers to trade, have also contributed to forming cross-border production networks. Successive rounds of multilateral negotiations reduced average tariffs on manufactured products in industrial countries from 10 percent in 1980 to 5 percent by 1998. The average tariff rate in developing countries fell from between 25 and 30 percent in the early 1980s to 13 percent by 1998 (figure 2.12). Even relatively low tariff rates can have a significant role in deterring the formation of cross-border networks, because goods often pass through borders several times in the course of production (Navaretti, Haaland, and Venables 2000), and the gross margins of manufacturing companies are often lower than 5 percent.[26] Hanson, Mataloni, and Slaughter (2002) find that tariffs are an important determinant of the size of intermediate

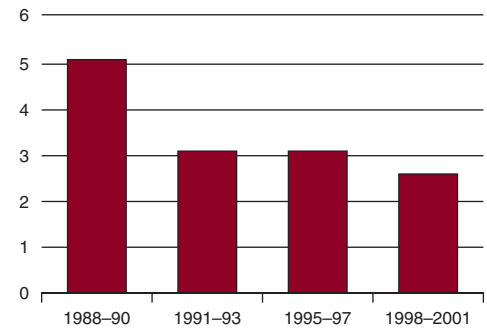
Figure 2.12 Tariff rates fell in the last two decades

Average tariff rates, 1980–98



Industrial countries' tariffs on parts and components, 1988–2001

(average tariff on imports from industrial countries, in percent)



Note: Unweighted average of ad valorem, applied, or MFN rates, whichever data are available for a longer period.
Source: U.N. Comtrade database.

inputs from parent companies relative to the total sales of U.S. affiliates (a direct measure of activity within production networks). Higher tariffs are significantly correlated with less production sharing, with estimated elasticities in the range of 2 to 4. Multinationals may even lobby for reduced tariffs on their inputs so they can reduce the costs of networks. The average tariff rate that industrial countries impose on imports of parts and components declined during the 1990s and was well below the overall average tariff rate by the end of the decade.

Steps toward greater integration between geographically close neighbors with significantly different wage rates have had a particularly important role in stimulating the growth of regional production networks. Before 1990, the export of processed goods from Eastern Europe to the EU was minimal. By 1996, such exports were almost 20 percent of Poland's exports to the EU, 40 percent of Romania's, and well over 10 percent in most other Eastern European countries (Baldone, Sdogati, and Tajoli 2002). Kaminski and Ng (2001) report that the value of Central Europe's total trade in parts grew almost three-fold from 1993 to 1997. The *maquiladora* industry in Mexico has grown spectacularly since introduction of the North American Free Trade Agreement (NAFTA).

Networks have been boosted by special arrangements. U.S. and European tariff provisions encourage production by the subsidiaries of multinationals, because the tariff on a subsidiaries' import is imposed only on the value added in the assembly country, not on the total value of the good (Ng and Yeats 2001).

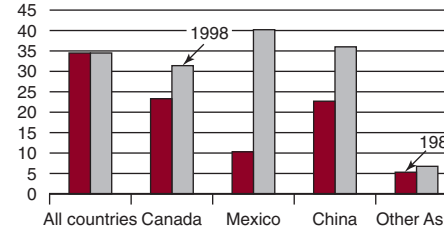
Reduced restrictions on FDI in developing countries have increased the participation in international production networks. Of the numerous regulatory and policy changes that have affected FDI and that were introduced by developing-country governments during the 1990s, 95 percent were aimed at creating a more open environment for FDI (UNCTAD 2001). Many developing countries have eliminated broad restrictions on FDI and have shifted to negative lists (that is, lists specifying a limited number of sectors from which foreign investors are excluded or are subject to a ceiling on the share of the firm that foreigners may own).[27] Often, reforms in trade, FDI, and other areas work together to encourage greater participation in global networks. The export-to-sales ratio of U.S. multinational affiliates rose dramatically from 1982 to 1998 in Mexico (following trade and investment reforms in the mid-1980s), in China (after reforms in the early 1990s), and in Canada (after investment reforms of the mid-1980s and the coming into effect of U.S.-Canada free trade agreement in 1989) (figure 2.13).

—and incentives

Countries may affect their attractiveness to global production networks by specific requirements or incentives affecting foreign firms. Moran (2001) examines case studies on the industries cited above as being most heavily involved in global production networks (electronics, machinery, and transportation). He finds that affiliates in countries that impose relatively stringent or widespread performance standards on multinationals (for example, limits on foreign ownership, domestic-content requirements, and various technology-sharing

Figure 2.13 Reforming countries boosted exports through production networks

(exports of U.S. affiliates as a share of total sales, in percent)



Note: Exports from U.S. affiliates in all countries show no rise in the share of sales due to declines in the export shares in primary production.
Source: Hanson, Mataloni, and Slaughter (2001).

mandates) are much less productive, use older technology, and take longer to introduce new processes and products than affiliates in countries that do not impose such requirements. Thus, FDI to countries with strict requirements is more likely to be directed at local markets, because participation in networks often requires the latest technology.

Global networks can be structured in many ways

Global networks are achieved through a range of ownership structures, from conducting arm's-length transactions (for example, trade in standardized parts sold in organized markets) to establishing a subsidiary for producing components that are custom-made for particular products (Arndt 2001). A spectrum of choices exists, and each involves some form of relationship between supplier and purchaser.[28] The major advantage that multinationals have over local firms is typically technology, and protecting that advantage is a key consideration in determining the structure of a global network (Ethier and Markusen 1996).[29] Because it can be difficult to maintain control over technology in arm's-length arrangements, FDI is often the preferred choice (Hoon and Ho 2001).[30] This preference is reflected in the rise in the share of intra-firm trade in multinationals' exports, at least as far as developing countries are concerned (box 2.1).

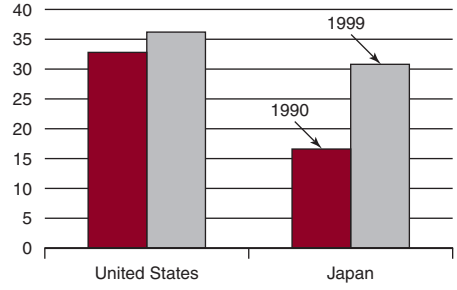
There are disadvantages, however, to establishing a network through FDI. Securing

Box 2.1 Intra-firm trade increases worldwide

The boom in FDI flows during the 1990s was associated with only a small rise in the share of intra-firm trade in U.S. exports during the 1990s (see box figure 1).[31] By contrast, the share of intra-firm exports in Japanese trade almost doubled during this period. The failure of U.S. outward FDI flows (the stock of which nearly tripled in the 1990s) to result in a sharper increase in the share of intra-firm trade probably reflects the dominance of M&A transactions rather than greenfield investments. The transfers of ownership involved in such transactions would not necessarily have a significant effect on trade flows. If one looks at longer time series, there is some evidence that intra-firm trade has become more important for U.S. multinationals, particularly in services (box figure 2).

Intra-firm trade has increased

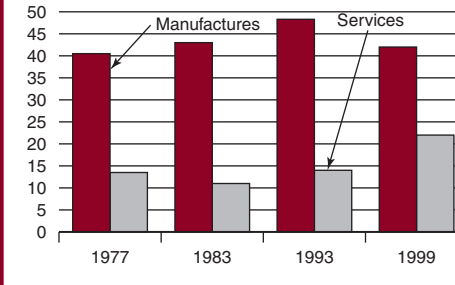
(percent share of intra-firm exports in total exports)



Source: OECD (2001).

Intra-firm trade in services is becoming more important

(percent share of intra-firm exports in total U.S. MNC exports)



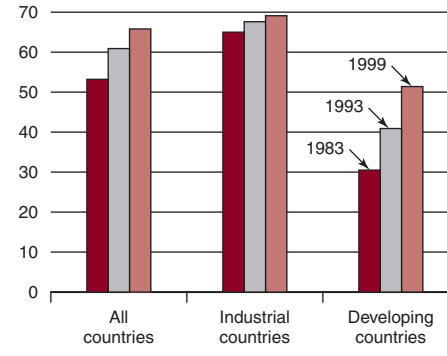
Source: OECD (2001).

Box 2.1 *(continued)*

Intra-firm trade includes production that is shared among locations in global networks, as well as trade in finished products for marketing and distribution in foreign countries. There is some evidence that production through networks has become more important over time. The share of exports of intermediate goods to overseas manufacturing affiliates in total Japanese exports rose from 20 percent in 1994 to 29 percent in 1999. Products intended for further processing increased from 57 percent of U.S. multinationals' exports to foreign-owned affiliates in 1989 to 68 percent in 1999 (Mataloni and Yorgason 2002). Trade among foreign affiliates of U.S. multinationals has also expanded, which probably indicates that networks have become more complex over time. The share of intra-firm exports of foreign subsidiaries accounted for by exports to other subsidiaries (rather than to the parent company) rose from 53 percent in 1983 to 66 percent in 1999 (box figure 3). This rise is almost totally due to an increase in foreign affiliate trade among developing countries, from 30 percent of U.S. multinationals' intra-firm trade in 1983 to 51 percent in 1999. Production networks appear to be less important in intra-firm trade among industrial countries, given their more similar labor costs. For example, 90 percent of intra-firm exports from foreign multinationals to U.S. affiliates are finished goods for direct distribution to the U.S. market. The picture that emerges is that total intra-firm exports by U.S. multinationals have increased only slightly more rapidly than have total U.S. exports. However, a growing share of this trade is devoted to production networks, which increasingly involve developing countries.

Trade among U.S. affiliates is rising in the developing world

(percent share of intra-firm exports in total U.S. MNC exports)



Source: OECD (2001).

intermediate inputs through contracts with local firms often entails lower administrative costs than establishing a subsidiary. The multinational is free to specialize in providing technology, marketing, and distribution services, while a local partner may be better situated to handle the personnel and regulatory issues involved in establishing a company. Moreover, some multinationals outsource a substantial share of manufacturing, because contract manufacturers may be better placed than multinationals to absorb the risk from rapid product obsolescence (Ernst 2002). Contract manufacturers that produce components for well-known multinationals grew rapidly during the 1990s and now account for 20–30 percent of total electronics production.

Developing countries have increased their participation in global networks

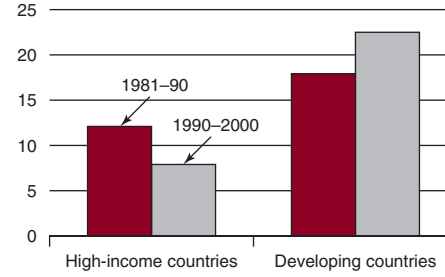
Developing countries have been increasingly involved in the international networks that manage the production and trade of intermediate goods. Differences in wage levels have led firms to locate in developing countries those portions of the production chain that are intensive in manual labor, while locating at home the technically skilled labor (such as that involved in R&D, management, and marketing)

(Hanson, Mataloni, and Slaughter 2001; Filipe, Fontoura, and Saucier 2002). Multinationals operating in developing countries are more likely to be part of a network (as opposed to supplying the host market) than are multinationals in industrial countries. The share of U.S. affiliate production that is sold back to the United States is more than twice as high for developing countries as it is for industrial countries (Shatz and Venables 2000).

Data on parts and components exports, which are a proxy for participation in networks, confirm the growing participation of developing countries.[32] Their exports of parts and components increased by almost 18 percent per year in the 1980s and by 22.5 percent in the 1990s (in U.S. dollar terms), almost three times more rapidly than such exports of high-income countries in the latter period (figure 2.14). As a result, the share of developing countries in global parts and components exports increased from 4 percent in 1981 to 21 percent in 2000 (figure 2.15). By contrast, the share of developing countries in exports of world manufactures rose much more slowly, from 16 percent in 1981 to 22 percent in 2000, while developing countries' share of total trade fell slightly (largely caused by the fall in commodity prices).

Figure 2.14 Parts and components exports grew rapidly, 1981–2000

(percent per annum)



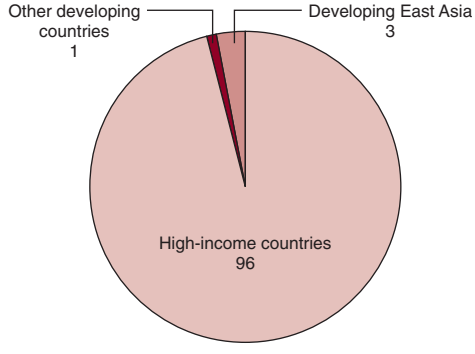
Source: U.N. Comtrade and World Bank.

Access to networks among developing countries is highly concentrated

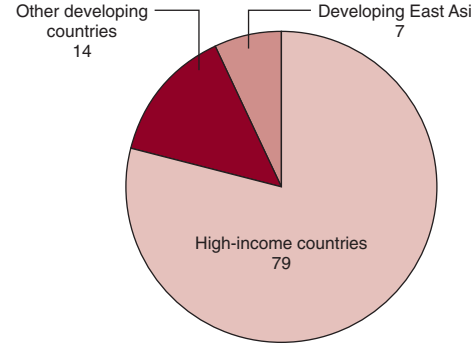
Developing countries' participation in global networks is highly concentrated, particularly in East Asia. The top five developing-country exporters of parts and components (China, Mexico, Republic of Korea, Malaysia, and Thailand) accounted for 78 percent of developing countries' exports of parts and components, and the next five largest developing countries accounted for about 14 percent (figure 2.16). Developing countries outside the top 10 made up only about 8 percent. By contrast,

Figure 2.15 Developing countries' share of global parts and component exports rose between 1981 and 2000

Percent share of parts and components trade, 1981



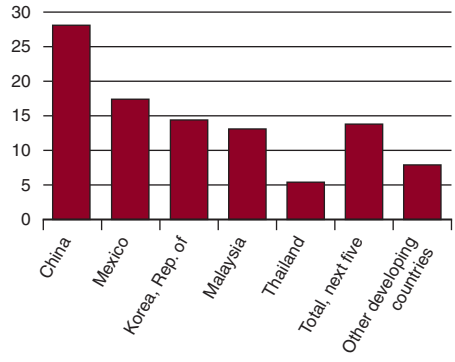
Percent share of parts and components trade, 2000



Source: U.N. Comtrade and World Bank.

Figure 2.16 Developing countries' parts and component exports are highly concentrated, 2000

(percent share of total)



Source: U.N. Comtrade and World Bank.

the top 10 countries accounted for 63 percent of developing countries' total exports and 75 percent of their manufactured exports. Thus trade of parts and components is much more concentrated than total or manufactures trade. All top 10 countries (except Brazil) either are from East Asia or are participating in regional arrangements—with the United States or the EU—that provide for low trade barriers and long-term arrangements to increase trade integration. By contrast, countries that have limited ties to major industrial country markets, that lack adequate infrastructure (particularly transport facilities) or a sufficiently educated work force, that are subject to high risks as a result of poor governance or weak institutions, or that have pursued policies that erode incentives for private sector investment have minimal participation in global networks. South Asia, Sub-Saharan Africa, and the Middle East and North Africa together account for only 2 percent of developing countries' parts and components exports (and two-thirds of that amount is from South Africa and India), compared with 11 percent of developing countries' total manufactured exports.

Networks help improve the allocation of resources

Global production networks break the production of a given final good into a set of constituent activities that vary in the intensity of capital, skilled labor, unskilled labor, and other production requirements. Instead of making entire products, developing countries can be involved in just those stages of products (for example, labor-intensive stages) that best suit their mix of endowments. This approach enables developing countries to shift more resources to activities in which they have a comparative advantage, particularly the fast-growing segments that require large labor inputs in one or more stages of the manufacturing chain. Developing countries' participation in global networks has enabled those countries to increase their share of the world's fastest-growing export products (transistors and semiconductors, computers, and computer and office machine parts) from 2.4 percent in 1980 (about the same as the share of those products in global exports) to 16.3 percent by 1998 (almost 7 percentage points higher than the share of such products in global exports) (table 2.3).

Participating in networks may help dampen the effect of adverse shocks. Multinationals may have an interest in maintaining the operations of firms with which they have close ties, either in the form of investment or long-term contracting relationships. Some authors have argued that intra-firm trade is less responsive to changes in relative prices than is trade between firms, because multinationals will be concerned with the effect of their production

Table 2.3 Export activity for product groups with the fastest growth in world exports, 1980–98

(percent)

	1980	1998
Share in world exports	2.6	9.7
Share in developing-country exports	2.4	16.3

Source: UNCTAD (2002).

decisions on the survival of foreign affiliates (Cho 1990; Helleiner 1978).[33] Thus multinationals may lend funds to subsidiaries suffering temporary shocks or may provide the backing necessary for them to access credit markets.

Long-term contracts that have been entered through networks may help firms survive severe shocks. For example, exports from the Philippines maintained double-digit growth rates in 1998, while other countries in the region saw outright declines in exports because of the crisis. This performance was principally due to the high growth in electronics exports (while exports of consumer goods languished), and almost all of the Philippines' electronic exports come from affiliates of multinationals. The arrangements in place meant that a substantial share of the Philippines' production was booked well in advance (typically one year), which helped the country maintain output growth during the downturn in demand (World Bank 1999).

Networks may boost access to technology—

Participating in global networks may improve developing countries' access to technology. Multinationals typically possess knowledge assets such as patents, proprietary technology, trademarks, and so forth that can be deployed in plants outside the parent country (see Dunning 1981). Blomström and Kokko (1998) describe how multinationals typically have proprietary technology that enables them to compete against local firms, which presumably have superior knowledge of local markets and business practices. Approximately 90 percent of the world's R&D is carried out in five countries (the United States, the United Kingdom, France, Germany, and Japan) that are among the largest source countries for world FDI flows (Keller 2001).

—which may be an important source of growth potential

Access to technology is particularly important for developing countries, which tend to import a large share of technical advances. Using international patent data, Eaton and Kortum (1999) find that even the major industrial countries (the United States, Japan, Germany, the United Kingdom, and France) generally adopt from one-half to three-fourths of their innovations from abroad, and that the United States is the only country that derives most of its growth from its own innovations (see also Keller 2001). Because developing countries spend a lot less than industrial countries on basic research, they are even more dependent on foreign sources of technology. Thus the potential for increasing access to technology as a result of participation in trade and FDI may be great (Keller 2002).

In part, benefits from the transfer of technology are directly captured by the local firm or subsidiary participating in a network. Technology is transferred from the parent to a subsidiary, or a local exporter may purchase technology as a condition of participating in a network. One piece of microeconomic evidence consistent with rising intra-firm knowledge transfer is the rising share of multinationals' R&D performed by foreign affiliates. The U.S. Bureau of Economic Analysis (BEA) reports that, in 1982, affiliates of U.S. multinationals performed 6.4 percent of worldwide R&D for these firms. By 1994, that share had nearly doubled, to 11.5 percent. This form of technology transfer may increase domestic productivity, but the benefit is fully reflected in market prices: the local subsidiary or independent firm pays for the technology through profit repatriation or expenditures on technology. In addition, local firms may absorb technology from networks in ways that are not entirely reflected in market transactions (referred to as *spillovers;* see discussion in chapter 3). Rodriguez-Clare (1996) illustrates how multinational spillovers from participation in global production networks may work: affiliates increase a host country's access to specialized varieties of intermediate inputs, the improved knowledge of which raises the productivity of domestic producers.

Networks may help increase the supply and demand for skilled labor

Networks help improve access to technology, which tends to stimulate demand for more-skilled workers relative to less-skilled workers. Increased capital available through FDI may also increase the demand for skilled workers (see the survey in Hamermesh 1993). Feenstra and Hanson (1996) show that the transfer of technology and capital accumulation associated with global networks can raise the demand for more-skilled labor in both industrial and developing countries, and Feenstra and Hanson (1997) estimate that FDI into Mexico's *maquiladoras* has contributed to rising demand for skilled labor. Slaughter (2002) finds a robust and positive correlation between skill upgrading and the presence of U.S. foreign affiliates. This correlation is more than twice as large for the subsample of developing countries when compared with the subsample of industrial countries.

Participation in global production networks may raise the supply of skilled labor in developing countries. One channel can be the short-term activities by which individual firms interact with host-country labor markets through on-the-job training or support for local educational institutions. Multinationals might directly affect labor supplies, because their transferred knowledge might boost the skills of their employees (and, with labor mobility, the skills of the employees of domestic firms as well). They might indirectly affect labor supplies (for example, by influencing the educational infrastructure of host countries in terms of curriculum choices and vocational training). As Hanson (2001) reports, Intel recently chose to establish a large assembly and testing facility in Costa Rica, in part thanks to Costa Rica's agreement to expand high school training in electronics and English (see also Moran 2001). Also, to the extent that FDI inflows and trade increase the supply of attractive employment opportunities, they may inhibit the emigration of more-educated workers to industrial countries. For example, the 1990s boom in Ireland, caused in large part by inward FDI, resulted in a surge in labor supply driven largely by the reverse migration of young Irish people back to Ireland.

If the presence of multinationals raises the demand for skilled labor more than the supply, then wage rates for skilled labor may increase relative to those for unskilled labor. This change implies a widening of income inequality in countries with a large pool of unskilled labor. However, multinationals' demand for labor is likely to raise the level of income of all workers, regardless of the effect on relative wages. Several studies have found that multinationals pay higher wages than do domestically owned establishments, even when controlling for a wide range of observable worker or plant characteristics such as industry, region, and overall size. The magnitudes involved are significant. Doms and Jensen (1998) document that for U.S. manufacturing plants in 1987, wages in foreign affiliates exceeded wages in domestically owned firms by a range of 5 to 15 percent, with larger differentials being enjoyed by production workers than by nonproduction workers.[34] The premium could be accounted for by higher worker productivity as a result of multinationals' superior technology or capital. It could also be a result of other factors, such as higher worker productivity caused by unobservable worker qualities, or of multinationals being more profitable and therefore more able to share more rents with workers. Whatever the case, the bottom line is that global production networks are likely to present high-wage opportunities for both more-skilled and less-skilled workers.

The benefits from networks can contribute to growth and structural transformation

Improved allocation of resources, access to technology, and increases in skilled labor can, in principle, make important contributions to raising productivity and to facilitating the transition from primary commodities to producing products with higher value added and greater potential for growth. However, the extent of benefits from participation in networks

is an empirical question. Local firms may not capture the benefit from the transfer of technology and increased productivity through networks if multinationals have a wide choice of production locations and a monopsonist position in the purchase of supplies. In this situation, competition among suppliers may drive prices down, and the benefits of local firms' productivity improvements will accrue to the multinational.[35]

Some observers have argued that the benefits from network participation have been limited for most countries, with the important exception of a few of the most successful East Asian countries (see UNCTAD 2002b). Rising manufactured exports through networks may not be accompanied by increased value added in manufactures, and network participation may simply mean the continued use of unskilled labor in low value added activities rather than the development of the manufacturing sector. For the 20 developing countries with the largest exports of parts and components (a proxy for network participation), the average share of GDP devoted to manufactures has shown no increase over the past 20 years (table 2.4).[36] However, average manufacturing value added (at constant prices) has increased by more than 5 percent per year in these countries, a very respectable performance over a 20-year period, and 2.5 percentage points more rapidly than the average of developing countries with limited or no participation in networks.[37] The failure of manufacturing value added to rise as a share of GDP reflects the rapid rise in services as income rises, particularly in these fast-growing economies. That network participants did achieve significant structural change is indicated by the rapid fall in the share of agricultural value added in GDP, from 17 percent in 1980 to 10 percent in 2000. These data do not demonstrate that network participation was a major cause of growth and structural change in these economies, but they do indicate that participation in networks has been consistent with such progress.

Table 2.4 Rapid growth and structural change experienced by network participants

	1980	2000
Share of manufacturing value added in GDP	22.8	23.2
Share of agriculture value added in GDP	17.3	10.3
Memo item: average annual growth rate of manufacturing value added, 1980–2000	5.3	

Note: Data represent the 20 developing economies (including Taiwan [China]) with largest exports of parts and components.
Source: World Bank staff.

Sectoral studies indicate that networks have enabled countries to move from low-value to relatively high-value activities. For example, the global apparel industry contains many examples of industrial upgrading by developing countries.[38] Several countries have shifted from assembling apparel from imported inputs (which requires only low-wage labor) to filling orders from global buyers. This latter role requires the ability to make samples; to purchase or manufacture the needed inputs for garments; to meet international standards in terms of price, quality, and delivery; and to assume responsibility for packing and shipping the finished items. A few East Asian countries made this transition in the 1970s, then began to set up their own international production networks in the 1980s using low-wage countries in Asia and elsewhere. Since then, several countries (for example, India, Mexico, Romania, Turkey, and Vietnam) have developed expertise in managing apparel production chains. Their role is likely to expand greatly as the apparel quotas under the Multifibre Arrangement are phased out in 2005.

Global production networks have been a central feature in the development and upgrading of Asia's large, dynamic electronics sector. While the East Asian newly industrializing economies—Hong Kong (China), Korea, Singapore, and Taiwan (China)—were the first participants, the major Southeast Asian countries of Indonesia, Malaysia, the Philippines, and Thailand have taken places directly below

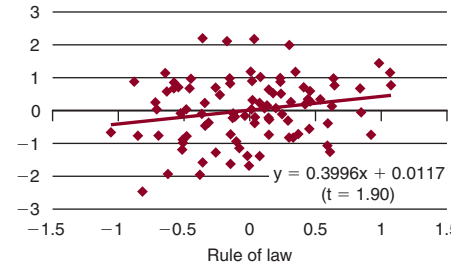
them in the production chain, including working in design and setting up their own production networks. More recently, China has been evolving from a provider of low-wage, assembly operations to the leading producer of electronics across a wide range of industries (Borrus, Ernst, and Haggard 2000). Finally, exporters of fresh vegetables in Kenya and Zimbabwe have benefited from their relationship with U.K. supermarkets, first through assistance in meeting production standards, and more recently in taking on higher value added activities within the production chain. These activities have included packaging and applying barcodes; investing in state-of-the-art methods for cold storage; adopting just-in-time management techniques (including information technology) to reduce the time between harvesting, packing, and delivery; and expanding to joint ventures with freight forwarders to gain more control over the distribution process (Dolan and Humphrey 2000).

Of course, participating in networks has not always been accompanied by progress to higher value added activities. Survey evidence indicates that East Asian firms participating in networks have experienced an increased propensity to innovate as they draw on foreign expertise (as well as increased export growth), compared with firms in the same sectors that did not participate in networks (World Bank 2002a). However, networked firms did not show faster growth in employment or value added, on average, than nonnetworked firms. The World Bank (2002a) also found that few East Asian firms were able to move up the value chain through participation in networks. However, these observations are consistent with countries benefiting from network participation through spillovers and production by multinational subsidiaries.

Good policies attract FDI

The quality of the policy regime is an important determinant of the allocation of FDI flows among developing countries. Macroeconomic stability, corruption, rule of law, and effectiveness of the regulatory regime have been shown to be significant determinants of the location of foreign investment, after controlling for other variables (Stein and Daude 2002). For example, figure 2.17 shows that a ranking of countries according to the rule of law (see Kaufman, Kraay, and Zoido-Lobaton 2000) is significantly related to the level of FDI inflows, after controlling for size, income, openness to trade, inflation, and educational attainment. By this measure, increasing the rule of law by one standard deviation (for example, from the level of Bangladesh to that of Turkey, or from the level of Turkey to that of Chile) would raise FDI inflows by 40 percent.

Figure 2.17 Strong rule of law attracts foreign investors

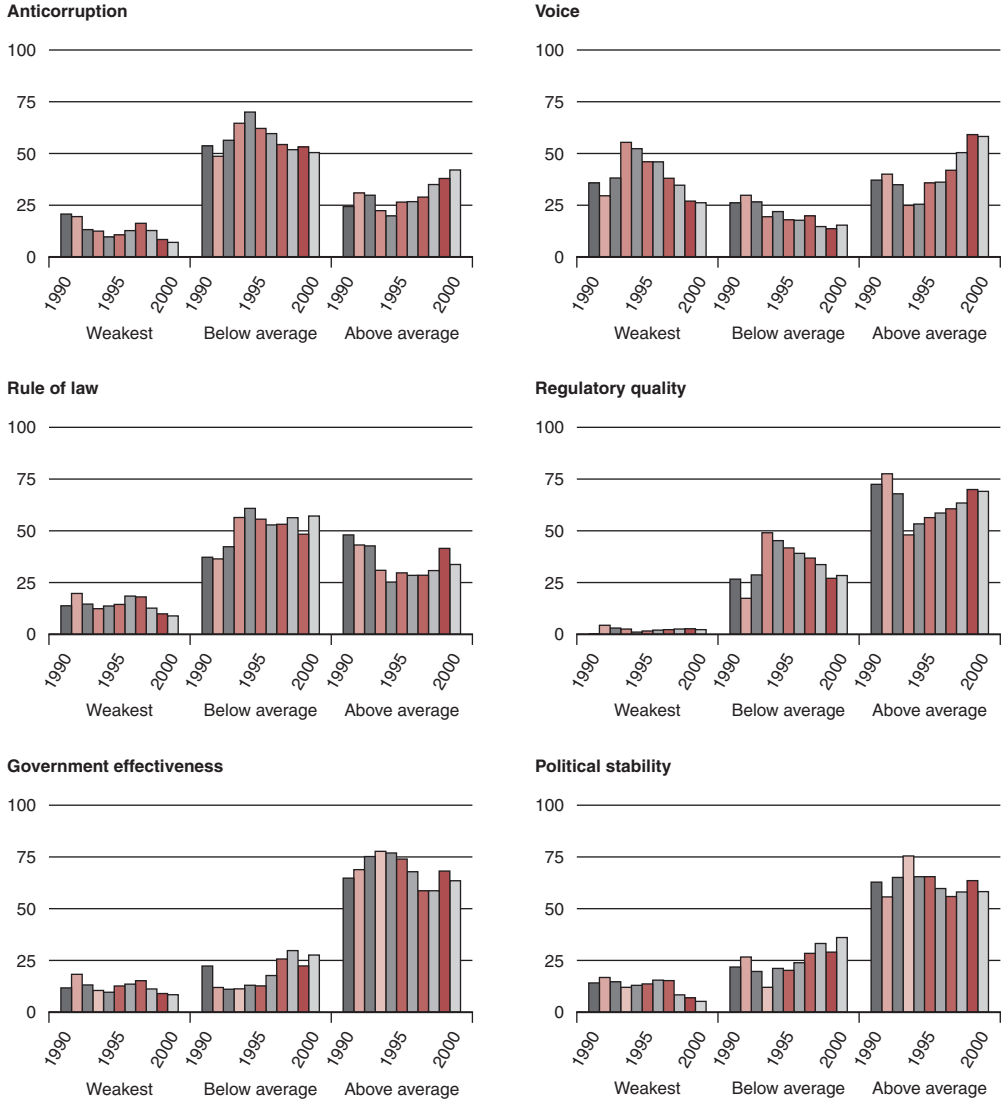


Note: Partial correlation for developing countries controlling for size, income, openness, inflation, education.
Source: World Bank staff.

Time series analysis underlines the importance of governance and institutional quality for the allocation of FDI. Countries with better investment climates—as indicated by the level of corruption, voice (political openness), rule of law, quality of the regulatory regime, government effectiveness, and political stability—tended to receive an increasing share of total FDI over the 1990s (figure 2.18).[39] The importance of each dimension of the investment climate used in figure 2.18 varies considerably. Countries that have strong rankings for regulatory quality, government effectiveness, or political instability consistently received more than half of all the FDI to developing countries, with little change in their share of FDI

Figure 2.18 Foreign investors have been shifting away from weaker investment climate locations

(percent annual shares of total FDI to developing countries)



Source: World Bank staff.

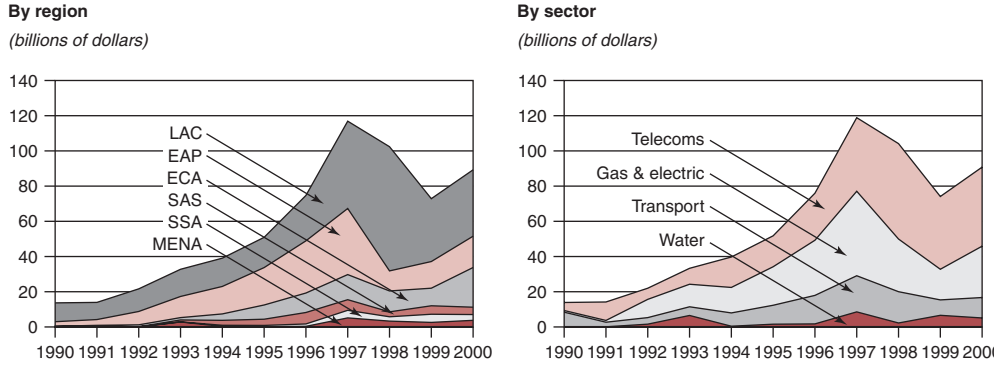
by the late 1990s when compared with earlier in the decade. In contrast, the extent of political openness has not been strongly associated with the share of FDI received. And although countries with relatively poor rankings for rule of law and anticorruption received substantial shares of FDI, the shares tended to decline in the latter half of the 1990s. For example, countries with below average anticorruption efforts received 70 percent of developing-country FDI in 1994, but only 50 percent in 2000, while those with above-average ratings doubled their

share from 20 percent to just over 40 percent. If one holds other determinants of FDI allocation (including market size, openness, inflation, and education) constant, corruption is significantly related to the share of FDI in the late 1990s, but not in the early 1990s.

Why should the share of FDI going to countries with better investment climates have increased during the 1990s? Remember that total FDI flows to developing countries increased very rapidly during this period. One possibility is that countries with high levels of corruption or weak rule of law had other attractions (such as high tariff barriers or incentives programs) that made them desirable locations for investment in particular sectors, while they remained relatively undesirable locations for FDI in general. Countries that offered such attractions for FDI were unlikely to share equally in the FDI boom during the 1990s, which generally responded to the liberalization of economic policies and improvements in macroeconomic stability in several countries. That is, countries with poor governance may have attracted a substantial amount of FDI during the 1990s because of costly incentives. However, they would be unlikely to attract increasing amounts of FDI unless they were able to continually raise incentives. Another hypothesis is that investors became more concerned about risk in reaction to the crises of the late 1990s, and that countries with weak governance were viewed as relatively risky. Indeed, risk premiums on junk bonds and on emerging market debt jumped sharply toward the end of 1998, indicating a shift toward increasing risk in the global environment.

The boom in private infrastructure investment during the 1990s highlights the importance of a policy for attracting foreign investment. Private infrastructure investment in developing countries surged during the 1990s, rising from $14 billion in 1990 to a peak of $117 billion in 1997, before easing to $89 billion by the end of the decade (figure 2.19).[40] Foreign investors were involved in some 80 percent of recorded private infrastructure transactions from 1990 to 1998, although foreigners accounted for only about 30 percent of the dollar value of total private infrastructure financing (Sader 2000). The boom in private infrastructure investment responded to improvements in the investment climate in several of the largest developing countries. Privatization programs opened infrastructure sectors to private investment, and total privatization proceeds in infrastructure jumped

Figure 2.19 Private infrastructure investment surged in the 1990s



Note: MENA is Middle East and North Africa, ECA is Europe and Central Asia, SSA is Sub-Saharan Africa, EAP is East Asia and Pacific, SAS is South Asia, and LAC is Latin America and the Caribbean.
Source: World Bank staff.

from $10 billion in 1990 to $40 billion in 1998, before falling off sharply to $12 billion in 1999 (World Bank 2001). More generally, efforts in several countries to open their economies to trade and investment and to establish more stable macroeconomic environments encouraged the surge in infrastructure investment.

The decrease in foreign investment in infrastructure projects among developing countries since 1997 largely reflects a reduced demand for infrastructure services, owing to the crises in East Asia, Russia, Brazil, and Argentina. For example, in East Asia and the Pacific, private infrastructure investment collapsed from a peak of $38 billion in 1997 to an average of less than $15 billion per year from 1998 to 2000. In Latin America, private infrastructure investment in 1999–2000 was halved from the 1998 peak of $71 billion. The drop-off affected all sectors, with peak-to-trough declines of 63 percent in gas and electricity, 57 percent in transport, and 24 percent in telecommunications.

Although comprehensive data are unavailable, foreign investment in developing-country infrastructure projects has likely continued to decline in the past two years. The overall deterioration in the international economic environment has driven a sharp decline in commercial bank lending to developing countries (net long-term lending from the banks fell to a negative $32 billion in 2001), and funds for project finance have dried up. Also, the key investors in infrastructure sectors, utilities (in the Europe and United States), equipment manufacturers, and specialized venture capitalists have seen their profits collapse, and in some cases the firms have gone bankrupt. Most of those firms are under pressure to recapitalize and are reluctant to devote their limited resources to high-risk ventures in developing countries. Finally, the scandals involving energy deregulation and the spectacular losses of privatized telecommunications firms may have reduced support for the deregulation of service sectors, a key step toward providing infrastructure services by the private sector.

Notes

1. A country's location may have an important role in attracting FDI flows. For example, Caribbean countries benefit from their proximity to the United States.

2. Data are from UNCTAD 2001. The data on cross-border M&A already introduced are not comparable to the data on FDI. For example, M&A is reported on a transactions basis, while actual payments that are reported as FDI may be spread over several years. Also, the local financing share will be reported as part of an M&A transaction but will not be reported as FDI. Thus it is not useful to compare the magnitude of M&A flows with FDI.

3. Documentation and discussion of those merger waves can be found in Golbe and White (1988, 1993), Black (2000), Holmström and Kaplan (2001), White (2001), and Pryor (2001a).

4. Analysis based on Evenett (2002).

5. These data are from White (2001, 2002). The number of corporations refers to 2000. The share of the top 100 refers to 1999.

6. In the *Fortune* list of the largest 500 global companies in 2000 (as measured by revenues), 12 were headquartered in China (including Hong Kong); 11 in Korea; 3 in Brazil; 2 each in Mexico, Russia, and South Africa; and 1 each in India, Malaysia, and the República Bolivariana de Venezuela. The remaining companies were headquartered in Japan, North America, or Western Europe.

7. Choosing the appropriate indicator of concentration is difficult. Value added is clearly the superior all-around measure of aggregate concentration, but it is not regularly reported by companies in their public financial statements or in government data. Accounting profits will depend on depreciation and amortization rates that vary across firms, and on corporate income tax rules that vary by country. Data on sales will significantly distort the relative importance of retail firms (with large ratios of sales to value added) versus manufacturing firms. Measuring concentration in terms of assets would imply double counting for financial intermediaries. Moreover, reported asset values would depend on alternative accounting treatments for M&A; changes over time in accounting and tax treatment of asset depreciation, amortization, and write-offs; and changes in the treatment of expensing versus write-off for various categories of costs. To avoid these inconsistencies and definitional problems, we use employment data to analyze global concentration, but we also look at indicators that are based on profits.

8. White (2001) also reports a rise in aggregate concentration in manufacturing alone from the 1940s to the 1980s, and then a decline in the 1990s, based on value added measures; a decline in economy-wide aggregate concentration in the 1970s, as shown by

employment and profit data; and a decline in aggregate concentration from the 1950s through the 1980s, based on assets. Somewhat similar conclusions are reached by Pryor (2001b).

9. The only antitrust concern that might be raised would be that of multimarket contacts among the largest companies. For discussions of the potential and actual influence of multimarket contacts, see Feinberg (1985), Rhoades and Heggestad (1985), Bernheim and Whinston (1990), and Evans and Kessides (1994).

10. The *Forbes* "Super 50" list is based on a composite calculation of sales, profits, employment, and market value.

11. The time series analysis is based on the *Forbes* list, which provides comparable data from 1994 to 2001. The *Fortune 500* list was not used because it included several government-owned businesses. In particular, it extended in the latter years to a few state-owned Chinese companies, thereby distorting the comparison with the mid-1990s.

12. As stated above, calculations of aggregate concentration should not be based on sales data because of the wide range of ratios of sales to value added found in different corporations. But this calculation is based on changes over time, and presumably differences in the growth rates of sales and value added are not as disparate as the levels.

13. World Bank computations are based on data from the U.S. Bureau of Census and the Japan Ministry of International Trade and Industry.

14. Even if data were available, global trends in the number of companies in major oligopolistic industries would provide only limited information concerning changes in the degree of competition. On the one hand, declining numbers of firms may be consistent with rising competition, as lower transportation and communication costs enable formerly regional firms to enter global markets. On the other hand, little change in the number of firms may be consistent with reduced competition (for example, resulting from strategic alliances with the goal of coordinating prices or sharing out markets) (OECD 2001).

15. Services are products that are to a large extent intangible, nonstorable, and nontransportable. Intangibility implies that the quality of services is uncertain because of their high and variable human content and "one-off" nature of production. Therefore, services generally require proximity and close interaction between the producer and the consumer to ensure a satisfactory level of quality. Nonstorability and nontransportability imply that services must be produced and consumed at the same time and at the same location. However, some services can be embodied in goods or stored and transmitted through electronic means. Services include such economic activities as wholesale and retail trade; travel; transportation; storage and warehousing; telecommunications; banking, finance, and insurance; entertainment; real estate; accounting and auditing; data processing; research and development; law; health; education; public relations; personal assistance (such as auto and house repair, haircutting, and laundry); and public administration.

16. See UNCTAD (1992), table I.3, p. 18. For Germany and Japan, the initial year is 1976.

17. Services are becoming increasingly interlinked with goods, especially in high-tech products in which the use of hardware requires various software and maintenance service contracts.

18. Williamson and Mahar (1998) detail moves toward liberalization of banking sectors.

19. The importance of foreign bank participation in developing countries has been discussed by several authors (see Roldos 2002).

20. See World Bank (1997) for a discussion of the globalization of production and the developing countries.

21. The share declined from 1996 to 1999 because of the abolition of tariffs under the EU's Association Agreements, which resulted in companies switching from EU to Eastern European firms for intermediate inputs.

22. This is a narrow definition of the share of trade conducted through networks; it excludes imported inputs that are processed and sold as a final good in the domestic market.

23. Hummels, Ishii, and Yi (2001) attributed one-third of the growth in world trade over the past 25 years to trade in parts and components, rather than trade in final goods.

24. Containerized shipment allows for better tracking of cargo, more efficient and reliable port services, and greater ease of switching to land transport.

25. The volume of cargo shipped by airlines increased by 6 percent per year from 1978 to 1998, and the share of revenue from international cargo in total air shipments rose from about 40 percent to well over half (Air Transport Association 1999).

26. Deardorff (1998) points out that tariffs can either deter or stimulate participation in global networks, depending on where they are imposed and whether they are on final or intermediate goods.

27. The easing of restrictions on FDI flows in developing countries has been discussed in various editions of *Global Development Finance*.

28. Chen (1996) lists alternative forms of production relationships, including wholly owned affiliates, joint ventures, foreign minority holdings, fading-out agreements, licensing, franchising, management contracts, turnkey ventures, contractual joint ventures, and subcontracting. See also Grosse (1996) for an alternative categorization.

29. FDI requires some advantage by the multinational over home production to compensate for domestic firms' superior knowledge of local markets, consumer preferences, and business practices (Blomström and Sjöholm 1998).

30. The example is given of a Singaporean company in which some technology was transferred to a local subcontractor, but critical components were unlikely to be outsourced.

31. One concern is whether these data are distorted because multinationals may not report "true" prices of goods traded among affiliates, but they will instead increase the price (and therefore profits) of goods from low-tax locations and will reduce the price of goods from high-tax locations. There is some evidence that U.S. firms have followed this practice; however, the overall patterns of prices are similar to the pricing of goods traded between firms (Clausing 2001). Thus these data may provide a reasonably accurate picture of trends in intra-firm trade.

32. These data refer to product categories identified as parts and components in the Standard International Trade Classification (SITC) Revised 2 system. This trade is a proxy for, but is not identical to, production through networks. On the one hand, such trade may also reflect the export of relatively undifferentiated inputs to arm's-length purchasers. Conversely, many goods that are parts to consumer products are not identified as such in the SITC system. On balance, the data probably understate the extent of trade through networks (see Kaminski and Ng 2001).

33. However, Rangan and Lawrence (1999) argue, on the one hand, that the costs of search and assessment of reliability involved in choosing suppliers and outlets will mean that even arm's-length relationships can be relatively insensitive to changes in relative prices in the short term. On the other hand, multinationals face smaller search and assessment costs because of greater international experience, so they are more likely to switch production rapidly in response to relative exchange rate changes. They provide some empirical support for this view.

34. For additional U.S. evidence, see Howenstine and Zeile (1994). Griffith (1999) presents similar evidence for the United Kingdom; Globerman, Ries, and Vertinsky (1994), for Canada; Aitken, Harrison, and Lipsey (1996), for Mexico and the República Bolivariana de Venezuela; and Te Velde and Morrissey (2001), for five African countries.

35. Conceivably, all sectors may be perfectly competitive, and the benefits of increased productivity will accrue to consumers.

36. This calculation excludes a few network participants that lack adequate time series data on manufacturing value added.

37. Excluding Korea, Malaysia, and Taiwan (China) from this set reduces the group's average growth rate of manufacturing value added to 4.3 percent per year, still much higher than other developing countries.

38. General information on apparel is mainly drawn from Gereffi (1999) and the apparel chapters in Gereffi and Korzeniewicz (1994) and Gereffi and Kaplinsky (2001).

39. The countries are classified into three categories: the worst group (more than half a standard deviation from the average), below average (half a standard deviation or less from the average), or above average.

40. Technological innovation also helped boost investment in infrastructure over the 1990s. For example, flows to the telecommunications sector rose with the dramatic reductions in the price of long-distance service.

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3

Domestic Policies to Unlock Global Opportunities

Globalization makes it increasingly important to get the "investment climate" right—

Expanding global service and production networks can accelerate growth in developing countries that successfully harness competition to encourage efficient investment. Efficient investment does not simply mean more investment. In fact, recent research demonstrates surprisingly little short-run correlation between investment levels and growth (Easterly 1999). Instead, investment and its productivity are inextricably linked to domestic policies that, taken together, broadly make up the local investment climate.

Sound enabling policies—including good governance, institutions, and property rights—can help attract more private investment, both domestic and foreign. Policies that promote competition and entrepreneurship increase the efficiency of that investment. Complementary public investment, meanwhile, further contributes to overall productivity growth. Taken together, sound policies in these three areas contribute to a positive investment climate, which is essential to accelerating growth and reducing poverty (Stern 2001).

—including having an enabling policy framework—

A stable macroeconomic environment is essential for a country to realize its investment potential. Good public governance—including transparent rules, low corruption, and respected property rights—encourages investment and promotes economic growth. Many countries try to use specific investment policies, such as tax incentives, to attract investment or to channel it in particular directions. Such schemes are often poorly designed, inadequately implemented, and costly, and may largely benefit investors who would have invested anyway.

—and promoting competition that will increase the productivity of private investment

In many countries, policy and private barriers either have discouraged private investment or have channeled it into less-productive activities that reduce economic growth. Promoting a positive investment climate, however, does not imply a laissez-faire approach to the economy. Rather, it requires active government efforts to reduce barriers that stifle entrepreneurship and competition. Four policy barriers to competition are especially common: barriers to trade, restrictions on foreign investments, administrative barriers to entry and exit, and monopoly positions granted to state-owned enterprises (SOEs) and newly privatized firms. While privatization has usually improved the performance of divested firms, shortcomings abound in subsequent industrial performance. Those shortcomings may be associated with regulations that reduce competition and grant exclusivity before sale of the enterprise. In addition, private

barriers to competition—including price-fixing and other collusive practices—can induce resource misallocation. After establishing an adequate macro policy framework, countries that lower both policy barriers and private barriers to competition can usually minimize investment distortions. They can also see more capital inflows, more rapid growth in trade, and superior overall performance.

Public investment plays a critical role in increasing productivity

The level and composition of public investment has changed over the past two decades. The wave of privatizations has reduced the level and scope of public investment through state enterprises, and many sectors once thought to be natural monopolies can now be exposed to competition. Public resources formerly used to subsidize loss-making SOEs can potentially be used where the private sector is unlikely to invest enough: education, rural roads, and expanded access to underserved areas in many networks. While always a challenge, investment in effective infrastructure and human capital projects has an especially high return.

Investment climate and investment policies

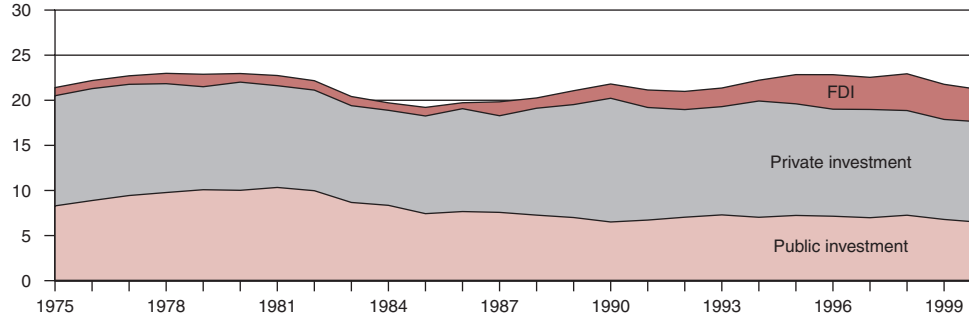
While foreign direct investment (FDI) flows to developing countries receive much attention and have special characteristics that can benefit recipients, most investment in these economies remains domestic in origin (figure 3.1).[1] This fact highlights the importance of policies likely to affect the level and productivity of all investment, not just foreign. Since the mid-1980s, the share attributable to public investment has remained fairly constant, while private domestic investment has declined slightly as FDI has grown.

Governance, corruption, and property rights matter—

One critical dimension of the domestic policy environment is whether the government operates with transparency, credibility, and stability. Good governance—including independent agencies, mechanisms for citizens to monitor public behavior, and rules that constrain corruption—is essential to development (World Bank 2002b). Barro (1991) finds a positive relationship between growth and measures of political stability for 98 countries from

Figure 3.1 Domestic capital is the largest source of investment in developing countries

(gross fixed capital formation, percent of GDP)



Note: GDP is gross domestic product. These are the annual averages for 111 developing countries. Private investment is calculated as the difference between gross fixed capital formation and the sum of public investment and FDI. Public investment data measure total public investment, including SOEs.

Source: World Bank and International Monetary Fund data, and Everhart and Sumlinski (2001).

1960 to 1985. For example, as discussed in chapter 2, countries with stronger rule of law see more FDI (figure 2.17).

Transparency is among the most important components of the domestic enabling environment. Transparency relates to both the actions taken by authorities and the broader business environment of the host country. A nontransparent business environment increases the cost of information, diverts corporate energies toward rent-seeking activities, and can be conducive to corruption. Case studies suggest that companies may, for example, be willing to invest in countries with legal and regulatory frameworks that would not otherwise be considered "investor friendly," provided the investors can obtain a reasonable degree of clarity about the environment in which they will be operating. Conversely, extremely opaque business conditions can deter virtually all private investment, regardless of the extent of the incentives.

While these factors affect all participants in the host country's business sector, they are arguably more discouraging to outsiders who are not privy to locally available information and who have other choices about where to invest. As with earlier relations, causality can run both ways, because FDI may contribute to creating a more transparent environment. There are cases in which a foreign corporate presence encouraged more open government practices, raised corporate transparency, and energized the fight against corruption. More generally, by observing commonly agreed standards such as those in the Convention on Combating Bribery of Foreign Public Officials, implemented by the Organisation for Economic Co-operation and Development (OECD), multinational firms can contribute to raising standards for corporate social responsibility in host countries.

Corruption can deter foreign investors by increasing transaction costs and by raising uncertainty regarding the enforcement of contracts, the predictability of operating costs, and the likelihood of obtaining needed licenses and permits. Recent empirical research confirms that measures of corruption are significantly and negatively related to FDI inflows (Smarzynska and Wei 2000; Wei 2000). Lipsey (1999) observes a strong negative correlation between corruption and the location choice of U.S. affiliates across Asian countries.[2] Hausmann and Fernandez-Arias (2000) find positive, albeit weak, evidence that FDI as a share of gross domestic product (GDP) increases with institutional quality.[3]

Corruption and poor governance often go hand in hand with lack of investor protections and with poorly functioning institutions, thereby deterring competition and investment. No investor—domestic or foreign—is likely to risk assets if there is a high probability that those assets will be arbitrarily seized. Security of private property helps ameliorate asymmetric information between investors and the government and reduces investor uncertainties, thus reducing risk premiums and the overall cost of doing business. Empirical literature provides unambiguous support for this basic point, finding that the institutions protecting property rights are among the most critical for growth (Knack and Keefer 1995), that productivity and economic growth will improve when governments impartially protect and define property rights (Claugue and others 1999), and that countries without adequate property rights are likely to grow more slowly (Zak 2001). Moreover, historical evidence from industrial countries suggests that when investors face the threat of asset expropriation, they are likely to charge much higher prices to recoup investments quickly—if they choose to invest at all (Keefer 1996; Wallsten 2001c).

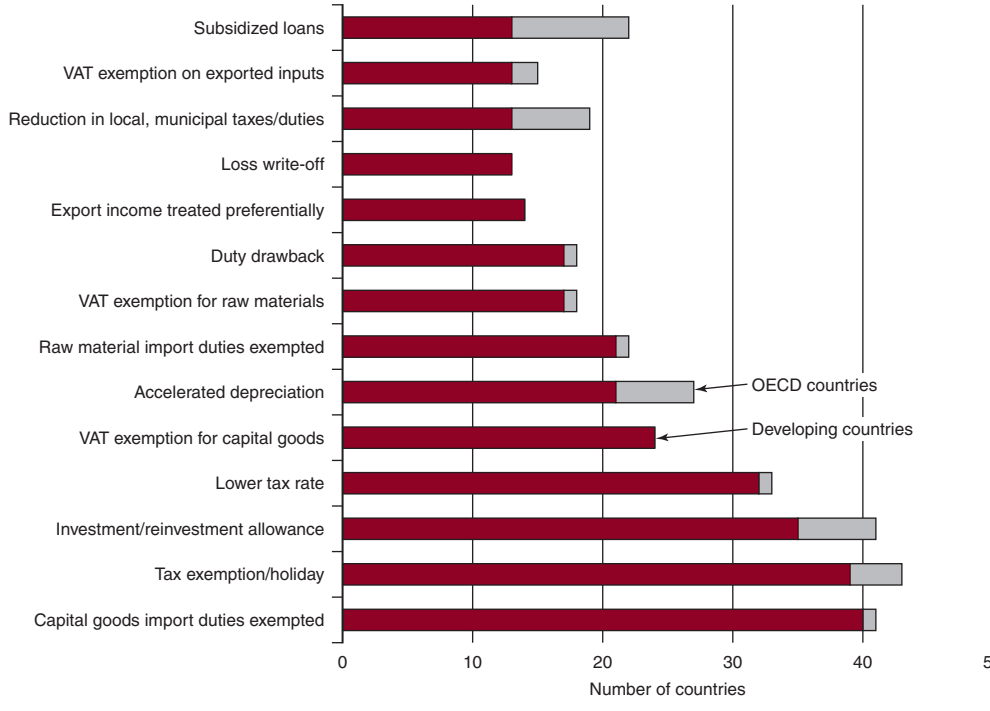
—but policies to channel private investment warrant caution—

Building a strong and stable investment climate is neither easy nor quick. Governments may hope to jump-start the process or to compensate for a poor investment climate through targeted policies intended to draw investors

(usually foreign). Similarly, governments may compete for foreign investment in higher value added industries as a way of moving up the technology hierarchy of international trade and production. The lure of targeted policies is clear: incentives can be legislated quickly, and investment that occurs after the incentives are in place can be touted as a success. While actual success stories exist, they tend to be the exception rather than the rule because a combination of design flaws and implementation failures could limit the hoped-for response. Moreover, such schemes can be expensive, with the risk that costs will outweigh any benefits, that incentives will merely transfer money to private investors who would have invested anyway, and that incentives can lead to a "race to the bottom" as developing countries each try to give the biggest incentives to investors. In this section, we will consider three common policies: tax incentives to encourage FDI, subsidies to promote industrial "clusters," and measures to encourage industrial development through export processing zones (EPZs).

Tax incentives for FDI. Given the perceived benefits of FDI, many countries have explicit policies to attract it. One recent study estimated that 116 countries take a proactive approach to FDI and offer incentives to foreign investors (Moran 1998). Figure 3.2 illustrates the variety and frequency of fiscal and financial incentives for FDI that developing countries offer. Typically, these policies focus on attracting particular types of investment—

Figure 3.2 Incentives for FDI are varied and numerous



Note: VAT is value added tax. Data on fiscal and financial incentives were compiled for 71 developing and 20 OECD countries. The most common incentives (used in at least 18 percent of developing countries) are shown in the chart.
Source: Bora (2002).

or changing investors' conduct—rather than on improving the general investment climate. Incentives designed to lure FDI can take the form of up-front subsidies that are designed to help multinationals defray some of their fixed costs (financial incentives), tax holidays (fiscal incentives), and other grants. The main goal of such policies is to alter either the magnitude or the location of inward FDI.

There are three main categories of FDI incentives: fiscal—policies that are designed to reduce the tax burden of a firm (including loss writeoffs and accelerated depreciation); financial—direct contributions to the firm from the government (including direct capital subsidies or subsidized loans); and others that do not fall easily into either category. In contrast to the industrial world, where the incentives offered are usually financial, the overwhelming majority of developing-country incentives are fiscal (see figure 3.2). In a recent study that included 71 developing countries, Bora (2002) concludes that fiscal incentives are the most popular, accounting for 19 of the 29 most frequently used incentives. Furthermore, the five most common incentives are all fiscal.

Despite the popularity of FDI incentives in developing countries, the evidence of their effectiveness remains ambiguous. The United Nations Conference on Trade and Development (UNCTAD 1996) reports that incentives can have an effect on attracting FDI at the margin, especially when one considers the type of incentive and the type of project. Conversely, Caves (1996) and Villela and Barreix (2002) conclude that incentives are generally ineffective once the role of fundamental determinants of FDI is taken into account. Furthermore, in a recent review of the literature on tax incentives and FDI, Morisset and Pirnia (2000) conclude that such instruments rarely make up for deficiencies in a host country's overall economic environment, and they fail to generate the desired externalities. Overall, recent evidence provides little support for those who believe that incentives will bring in extra FDI.

To some extent, the ambivalent perspectives may reflect differences in views regarding what is meant by an incentive. It is important to distinguish between the fiscal and financial incentives (which are usually firm specific) and the more general policies that promote business activity. Evidence is uncontested that general policies matter a lot in attracting investment. In a recent empirical analysis of the effect of U.S. state-level policies on the location of manufacturing investment, Holmes (1998) found that the manufacturing share of employment in states with a pro-business regulatory environment is one-third greater than that in a bordering state without that environment. Policies that encourage the adoption and adaptation of know-how—and other general incentives that apply across the board—are important and help foster a sound enabling environment. Examples include effective enforcement of contracts, absence of red tape, adequate infrastructure, and efficient training and education programs.

Under special circumstances, targeted FDI incentives may have positive effects. Many government officials seem to think that such incentives work, as illustrated by statements from a number of representatives in the Working Group on Trade and Investment of the World Trade Organization (WTO [1998]). Several studies find that fiscal incentives do affect location decisions, especially for export-oriented FDI, although incentives seem to play a secondary role (see Devereux and Griffith 1998; Guisinger and others 1985; Hines 1996). However, fiscal incentives appear unimportant for FDI that is geared primarily toward the domestic market; instead, such FDI appears more sensitive to the extent to which it will benefit from import protection. Thus, a more nuanced view of the efficacy of incentives may be in order. Although useful for attracting certain types of FDI, incentives do not seem to work when applied at an economy-wide level (see Hoekman and Saggi 2000).

Moreover, even when targeted, FDI incentives may impose excessive costs on governments, especially when fiscal incentives are provided through special tax provisions. Because benefits (a new manufacturing plant,

jobs created) are visible, whereas costs are hidden (tax revenues are forgone), governments may offer too much. Also, the existence of excessive FDI incentives is not just a developing-country phenomenon—in fact, such incentives are far larger in industrial countries. For example, in 1996, Mercedes-Benz received a subsidy of $300 million, which amounts to a subsidy of $200,000 per employee, from the U.S. state of Alabama for establishing an auto plant (Moran 1998). Similarly, following reunification, Germany paid a subsidy of $6.8 billion to Dow Chemical, which amounts to an astounding $3.4 million per employee (Moran 1998).

Additional concerns about the use of incentives emerge from their effect on the distribution of rents between governments, host-country firms, and large multinationals. Developing countries may be tempted to offer investment incentives to multinationals in part because of an expectation of technology spillovers to local firms. Yet, investment incentives to multinationals can put local firms at a competitive disadvantage, at least initially. The net effect is hard to estimate: perhaps incentives impose a short-run cost on local firms, which may gain from foreign investment in the long run.

A selective use of investment incentives can have strategic consequences among foreign firms, especially when multinationals are pervasive in markets with a high level of concentration. For example, an exporting foreign firm from a developing country (or a local host firm) may find itself at a disadvantage with respect to another foreign firm that experiences a decline in costs resulting from an investment subsidy. Thus, incentives can alter the distribution of rents among multinationals.

Finally, the use of investment incentives by developing countries poses a possible international coordination problem in two respects. First, as noted earlier, the possibility of excessive incentive "competition" among developing countries may increase the likelihood that the "winning" country will have given away far more than it receives. This area allows some scope for international action to prevent suboptimal outcomes (see chapter 4). Second, there is the possibility that incentives offered by high-income countries will end up retaining or attracting FDI that would be more efficiently used in developing countries (Hoekman and Saggi 2000). For example, labor unions and local interest groups may oppose plant closures by offering excessive incentives for firms to remain. Similar motivations underlie the use of trade policy instruments such as antidumping. It is important, therefore, to distinguish between the locational competition that may enhance efficiency and the use of investment and trade policies (such as antidumping) that alter the incentives for outward FDI. The latter policies are inherently inefficient because they protect industries that are no longer competitive, and they induce various related distortions that are well documented in the literature (Finger 1993).

Clusters. In the past decade or so, the concept of industrial clusters has received a great deal of attention (see, for example, Porter 1990). While there is no standard definition of a cluster, it is usually characterized as a regional agglomeration of firms in related industries (along with complementary infrastructure and support services such as business, financial, and legal) that all work together in a virtuous cycle to attract new firms and to help existing ones grow. California's Silicon Valley typifies the high-technology cluster, with its concentration of high-tech firms, premier universities that actively interact with local businesses, and venture capitalists. Clustering, however, occurs in many other industries as well and is quite widespread (Ellison and Glaeser 1997; Krugman 1991, 1998). In the United States, evidence of knowledge spillovers within regions (Jaffe 1989; Jaffe, Trachtenberg, and Henderson 1993) and very small areas (Wallsten 2001b) is consistent with the idea that similar firms may benefit from proximity with one another.

Although the policy interest may be relatively new, clusters have been recognized for a

long time. In 1920, Alfred Marshall (as cited in Davenport 1935) hypothesized three reasons for the existence of clusters: the benefits from a pooled labor supply, access to specialized resources, and information flows among market participants. Today, these main benefits are still associated with clusters. In a successful cluster, these factors generate positive feedback loops because the concentration of people and firms will attract more people and firms (Arthur 1994; Krugman 1991).

With these potential benefits, it seems natural that policymakers would want to start clusters close to home. Unfortunately, there is little evidence that active efforts to create clusters tend to be successful. This result is in part related to the difficulty that governments everywhere have in "picking winners." Without any clear market signals about what activities or clusters might be viable, governments have a fairly poor track record. Bergman and Feser (2001) argue that "in less developed regions a policy decision to concentrate resources on key industries, instead of more general infrastructure needs or other strategies that would serve best a broad array of industries, brings with it significant risks against which the gains remain unverified." In industrial countries, research suggests that efforts to promote cluster development through science parks and public venture capital tend to be unsuccessful (Braun and McHone 1992; Felsenstein 1994; Wallsten 2001d).

Of course, this cautionary conclusion does not mean that emerging clusters should be ignored. Indeed, it may be that governments can draw on the problems such clusters face when prioritizing where to undertake reforms. In other words, cluster promotion may be more successful when directed toward areas in which significant activity is already ongoing, as well as areas where additional efforts on the margin by government may be the catalyst needed for further expansion. This type of selective intervention may underlie the success stories that do exist, such as Hsinchu Science Park in Taiwan, China (Saxenian and Hsu 2000).

In sum, while much evidence shows that clusters of firms are beneficial and occur naturally over time, there is little understanding of how to create them from scratch and no experience to suggest that governments have any expertise in selecting activities where clusters might flourish. Bigger payoffs are likely to come from interventions to improve the broader business environment. If governments are obliged to provide incentives to stimulate cluster development, they may do better by encouraging expansion of existing clusters, rather than by trying to pick winners and ending up simply transferring resources to the private sector without generating any positive externalities.

Export Processing Zones. EPZs have become a prominent feature of many developing and transition economies, increasing from 175 in 53 countries in 1987 to 500 in 73 countries by 1995 (Kreye and others 1987 and OECD 1996, both cited in Schrank 2001). Along with this increased prevalence, it is not surprising that EPZs now account for fairly high shares of total employment in many countries—for example, as much as 6 percent in the Dominican Republic (de Ferranti and others 2002). Despite EPZs' ubiquity in the developing world, there is little agreement on whether EPZs are an effective development tool. While some view EPZs as the first step down a virtuous path of liberalizing domestic markets (Rodrik 1999), others believe that, by creating a special "property right" of value to those who participate, EPZs represent an escape valve that curtails broader reform efforts and that hampers overall liberalization and development.

The immediate benefit of EPZs to the host economy lies in job creation, greater foreign exchange earnings, and, possibly, higher real wages. In many instances, workers seem to perceive EPZ employment as an attractive opportunity. For example, Brown (2001, cited in de Ferranti and others 2002) finds that men and women employed in Mexico's *maquila* (manufacturing EPZ) sector earn 31

and 38 percent more, respectively, than their peers in non-EPZ sectors. Similarly, in a survey described by Sargent and Matthews (1999, cited in de Ferranti and others 2002), 73 percent of Mexican *maquila* workers interviewed reported their current job to be at least as good as their previous employment. Furthermore, worker welfare in EPZs is also improved through employer practices of providing worker benefits (such as medical insurance), stable work schedules, and weekends off. Moran (2002) evaluates worker conditions in EPZs in a number of countries and concludes that there is "extensive evidence that wages and working conditions in foreign-owned or foreign-controlled factories compare favorably with those of alternative occupations." Moran (2002) further notes that the demand for jobs is high and that workers tend to return to existing jobs following a holiday. English and de Wulf (2002) credit EPZs with creating more job opportunities for women in Bangladesh, with reducing female poverty in the Dominican Republic, and with raising wages for EPZ workers above wages for workers in the rest of the economy.

Beyond the direct effect of EPZs on job creation, a comprehensive evaluation of them should look at two additional criteria. First, do EPZs actually encourage firms to export (or to increase exports), rather than causing firms that already export to relocate into the EPZ so they can take advantage of financial incentives? Second, do EPZs produce spillover effects by drawing local manufacturers into the world markets, thereby indirectly bringing reform and enhanced competitiveness to a greater segment of the nation's producers? Schrank (2001) compares EPZs in the Dominican Republic and in the Republic of Korea, arguing that market size is a major determinant of EPZ success. Despite the good performance within the Dominican Republic's EPZ sector, few benefits appear to spill over into the rest of the economy. Korean EPZs, however, are increasingly integrated with local suppliers, thereby helping to transform much of the economy into world-level competitors. Schrank suggests that smaller countries may be unable to "transform feeble manufacturers into world market-oriented firms" and are less likely to draw themselves onto a "large-country growth trajectory."

Research does show that, in some instances, EPZs can be successful and can act as a catalyst for the rest of the economy (for example, Jayanthakumaran and Weiss 1997; Johansson and Nilsson 1997). Moran (2002) argues that EPZs will have only a limited effect unless they are supported by efforts to integrate them more fully into existing commercial and industrial hubs and unless they are located near existing or potential pools of better-educated labor. In particular, this argument implies that government efforts to use EPZs to encourage development of "backward" regions that are far from existing industrial centers (where the infrastructure is limited and skilled labor is scarce) are unlikely to be successful. The more successful EPZ experiments that Moran considers are in Costa Rica, the Dominican Republic, and the Philippines. Those examples show how EPZs have facilitated a shift in foreign investment away from lowest-skill operations that are limited to export enclaves toward higher-skill operations that are better linked to the rest of the economy and that provide both employment opportunities for higher productivity (and higher wages) and better worker conditions. Without such complementary efforts, EPZs risk becoming another entrenched interest that simply maintains trade barriers and delays broader market reforms.

Another view of EPZs focuses on their role as "transition property rights." It highlights their function in helping the country steadily improve its investment climate. That is, EPZs may act as a catalyst for the host economy, thus sparking a sequence of beneficial changes in the economy. The experience of Mexico is highly illustrative in this case: the transition began with establishing *maquilas* in a 2-mile border zone, which was next expanded to 12 miles, then to entire states, and eventually to the whole country. In this case, EPZs were able to help

improve the investment climate by acting as a bridge between the old and the new systems.

—and incentives cannot offset a poor policy environment

Governments may hope to make up for an unfriendly investment environment through incentive mechanisms. But while there are clearly examples in which targeted interventions (such as fiscal incentives, EPZs, or support for clusters) may indeed lead to higher investment levels—and the jobs and related spillovers that go along with such levels—there is unfortunately little evidence that such initiatives can be systematically successful. Instead, the impression is that these interventions work best when they work in support of broader reform packages, either to catalyze support for emerging opportunities (such as clusters) or to create an initial constituency for reform that can be progressively expanded (such as EPZs). But more broadly, as Wells and others (2001) note, "Incentives will generally neither make up for serious deficiencies in the investment environment nor generate the desired long-run strategies." To encourage productive investment and benefit from globalization, governments must tackle the challenges of promoting competition and entrepreneurship and of undertaking complementarily productive public investment in areas such as education. We now turn to these issues.

Promoting efficient private investment: harnessing competition

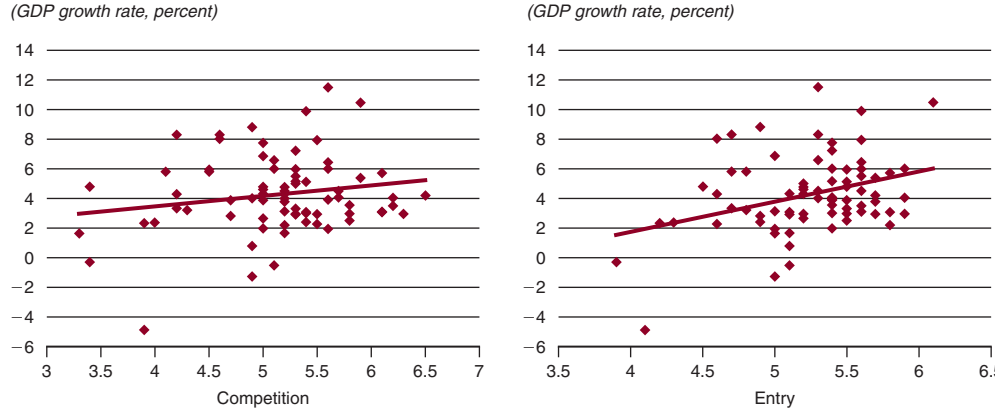
While a stable macro environment and good governance are important to attracting investment, policies that promote contestable markets and that protect against abuses of market power are required to ensure that new investment is both productive and efficient. Of particular importance in this regard are investment and competition policies, which are important elements of the investment climate and also are basic pillars of the economy's micro foundations that can have large effects on productivity and welfare. Industries generally function better when they operate in a competitive environment, and richer and faster-growing countries tend to have more competition and fewer barriers to entry. Changes in technology, global business organization, and regulation have created new opportunities for competition in areas that had formerly been seen as natural monopolies (infrastructure) or that were considered necessary to preserve domestic sovereignty (services, real estate, and the financial sector). Countries that do not change their investment policies and do not exercise well the powers and responsibilities of the state—such as regulating privatized industries, providing education, or enforcing conditions of competition—will forgo poverty-reducing growth opportunities.

At the broadest level, competition and ease of entry are both positively correlated with economic growth (figure 3.3). A host of policy and private barriers in developing countries work to restrict competition. Restrictions on trade and FDI rob an economy not only of potential sources of investment, but also of one incentive for firms to improve productivity. While causality goes both ways, both trade and FDI are correlated with higher productivity of firms in an economy. But potential competition does not come solely from interactions with the global economy. Many developing countries still protect incumbent firms—whether state-owned or private—by giving them monopoly power even when there is little rationale for doing so. While such actions may protect particular firms, they almost always impose net costs on everyone else in the country. Finally, other private barriers—such as collusion, price-fixing, and cartels—block competition and reduce welfare. This section of the chapter reviews some of these barriers to competition, and details how they can harm developing countries' economies.

Policy barriers to competition are a drag on productive investment

Barriers to competition stemming from government policies can emerge either through

Figure 3.3 Competition and ease of entry are associated with higher growth



Note: "Competition" is the average response in each country to the question "In most industries, competition in the local markets is (1 = limited and price-cutting is rare, 7 = intense and market leadership changes over time)." "Entry" is the average response to the question"Entry of new competitors (1 = almost never occurs in the local market, 7 = is common in the local market)." Although competition and entry rankings suffer from methodological problems related in part to averaging of responses across respondents (see, for example, Lall 2001; Recanatini, Wallsten, and Xu 2000), those rankings can, nevertheless, provide a useful starting point for more rigorous investigations. One important question that these figures cannot answer is that of causality: do entry and competition make countries richer, do richer countries have more competition, or does something else altogether drive both growth and competition? What does emerge clearly is that poorer and more slowly growing countries seem to have less entry and competition.

Source: World Economic Forum (2002); World Bank SIMA indicators.

direct channels (such as when governments create state monopolies) or through indirect channels (such as when policy choices made in pursuit of other objectives end up limiting competition). In this section, we will focus on four channels through which competition is affected by policy choices:

- Import competition
- FDI competition
- Administrative barriers
- State monopolies and private barriers to competition.

Import competition can enhance productivity

The important role that trade plays in promoting productive investment and growth has long been recognized. Using different measures of openness to trade, including both its relative size (as measured by import and export shares) and its degree of distortion (as measured by average tariff rates and dispersion), research strongly suggests that greater openness is associated with higher growth in both industrial and developing nations. Sachs and Warner (1995) find that openness is a highly significant determinant of growth and, combined with property rights, may even represent sufficient conditions for growth in poor economies. Kang and Sawada (2000) find a similar effect of openness on growth. They argue that, combined with financial development, openness increases growth rates in developing economies by decreasing the cost of human capital investment. Maloney (2001) offers regional support for the above result, citing evidence that Latin American economies that are more open and that possess a more developed knowledge infrastructure will grow faster. Consistent with this result, Cuadros, Orts, and Alguacil (2001) find that openness positively affects Latin American growth and trade through increasing FDI.[4]

Such aggregate results fail to answer the question of exactly how increased openness

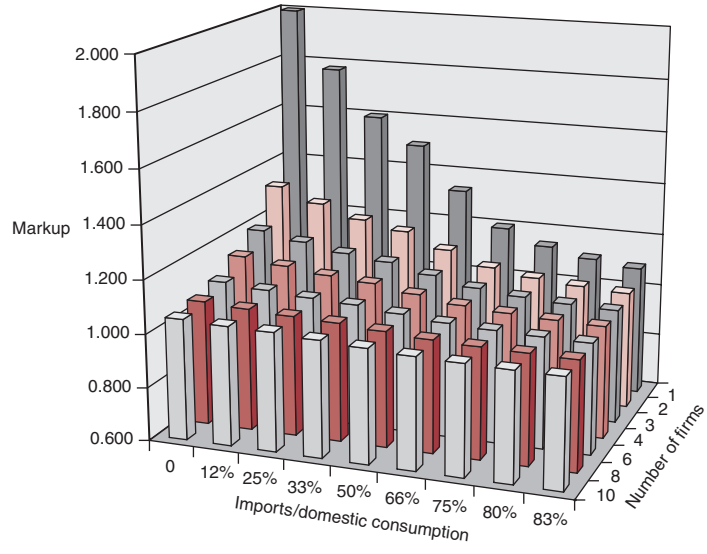
(however measured) is translated into faster growth. One approach emphasizes the learning and productivity gains that occur as domestic firms confront more competitive world market conditions, become more efficient, and begin exporting. Another more compelling approach emphasizes the rise in import propensities that often comes with trade liberalization. Increased imports place domestic firms under direct competitive pressures and indirectly induce technological innovation or cost-cutting restructuring that further enhances competitiveness and productivity.

Research finds that price–cost margins (markups above cost) tend to fall with import competition, though the direction of causality is not clear, and that foreign competition tends to improve manufacturers' efficiency (Tybout 2001). Hoekman, Kee, and Olarreaga (2001) found that import competition (defined as the ratio of import volume to domestic consumption in an industry) reduces industry markup. The effect of import competition is particularly powerful when a few oligopolists dominate markets. In figure 3.4, markups are lowest (measured on the vertical scale) when import competition is highest and when there are more firms (the front corner), and markups are highest when import competition is low and when the market is more oligopolistic (back corner).

Import competition pressures domestic firms to be more productive. A recent study of Brazilian manufacturing firms, for example, finds that foreign competition induces quick, marked improvements in domestic productivity and, over time, forces inefficient firms to shut down (Muendler 2002). Cross-country data are consistent with these findings, suggesting that higher tariff rates (which make imports more costly and thus less competitive), are correlated with lower productivity (figure 3.5).

In addition to the direct competition afforded by greater openness to imports, higher trade prevalence can create spillover opportunities through which domestic firms can gain access to (improved) technology without paying full cost. In general, imports from industrial

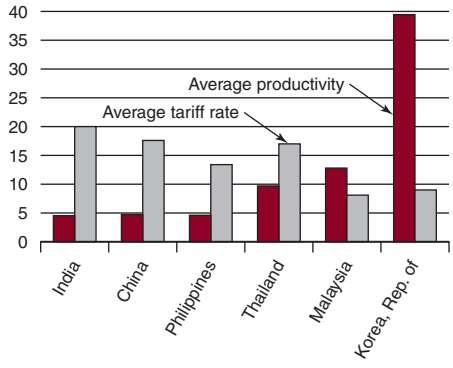
Figure 3.4 Competition from imports checks markups in concentrated markets



Note: Import penetration is defined as the ratio of import volume to the domestic output of an industry.
Source: Hoekman, Kee, and Olarreaga (2001).

Figure 3.5 High tariffs are correlated with lower productivity

(percent)



Source: World Bank staff, based on survey of more than 5,000 firms.

countries are positively related to technology diffusion and productivity growth (Eaton and Kortum 1996; Lumenga Neso, Olarreaga, and Schiff 2001). Sjöholm (1996) finds a positive relationship between bilateral import shares and patent citations for Sweden.[5] And Coe and Helpman (1995) find that industrial countries that receive a larger share of imports from countries with a high level of research and development (R&D) expenditures will experience faster productivity growth.[6] Despite agreement that imports are an important channel for technology diffusion, studies reach somewhat different conclusions on the conditions under which such diffusion is most likely to occur. Coe, Helpman, and Hoffmaister (1997) extend the results of Coe and Helpman (1995) to developing countries and find that developing countries' total factor productivity is positively related to their openness to trade with the industrial countries. Furthermore, productivity in developing countries increases as imports' share of GDP increases.

Some research finds that manufacturing productivity in developing countries depends on the complexity of imported machines (Navaretti and Soloaga 2001). Choudhri and Hakura (1999) show that imports are significantly related to productivity growth only in manufacturing sectors in which productivity increased moderately. Imports did not seem to affect productivity in sectors with low or high productivity growth. Using industry-level data, Keller (2000) finds that imports may boost technology diffusion if countries receive a relatively high share of total imports from a high-technology trading partner. Hakura and Jaumotte (1999) find that the share of imports from industrial countries has a positive effect on total factor productivity. Finally, Xu and Wang (2000) find that the share of imports of capital goods from high-technology countries is significantly related to productivity increases.

Competitive effects of FDI depend on policy—

FDI can be a potential vehicle for increasing competition. Multinational corporations (MNCs) tend to be more efficient and productive than smaller, purely domestic firms. While MNCs' entry into the domestic market can put competitive pressures on local producers, the mere presence of MNCs does not necessarily increase competition. Because they often possess significant intangible assets (brand names, technology, managerial skills, and so forth), MNCs often supply different markets directly (through domestic production activities) rather than through exports. Such assets may permit MNCs to wield considerable market power. Openness to trade, low barriers to exit and entry, and other regulatory conditions can in turn help limit the capacity of MNCs to abuse market power in the domestic market.

While the relationship between competition and FDI remains complex, over time the competition-increasing association has become more prominent. Historically, FDI was often attracted to regions that were protected by high tariffs, as firms calculated that it was easier to set up a subsidiary than to pay the tariffs required to serve the market through exports. Such tariff-jumping investment was also motivated by the opportunity to service the domestic market behind the tariff barriers

while shielded from competition from abroad. This type of FDI has a long history: in the post–World War II period, many developing countries encouraged both domestic and foreign firms to invest in high-priority industrial sectors by imposing high tariffs, quantitative restrictions, and other nontariff barriers, along with providing various additional incentives (Caves 1996).

Investment induced in such a way, however, is unlikely to be efficient and, therefore, is less capable of providing a basis for sustained growth. First, the empirical evidence suggests that tariff-jumping FDI is "likely to be transient, lasting as long as the artificial policy-induced incentives" (Balasubramanyam 2001). Second, it can harm welfare by increasing consumer prices. In an era of much higher tariffs than generally exist today, Lall and Streeten (1977) found that more than one-third of the 90 foreign investments they studied actually reduced national income. This reduction was mainly from excessive tariff protection that allowed high-cost firms to produce for the local market at very high prices, even though they could have imported much more cheaply. An even higher share of domestic projects that they reviewed had negative value added. Encarnation and Wells (1986) found that 25–45 percent of 50 projects studied (depending on analytical assumptions) reduced national income; again the main culprit was high protection.

—and benefits are higher when trade barriers are lower

One clear implication is that if countries are open to foreign investment, trade barriers can and should be kept low. Such openness to international competition will keep MNCs from using high protective tariffs to exert market power domestically and will discourage them from joining domestic vested interests that are lobbying for policies that perpetuate costly rent-seeking activities. The cost of not doing so can be enormous, as illustrated in box 3.1.

Box 3.1 Trade restrictions shield MNCs from competitive forces at enormous cost: the case of Argentina

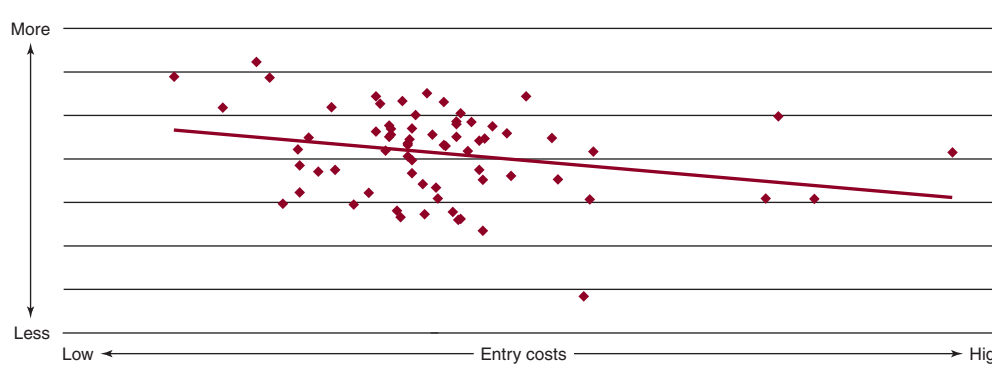
Trade and tax policy often interact in ways that magnify their competition-restricting effects. Newfarmer (2001) illustrates the importance of policy in determining the net contribution of multinational corporations (and domestic firms) by using the example of Argentina in the 1980s. In an effort to encourage settlement of Tierra del Fuego, the southernmost tip of the country (partly in response to territorial disputes with Chile), the government set up a special production zone for assembling electronic products with generous tariff protection and tax subsidies. Firms were encouraged to assemble many types of electronic goods for resale to the highly protected Argentine market at enormous markups. As a result, televisions in Argentina routinely exceeded international prices by 150–400 percent. The regime protection and subsidies were so lucrative that foreign (and some domestic) firms bought finished products in Japan; shipped them to Panama, where they were broken down; and then shipped them to Tierra del Fuego for subsequent reassembly and resale in the mainland of Argentina. By 1990, estimates of the cost to the (then-bankrupt) Argentine treasury ranged from 0.5 to 1 percent of gross domestic product. The winners in this scheme were the producing companies and a few thousand workers in Tierra del Fuego; the losers were Argentine consumers and businesses that had to pay high prices, thousands of workers who would have otherwise gotten jobs in more internationally competitive new activities on the mainland, and the Argentine poor, who, among others, had to pay the tax of high inflation to close the fiscal accounts.

In recent years, the incentives for tariff-jumping FDI have declined. Barriers to trade have come down considerably. As the importance of production networks has risen, foreign investors have found barriers to entry and less-competitive environments less appealing. In more recent studies, foreign investment is deterred by high taxes or nontariff barriers on imported inputs and is attracted to more-open economies. In reviewing cross-country regressions on the determinants of FDI, Charkrabarti (2001) argues that, after market size, openness to trade has been the most reliable indicator of the attractiveness of a location for FDI (see Kolstad and Tøndel 2002). As figure 3.6 illustrates, there is now a significant negative relationship between high entry costs[7] and the attractiveness of a market to foreign investors (controlling for other factors such as market size, macroeconomic stability, and human capital).

MNCs can have an indirect effect on competition by affecting ownership and market structure. For example, with a blend of deeper financial pockets, marketing skill, and superior product or process technology, MNCs may drive a significant number of domestic competitors out of business. To the extent that this outcome is based on advantages associated with greater efficiency, and if the resulting market structure remains reasonably competitive, these effects are generally positive. Furthermore, MNCs could spark the entry of productive suppliers, encourage greater innovation, increase the variety of available products, and drive down prices. However, if a domestic firm's exit is driven more by the market power of the MNC and if the exit results in greater market concentration, then the long-run result may be less competition.

The case study literature provides both positive and negative examples. After reviewing the evidence, UNCTAD (1997) concludes that although there is substantial evidence that the entry of MNCs yields new products and improvements in existing products, there is no systematic evidence on whether it ultimately reduces consumer prices. The overall effect should not be judged at one moment in time. In the short run, some less-efficient producers will likely be driven out of the market, while over time, more productive entrants will emerge. There is evidence that domestic suppliers to MNCs enjoy higher productivity, both in levels and growth (see Blalock 2001; Smarzynska 2002). Thus, the net effect of FDI on competi-

Figure 3.6 High entry costs inhibit FDI inflows



Note: Partial correlations control for market size, human capital, and macroeconomic stability. The entry cost measure used in the figure refers to the costs of obtaining the necessary permits and licenses and other procedures required to set up a new establishment. See Djankov and others (2002).
Source: World Bank staff.

tion, per se, depends on the level of international competition in the industry and on the ability of domestic firms to increase their productivity in response to increased competition.

Perhaps because the channels through which FDI affects competition will vary depending on the institutional environment—tariff structure, market size, competition policy—the empirical findings about the effect of FDI on growth are also mixed. FDI should contribute positively to growth, because it can bring capital, technology, skilled management, and technical staffs, plus business practices that are usually more modern. Indeed, several econometric studies have shown that, controlling for other factors, FDI flows are positively associated with economic growth (for example, see UNCTAD 1998 and World Bank 2001 for all developing countries; Van Ryckeghem 1994 for Latin America; and Chunlai 1997 for China).

However, the direction of causation is not clear: does FDI cause more rapid growth because of its associated characteristics, or is FDI simply attracted to more rapidly expanding markets to exploit growth opportunities? The answer is probably both. Theory does not provide a simple answer because the institutional settings and endowments are quite varied and complex (see Cooper 2001). One problem, for example, is that those elements in the investment climate that are conducive to FDI are also conducive to more domestic investment and to greater growth in productivity. Many of the methodological critiques that Rodriguez and Rodrik (1999) and Cooper (2001) apply to cross-sectional studies of trade openness and growth also apply to the somewhat less abundant literature on the relationship between FDI and growth.

Administrative barriers are usually high in developing countries—

Entrepreneurship is an important contributor to economic growth and welfare improvements in transition and developing countries. For example, new firms created 10 million new jobs in Vietnam in the first seven years of reform and "have usually been the fastest-growing segment in transition countries" (McMillan and Woodruff 2002). The scale of entry that occurs when reforms promote competition can be impressive. Deng Xiaoping expressed his surprise that "all sorts of enterprises boomed in the countryside, as if a strange army appeared suddenly from nowhere" less than a decade after the first reforms in China in 1978 (Zhou 1996 as quoted in McMillan and Woodruff 2002). Key to promoting entrepreneurship and to improving productivity is an environment that facilitates entry and exit of firms (see, for example, Lansbury and Mayes 1996). Through this process, poorly performing firms leave the market and dynamic new ones enter. Unfortunately, many developing and transition governments fail to recognize that firm births and deaths are an inevitable corollary of entrepreneurial risk-taking. Instead, those governments erect a maze of administrative obstacles to starting, operating, and closing firms.

A growing body of literature documents the difficulty that entrepreneurs face in establishing firms in developing countries (for example, Djankov and others 2002; Emery and others 2000; Friedman and others 2000). Djankov and others (2002) compiled data on entry regulations in 85 countries and discovered enormous variation in the number of procedures required to start firms across countries, ranging from a low of 2 in Canada to as many as 21 in the Dominican Republic (with Bolivia and Russia close seconds at 20 each). The time required to establish a firm ranged from 2 business days in Canada to 152 in Madagascar. These procedures can be extremely costly to the economy. The cost of official procedures (that is, not including bribes) for setting up a new business was 266 percent of per capita income in Bolivia. Djankov and others (2002) found that stricter regulation of entry is correlated with more corruption and a larger informal economy. Moreover, "countries with more open access to political power, greater constraints on the executive,

and greater political rights have fewer required procedures for entry regulation—even controlling for per-capita income—than do the countries with less representative, less limited, and less free governments" (Djankov and others 2002). In a study of such obstacles in Africa, Emery and others (2000) discovered that "when added together, this whole maze of often duplicative, complex, and nontransparent procedures can mean delays of up to two years to get investments approved and operational."

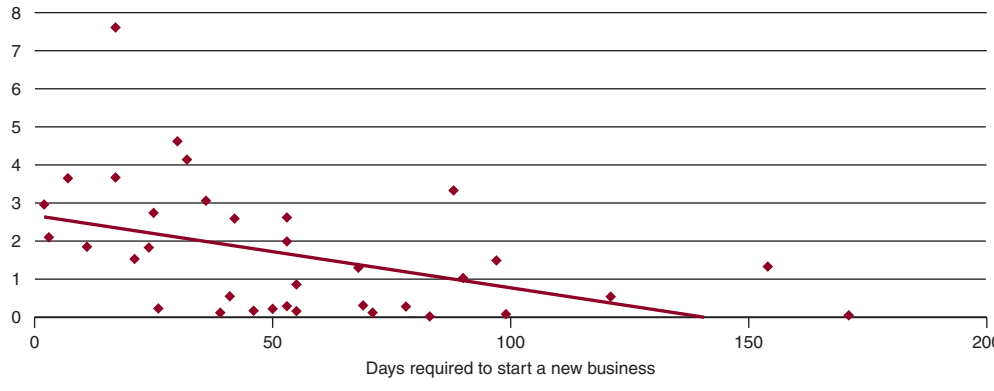
Although policymakers and advisers tend to emphasize market entry, exit is important as well because it releases resources that can be used in more productive ways. Healthy economies have a high "churn rate" of firms, and research demonstrates a strong positive link between entry and exit (Love 1996). Moreover, as Caves (1996) has pointed out, barriers to exit can be barriers to entry both by absorbing the scarce resources necessary to start new enterprises and by making it difficult for new firms to compete. Entry barriers, moreover, can become exit barriers (see figure 3.7). Claessens and Klapper (2002) find a smaller share of firms in bankruptcy proceedings in countries where it takes longer to start a firm, thus suggesting that keeping newcomers out of the market protects inefficient incumbents.

While exit barriers can be harmful, dealing with a firm's exit is not simple. Ideally, bankruptcy and insolvency procedures rehabilitate viable but financially distressed firms and liquidate unviable firms. In practice, deciding which firms are viable is difficult. Djankov, Hart, and Nenova (2002) note that many countries have crude insolvency laws that push financially distressed companies directly into liquidation, while other countries allow completely unviable companies to enter rehabilitation procedures. In the latter case, such companies are often liquidated only after a long and expensive period of rehabilitation. In recent years, there is a growing movement in insolvency reforms to introduce rehabilitation procedures in countries that do not have them, but to allow creditors to replace management during the rehabilitation process (Djankov, Hart, and Nenova 2002).

Barriers that limit firms' operating flexibility exist even when entry and exit is not at stake. Friedman and others (2000) compile

Figure 3.7 Barriers to entry can become barriers to exit

(ratio of bankruptcies to number of firms)



Note: Averages for 35 industrial and developing countries, 1990–99. The data panel used for calculation of averages is unbalanced: that is, the entire range of observations (1990–99) was not available for some countries. The measure of days required to start a new business is taken from Djankov and others (2002).
Source: Claessens and Klapper (2002).

indices of taxation levels and overregulation (essentially, indices of the business environment) of firms in 69 countries. Although Friedman and others (2000) find no evidence that higher tax rates drive firms underground, ". . . every available measure of overregulation is significantly correlated with the share of the unofficial economy and the sign of the relationship is unambiguous: more over-regulation is correlated with a larger unofficial economy." The important result here is that higher tax rates do not seem to drive away investors, but the myriad and often arbitrary array of obstacles to starting and running a business do.

—and have real costs

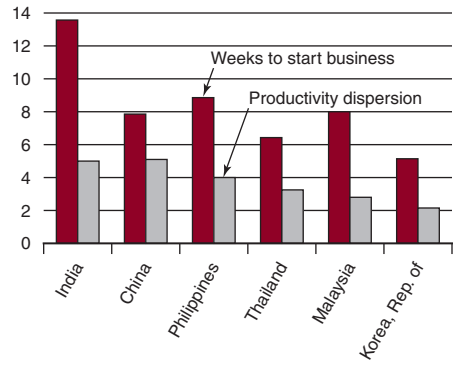
The administrative obstacles have real costs to the economy, which means that even potentially competitive firms often cannot compete because any efficiency advantages they may have are consumed by the costs of administrative hassles. Indian firms, for example, are potentially competitive in a range of labor-intensive industries; the combination of their labor productivity and their wages makes them low-cost producers at the plant level. The value added per unit of labor cost is lower in India than in East Asian competitors such as Malaysia, the Philippines, and Thailand. However, in practice this potential competitiveness is often offset by investment climate bottlenecks, resulting in lower Indian exports. Several dimensions are of particular relevance. The regulation of factor markets, particularly of labor and land, severely restricts the entry and exit of firms. For example, firms with more than 100 employees have not been allowed to retrench workers without government permission. Meanwhile, the lack of creditor rights and the severe backlog in judicial cases mean that India has one of the lowest levels of bankruptcies internationally. The Confederation of Indian Industry estimates that proceedings can easily take more than two years, and more than 60 percent of liquidation cases before the High Courts have been in process for more than 10 years. It is easy to see how such costs could quickly undo other advantages that these firms might have when competing in world markets.

A telling indicator of whether markets are competitive in a country is the productivity dispersion of firms within an industry. In a competitive market with reasonably free entry and exit, dispersion should be low because unproductive firms either become more productive or leave the market. Higher dispersion indicates that less-efficient producers are not being forced to improve their productivity or to exit the market. Firm-level studies in a number of countries bear this out.[8] Subsidies or strict regulations that impede entry or exit can ultimately bolster high-cost producers. When such firms remain in the market, more productive firms may not have either the adequate incentives or the ability to increase productivity or to grow. However, as competition increases, firms face greater incentives to innovate and greater penalties for failure to do so. Loss of protection and greater competition from foreign firms can drive inefficient domestic producers to better exploit scale economies, eliminate waste, reduce managerial slack, adopt better technologies, or shut down. As a result, productivity dispersion should shrink as productivity levels rise in the face of greater competition.

Productivity dispersion—a measure of inefficiency—tends to be associated with barriers to competition, such as the administrative barriers to start a business for India, China, the Philippines, Thailand, Malaysia, and Korea (figure 3.8). In Indian textiles, garments, and electronics, the higher performers have value added per worker that is five times that of lower performers. The dispersion of productivity is lower in four East Asian countries where the World Bank has conducted similar surveys. In Thailand and Malaysia, the productivity dispersion ratios are just below 3, and in Korea not much more than 2. Thus, more competitive countries in the group (as proxied by weeks to start a business) have lower levels of productivity dispersion than do the less-competitive countries.

Figure 3.8 Barriers to entry and exit allow inefficient firms to stay in the market

(for productivity dispersion, percent; for weeks, number)



Note: Productivity dispersion serves as a measure of inefficiency—more productivity dispersion means more inefficient firms are allowed to stay in business.
Source: World Bank staff, based on survey of more than 5,000 firms.

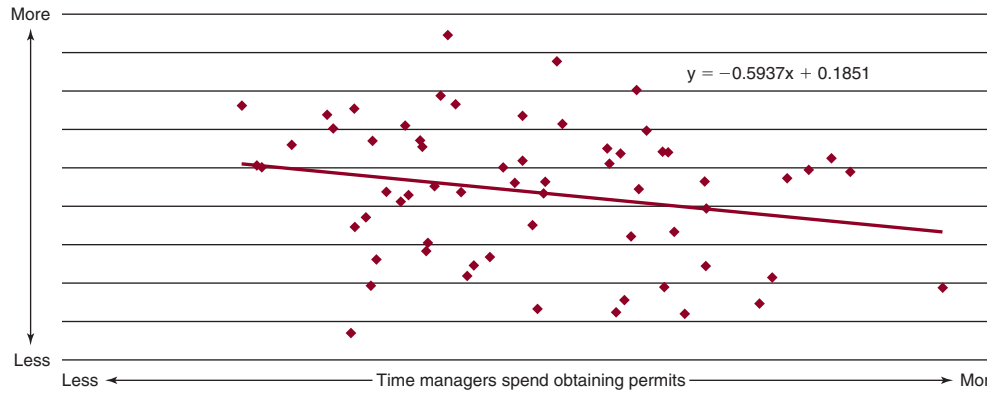
These obstacles can deter foreign investors. Morisset and Lumenga Neso (2002) have compiled data on the permits and procedures required for entry, access to land and infrastructure, and operation in 32 developing countries. These administrative procedures vary across countries, with especially severe delays in obtaining land and building permits. They have found evidence that increased administrative barriers deter foreign investment.

These findings are supported by a World Bank survey study that finds a similar result in a larger sample of 69 developing countries: there is a significant negative correlation between the amount of management time spent on obtaining the necessary paperwork and the levels of FDI (figure 3.9).

Another obstacle to competition is manifested in product delivery costs that go beyond producers' control and yet can have an enormous effect on their overall competitive positions. The effect of the quality of transportation, as well as the performance of government agencies such as customs administration, can more than offset the cost advantage that producers enjoy at the factory gate. Indian textiles provide one such example. India's value added per unit of labor cost is lower than almost all its East Asian neighbors. However, if one takes into account the longer delays in clearing customs and the higher shipping costs, Indian textiles are much less competitive on international markets.

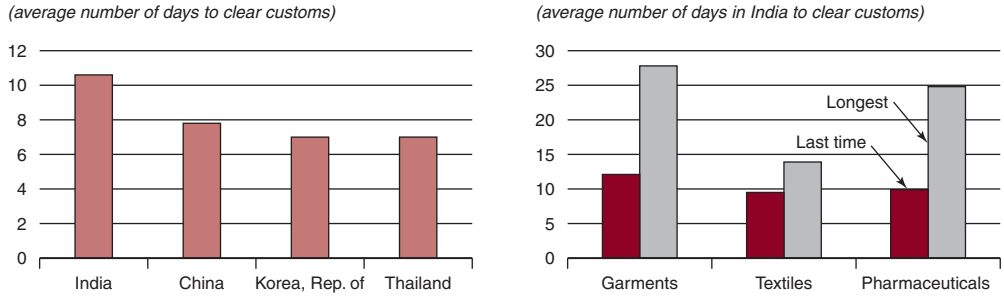
Figure 3.9 Difficulties in obtaining licenses and permits discourage FDI

(FDI)



Note: Partial correlations control for market size, human capital, and macroeconomic stability.
Source: World Bank staff.

Figure 3.10 Inefficient customs hurt Indian exports



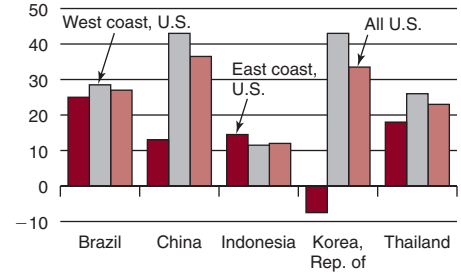
Source: World Bank staff; figures based on firm survey data.

Furthermore, World Bank surveys report information on the number of days needed to clear customs (see figure 3.10). Here, India scores poorly relative to Korea and Thailand, with the time about 50 percent longer in India (and triple what many OECD countries report).[9] But the issue is not only the average time, but also the variances in clearance time. Figure 3.10 shows the longest delay in the past year for a typical firm in three sectors in India. Although the average clearance time is 11 days, the longest delays averaged almost 28 days for garments and 25 days for pharmaceuticals.[10]

The transportation costs associated with shipping a container of textiles to the United States from India are more than 20 percent higher than shipping costs from Thailand and 35 percent higher than shipping costs from China (figure 3.11). Variations in maritime distances explain only a small part of the gap. Delays and inefficiencies in the ports account for a higher share of the difference in port productivity. Together, inefficient customs and ports can hurt the investment climate and can erode comparative advantage.

Figure 3.11 Inefficient ports raise India's transport costs far above competitors' transport costs

(percent cost advantage compared with India of shipping textiles to the United States)



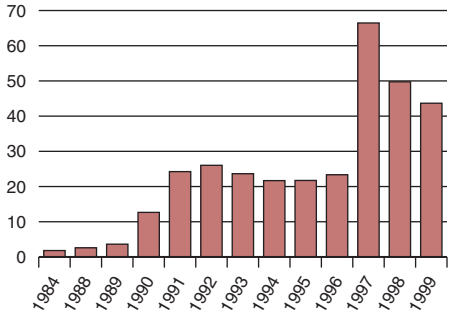
Source: World Bank staff.

SOEs use resources inefficiently—

Another way in which states make competition and entrepreneurship difficult is by their direct ownership of many firms and industries. By 1990, SOEs consumed nearly 20 percent of gross domestic investment in developing economies while producing just more than 10 percent of GDP (World Bank 1995). But state ownership on such a scale was not sustainable. Many SOEs required large subsidies from cash-strapped governments to stay afloat, thus constraining government spending on other priorities. For example, it was estimated that "diverting SOE operating subsidies to basic education . . . would increase central government education expenditures by 50 percent in Mexico, 74 percent in Tanzania, 160 percent in Tunisia, and 550 percent in India" (World Bank 1995).

Figure 3.12 Privatization revenues soared in the 1990s

(in nominal billions of dollars)



Source: World Bank privatization database.

Driven in part by the high and unsustainable fiscal costs of state ownership, countries around the world embarked on a massive privatization wave. Privatization revenues in developing and transition countries increased from almost nothing in the early 1980s to more than $60 billion in 1997, before decreasing somewhat to $50 billion in 1998 (figure 3.12). It was estimated that by 2000, cumulative privatization revenues worldwide had exceeded $1 *trillion* (Megginson and Netter 2001). The bulk of privatization in developing countries occurred in services, particularly infrastructure.

—and privatization improves firm performance—

Overall, privatization has dramatically improved the performance of former SOEs. State enterprises were substantially less efficient than private firms. Shirley and Walsh (2000) reported that most of the extensive literature finds private firms superior to state firms. Of 52 empirical studies, 32 found that the performance of private and privatized firms is "significantly superior to that of public firms," and 15 studies found "either that there is no significant relationship between ownership and performance, or that the relationship is ambiguous (different evidence supports both public and private superiority). The dominance of studies finding superior private performance is robust across all subcategories" (Shirley and Walsh 2000).

Privatization usually improved financial and operating performance in privatized firms (see Megginson and Netter 2001 for a comprehensive review of the literature). This result holds in industrial and developing countries alike (Boubraki and Cosset 1998a, 1998b; Megginson and Netter 2001). The finding is robust across case studies, cross-sections of firms from different industries within a given country, cross-sections of firms from different countries, and performance of firms before and after privatization (Sheshinski and Lopez-Calva 2000). Moreover, other research suggests that privatizations tend, overall, to increase welfare (Galal and others 1994). In other words, privatization tends not only to improve the performance of privatized firms and to benefit investors, but also to make the country better off.

—and is more successful when combined with competition

Simply pointing out the overwhelming evidence demonstrating improvements in privatized firms, however, masks important differences across industries in the challenges and pitfalls of privatization, especially with regard to introducing competition. Some sectors, such as manufacturing, generally lack any economic justification for state ownership from the outset. SOEs that have been privatized into such competitive markets—while being freed from unprofitable government controls or social "mandates"—tend to perform quite strongly. Indeed, studies show that the most robust results occur from privatization in competitive sectors (Kikeri and Nellis 2001).

Infrastructure industries present special challenges

However, in infrastructure sectors such as telecommunications, electricity, gas, and transport, existing SOEs traditionally were

considered "natural monopolies." It was almost an article of faith that, in these industries, a single firm could provide services at the lowest cost. In most of the world outside of North America, such natural monopolies translated into state-owned monopolies from the 1920s through the 1980s. But by the late 1980s, the combination of technological change, a clearer understanding of the costs of state ownership and monopolies, and a widespread failure of SOEs in developing countries to deliver reliable services to consumers in natural monopolies made privatization and competition both technically feasible and politically desirable. The benefits from this process are clear: studies suggest that privatization or contracting out of public services, including many infrastructure services—if done right—can yield efficiency gains equivalent to 10 to 30 percent of previous cost (Bartone and others 1991; Carnaghan and Bracewell-Milnes 1993; Domberger and Piggott 1994). When real competition is not or cannot be introduced, it is more likely that privatization will be less effective, and well-run public firms may do as well as private ones (Kwoka 1996). But even in these circumstances, many private projects have outperformed public enterprises. Examples include the water sector in Argentina, Côte d'Ivoire, and Guinea (Clarke, Menard, and Zuluaga 2000; Noll, Shirley, and Cowan 2000).

At least two broad difficulties exist in promoting competition when privatizing infrastructure utilities. First, not all components of infrastructure industries are equally amenable to competition; therefore, privatization might not be appropriate for all activities in a sector. For example, relatively low-cost wireless technologies make most elements of telecommunications potentially competitive, whereas generation of electricity is more likely to support competition than is transmission of electricity. The key to successful reform in any sector is, therefore, an adequate reform of market structure to maximize the potential for real competition. Market structure reform tries to distinguish—and to varying degrees separate—the true, natural monopoly elements of a system from the competitive segments. Second, even when competition is feasible, a dominant incumbent in a network industry often has both the incentive and the means to thwart competition.

With privatization more likely to be successful in competitive sectors and with infrastructure sectors, in general, less amenable to competition, it is not surprising that experiences in infrastructure privatization offer more mixed outcomes. Perhaps not unexpectedly one key determinant of privatization success has been the degree of competition introduced in the regulatory regime. As Ambrose, Hennemeyer, and Chapon (1990) note, "[S]imply moving a monopoly from the public to the private sphere will not result in competitive behavior." Another factor affecting success relates to the sequencing of sector reforms (including privatization) and the creation of the regulatory institutions that are necessary to achieve the broader objectives, including promoting competition. Policy reforms such as privatization often have proceeded faster than the necessary supporting institutions manage (see, for example, Wellenius 1992). This outcome is hardly surprising because privatizing a firm, complicated though it may be, is a relatively straightforward and discrete task when compared with building a regulatory agency where none existed. Nonetheless, varied experiences with privatization in the infrastructure sector caution developing countries to develop a system of checks and balances before privatizing sectors in which competition has until recently been a foreign phenomenon.

For several reasons, governments may sell off state monopolies and may grant whole or partial monopoly privileges to new private incumbents. The government may face substantial pressure to maximize privatization revenues, and the first metric by which the success of the sale is likely to be judged is the sales price. Privatizations tend to be controversial, and the government may be wary of

being accused of giving away the crown jewels if the sale price is too low. This wariness, plus a need to build support for privatization, may create an incentive to generate a high sales price, even at the expense of future improvements in the network. These pressures may have been especially intense during the first privatizations when there was little evidence that privatizations could be successful or that failing state-owned firms could attract private investors.

Consider the growth rate of networks in telecommunications when investors were given "exclusivity"—temporary monopoly rights—compared with when they were not. In a sample of about 20 countries that privatized their telecommunications firms, one study found that although private investors were willing to pay more for an exclusivity period (figure 3.13), telecommunications investment was substantially lower in countries that gave exclusivity periods than in countries that did not (Wallsten 2000). In other words, investors were likely paying for the expected stream of monopoly profits, not for the right to invest.

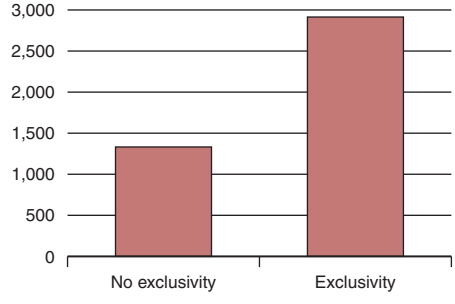
Another reason for granting monopolies is the mistaken belief that restricting competition can stimulate investment. As Noll (2000) notes, both the firms operating in a competitive environment and the monopolists face the same cost of capital, and neither will invest unless the expected revenues make the investment worthwhile. The monopolist's market power makes it less, not more, likely to undertake a given investment because monopoly profits are typically obtained by providing lower quantities of the good or service at higher prices. A firm with a guaranteed monopoly is also likely to invest less because it does not have to worry about more efficient competitors stealing market share. Even the threat of entry—which is typically the situation when reforms are introduced—can be enough to induce the incumbent to invest.

Indeed, in telecommunications, empirical work consistently demonstrates that competition, typically in the form of mobile providers (which have much lower fixed costs than wire line firms) is extremely successful in improving telephone penetration (for example, Fink, Mattoo, and Rathindran 2002; Galal and Nauriyal 1995; Li and Xu 2001; Ros 1999; Wallsten 2001a, 2001c). Figure 3.14 illustrates how the penetration of the mobile telephone market in Africa is influenced by competitive versus monopolistic regimes.

However, introducing competition—even when technically feasible—can be difficult. Incumbent firms can use their considerable

Figure 3.13 Granting monopoly rights brings in revenues

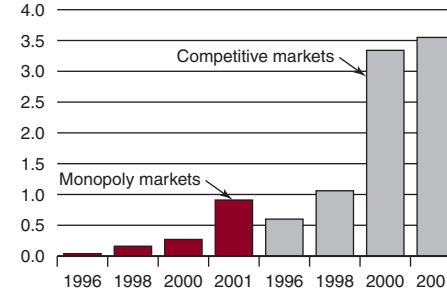
(dollars per line)



Note: Average price paid in telecom privatizations.
Source: World Bank staff.

Figure 3.14 More competition means more phones

(mobile subscribers per 100 inhabitants)



Source: African Telecommunication Research Project Database, DECRG, World Bank.

market power to ensure that competition never succeeds. Taking full advantage of the competitive forces in the global economy requires introducing a regulatory framework that maximizes competition. Establishing a clear regulatory framework in advance of privatizing companies is key to achieving a competitive outcome. Wallsten (2002) studied 200 countries from 1985 to 1999 and has found that, in telecommunications, creating a regulatory capacity before privatization is significantly and positively correlated with subsequent performance (using measures of capacity and investment). Moreover, earlier existence of a regulator seemed to increase the price received for privatized telecommunications firms by reducing uncertainty over the future stream of earnings.[11] Regulatory agencies are discussed in more detail on page 27 and page 33.

Private barriers to competition are often difficult to identify and can be pernicious

Even if policy barriers to competition are removed, private firms—usually in concentrated industries—can raise barriers to competition. In particular, dominant firms can exercise their market power to prevent entry by competitors in order to keep prices and profits high. Such anticompetitive behavior may be especially prevalent among newly privatized firms in industries that are traditionally dominated by a single firm, such as telecommunications. Another form of private barriers is collusive behavior—often in the form of cartels—to fix prices and discourage entry.

Early research explored links first between concentration and profitability and then between concentration and prices. The underlying hypothesis in this line of research was that firms in highly concentrated markets would earn higher profits (implying monopoly profits) and would be able to charge higher prices. In general, empirical work supported this view, finding that firms in highly concentrated markets were more profitable and charged higher prices (for example, Weiss 1989). In addition, Newfarmer and Marsh (1994) found a statistically significant relationship between concentration and firm profitability in Brazilian manufacturing (table 3.1). Similar results were reported by Connor (1977) for Brazil and Mexico.

Table 3.1 Profitability on equity, concentration, and market share (percent): Brazil, 1971–78

Four-firm concentration ratio (CR4)[a]	Relative market share (RMS)[b]				
	10	30	50	70	90
20	12.3	—	—	—	—
40	12.9	14.9	—	—	—
60	13.5	14.5	15.5	—	—
80	14.1	15.1	16.1	17.1	—
100	14.7	16.7	17.7	18.7	19.7

a. CR4 is the ratio of four largest plants to total industry sales, weighted by the four-digit group product group to sales of firm.
b. RMS is the ratio of firm's sales to industry sales, weighted by four-digit product sales of the firm.
Source: Newfarmer and Marsh (1994). Figures are based on regression coefficients holding other structural variables (for example, size, leverage, capital intensity) at their means.

Interpreting these results, however, requires care. Both concentration and profits could be high because firms exercise market power and block entry, or because better, more efficient firms are more likely to succeed, to capture higher market shares, and to be more profitable (Bresnahan 1989; Feeny and Rogers 2000). Nonetheless, empirical research—primarily in industrial countries—demonstrated that there is a great deal of market power in some industries and that anticompetitive conduct can lead to high price–cost margins (Bresnahan 1989). And, as Weiss (1989) noted, "[I]n smaller lands and/or in nations with less enthusiasm for antitrust [than in industrial countries], the problem must surely be greater."

Many believe that markets in general are less competitive in developing countries. With the exception of Brazil, China, India, and Indonesia, domestic markets tend to be small, with low human capital, poor infrastructure, volatile economies, and few manufactured inputs produced domestically. Surprisingly,

though, some evidence suggests that manufacturing sectors, on average, are not less competitive than elsewhere. As Tybout (2000) notes, "[B]ecause of institutional barriers, labor market regulations, poorly functioning financial markets, and limited domestic demand, the industrial sectors of developing countries are often described as insulated, inefficient oligopolies. To date, however, there is little empirical support for this characterization. Turnover is substantial in developing countries that have been studied, unexploited scale economies are modest, and evidence of widespread monopoly rents is lacking." Nonetheless, he notes, "[I]t would be foolish to conclude that market power is a non-issue in developing countries."

Collusive behavior and domestic cartels limit competition

A single firm abusing a dominant market position is not the only way firms can engage in anticompetitive practices. Vertical restraints between manufacturers or suppliers and downstream distributors in the form of exclusive dealing and geographic market restrictions can also raise barriers. In addition, firms that would be price-takers individually—and unable alone to control any significant part of the market—can work together to control the market, thus increasing prices and discouraging entry. Collusive behavior is not uncommon, and competition authorities in developing countries have prosecuted several cases of price-fixing, as the illustrative list in table 3.2 suggests. In one colorful example of a bid-rigging conspiracy in the electrical equipment industry (high-voltage switchgears), participants used the phases of the moon to determine which firm's turn it was to submit the "low" bid.[12]

During the past decade, a number of developing and transition market economies have adopted or strengthened existing competition laws (see box 3.2). More than 90 countries have such legislation; more than half the laws were enacted since 1990. Although the core provisions of these laws (addressing issues of horizontal and vertical restraints, of abuse of dominant market position, and of mergers and acquisitions [M&A]) are similar, their scope, institutional design, budgets, staffing, and other resources vary widely. Competition laws generally complement and buttress other policies, such as policies on deregulation, privatization, and trade and investment liberalization, that enhance competition. However, the overzealous application or misapplication of competition law in the context of weak administrative capacity can also have serious negative consequences. Effectively implementing competition law requires an adequately funded agency with well-trained, knowledgeable, and experienced staff members. This is a challenge in industrial countries and even more so in the developing world.[13] In this regard, some developing countries have made noteworthy progress, but it is still too early to form an overall view of the effectiveness of their competition agencies. International investors have raised the issue that the proliferation of competition laws has led to higher costs for M&A transactions—a primary vehicle for FDI. And in some cases, the decisions arrived at by the competition authorities are highly questionable.

The remedy for anticompetitive conduct of firms necessarily depends on a country's capabilities. As the first order of business, all countries are well advised to look for ways to reduce policy barriers to competition. Small-market countries in particular can look to trade to discipline domestic pricing. Governments in countries with weak regulatory capacity, high levels of corruption, and poor accountability would be better advised to do the following: first, limit the powers of a competition agency to review of government policies for their competitive consequences and, second, concentrate on improving information and reporting requirements of firms so that increased transparency will attract entry. Trying to establish more comprehensive competition authorities in countries without an appropriate legal-economic framework may simply create another avenue for corruption

Table 3.2 Cartel enforcement in selected developing countries

Country	Year	Market	Actions
Bulgaria	2000	Intermediate transportation	Price-fixing
	2000	Phone cards sales	Price-fixing
	2002	Gasification	Contracts with non-compete clauses
China	1998	School building	Bid-rigging conspiracy
	1998	Engineering construction	Bid-rigging conspiracy
	1999	Brickyard	Bid-rigging conspiracy
Estonia	1999	Taxi services	Price-fixing
	1999	Road transport	Price-fixing
	2000	Milk products	Price-fixing
Indonesia	2000	Pipe and pipe-processing services	Bid-rigging
Latvia	1998–99	Aviation	Cooperation in organization of passenger flights
	1999	Courier post	Agreement between two postservice companies
Peru	1995–96	Poultry market	Price-fixing, volume control, and conspiracy to establish entry barrier
	1997	Building and construction	Bid-rigging
	1999	Taxi tours	Price-fixing
Romania	1997	Mineral water	Price-fixing
	1997–2000	Drugs	Conspiracy in market-sharing in pharmaceutical distribution
Slovenia	2000	Electricity	Price-fixing
	2000	Organization of cultural events	Cooperation and establishment of entry barriers
South Africa	1999	Citrus fruits	Conspiracy relating to the purchase, packaging, and sale of citrus fruits
Taiwan, China	1997–98	Wheat	Buyer's cartel imposing quantity control and quota system
	1998	Mobile cranes	Bid-rigging
		Liquefied petroleum gas	Price-fixing
Ukraine	1999	Electronic cash machines	Price-fixing
	2000	Kaolin	Noncompete contract
Zambia	Not available	Poultry	Agreement foreclosing competition
	1997	Oil	Price-fixing

Source: OECD (2001).

and rent seeking. Governments in countries with stronger regulatory capacity have many options that go beyond policy review for competitive consequences and for improved disclosure. They may be able to prosecute price-fixing and other horizontal restraints, as well as prosecute restrictive marketing and other vertical restraints that hobble entry.

Regulatory agencies may help promote competition, but one size does not fit all

One way that regulatory authorities can play a positive role in encouraging competition and investment has to do with bringing competition to industries that are dominated by a small number of firms or to industries in which cartels have developed. For example,

Box 3.2 Competition policy and competition law share similar objectives across countries

In recent years, many countries have enacted specific legislation to safeguard and encourage competition. Enforcing competition (or antitrust and antimonopoly) laws can increase welfare and can improve efficiency by combating the negative externalities generated by anticompetitive firm behavior. The focus and objectives of competition agencies entrusted with this task vary across countries: some, such as Canada, New Zealand, and the United States, place the emphasis on consumer welfare and economic efficiency, while others, such as Brazil and the European Union (EU) member countries, look to serve the broader "public interest." But even with these differences in scope, the underlying principles are similar.

The conduct provisions of competition law relate primarily to the following:

- *Horizontal agreements* are entered into by firms to fix prices (and agree to similar practices such as bid-rigging; restricting output; and allocating market shares, geographic markets, or customers). Such agreements represent an unambiguous welfare loss to consumers in terms of reduction in price or output competition. Firms that enter into these agreements are severely prosecuted and, in some countries (Canada and the United States), such conduct is treated as a criminal offense, with CEOs liable for imprisonment. However, such anticompetitive behavior is often difficult to investigate because managers generally avoid written communication. As a consequence, some countries have adopted amnesty or leniency programs for cartel members who are the first to "blow the whistle" against other members. Encouraging new entry by removing both private and policy barriers may be the best policy to combat horizontal agreements because collusive behavior drops as the number of firms rises.
- *Abuse of dominant (AOD) market position* (that is, monopolistic practices such as market foreclosure and predatory pricing) is more difficult to enforce because authorities must focus not on the firm's size or dominance itself (which is not illegal) but rather on the "abuse" of a dominant position. Competition agencies must have the expertise to distinguish between dominance resulting from superior business practices and dominance from erecting anticompetitive barriers.
- *Vertical restraints* between manufacturers, suppliers, and distributors (such as resale price maintenance, exclusive dealing, and geographic market restriction) can be tricky because such measures can improve efficiency just as easily as discourage competition. The emerging consensus is that adverse effects are more likely to dominate if the participant firms enjoy a certain degree of market power. Therefore, vertical restraints should be evaluated within the context of AOD market competition laws.

The structural provisions relate primarily to the following:

- *Mergers and acquisitions,* where the principal concerns arise in horizontal transactions, and *joint ventures* compose two structural approaches. Two different views are prevalent. First, when transactions significantly reduce firm numbers or increase concentration, competition may substantially decrease. Second, transactions may be strongly motivated by efficiency goals, and substantial anticompetitive outcomes are likely only if there are barriers to entry or to new competition. Because most horizontal M&A activity will lessen competition but may also increase efficiency, a cost-benefit approach is often pursued in which mergers are exempted or are permitted to proceed on a restructured basis if the efficiency gains are likely to be greater than the competition losses.

Source: Khemani (2002).

Galal and Nauriyal (1995) compare the performance of the telecommunications sector in several countries before and after reforms as they explore how well countries were able to balance regulatory objectives: commitment, information asymmetry, and pricing issues. In their sample, they find that the country (Chile) that resolved all three issues achieved

the greatest improvement, while the country (the Philippines) that did not experienced the worst performance. Countries that resolved some issues but not others experienced mixed success. A more recent study of competition, privatization, and regulation hints at the importance of effective regulatory institutions (Wallsten 2001a). Like other research (for example, Petrazzini 1996; Ros 1999), the study finds that competition resulting from privatization positively affects network growth, but it also concludes that privatization brings greater benefits in the presence of an independent regulator.

Given the potential importance of regulatory institutions in promoting competition, it may seem surprising that regulation has been given relatively little emphasis in developing countries. Three factors may have worked to diminish the focus on regulation. First, the privatization wave was picking up strength just as the United States and other industrial countries were engaged in a process of deregulation, which often meant removing government controls to allow the industry to compete or to encourage new entry. Second, privatization in developing countries often faced competing objectives because governments want not only to maximize revenues from privatizing state-owned firms but also to improve the delivery of service by firms in the industry. The easiest (and most common) means to increase the firm's value for private investors is to include monopoly rights in service provision, but, unfortunately, precluding competition is likely to retard investment.

Third, the challenge of building effective regulatory agencies is enormous and will not automatically lead to better outcomes. These agencies are costly, require tremendous capacity in terms of human resources, and probably work best in the presence of complementary organizations such as competition agencies. Moreover, there is little evidence that, in general, regulatory agencies in developing countries have been successful. Regulation often takes the form of regulating entry, and, as Djankov and others (2002) document, regulation "is generally associated with greater corruption and a larger unofficial economy, but not with better quality of private or public goods. . . . The principal beneficiaries [of regulation] appear to be politicians and bureaucrats themselves."

This observation does not mean that developing nations are doomed to failure when building effective regulatory institutions. It also does not detract from the general point that introducing competition in potentially competitive sectors that are dominated by a single firm requires competent regulation that both protects consumers and assures investors that their assets will not be expropriated. Instead, as already discussed, it suggests that such agencies should focus on promoting entry, not regulating it, and that they themselves should operate in an especially transparent fashion to gain credibility. This feat is not easy to achieve, and such agencies must find the delicate balance between accountability and independence from short-term political pressures.

Public investment in infrastructure and human capital

While the government plays a crucial role in providing a general framework to encourage investment and in establishing the conditions that use competition to create efficiency, its role as a direct investor is pivotal in shaping investment climate. There is some question as to what effect public investment has on private investment (see box 3.3). Moreover, all governments make public investments that work through several channels: Governments can invest directly in physical and human infrastructure provision. In addition, their involvement in less-tangible areas (providing policy stability, setting standards, and establishing legal and regulatory frameworks) affects opportunities even in areas in which direct government involvement is minimal. In this section, we will evaluate the scope and rationale for government engagement in the areas of infrastructure and human capital provision.

Box 3.3 Does public investment "crowd out" or "crowd in" private investment?

While direct government investment in the economy is necessary, direct expenditures should be targeted carefully, because resources are scarce. In particular, governments should not invest where the private sector is willing and able to go. A government can crowd out private investment in two general ways. First, it can invest in areas where the private returns are likely to be high. Such investments may tempt politicians because they can then tout "successful" investments on the basis of their high returns. But such successes are illusory because private investors would have undertaken the investments anyway, and there is an opportunity cost from the suboptimal use of scarce government resources. Second, using high government deficits and borrowing to fund public investments can indirectly crowd out private investment by means of macro channels such as pushing up interest rates—and thereby raising borrowing costs—or creating credit constraints for private investors. Conversely, some government spending can also crowd in investment by attracting additional private investment that would not otherwise occur. The government may need to build certain parts of the infrastructure to attract private investors, to build roads that connect rural areas to markets, and to make education universally available.

In any particular country, it is likely that some public investment choices will crowd out private investment, while other choices will have the opposite effect. It is, therefore, not surprising that the empirical research on which effect dominates is mixed. Aschauer (1989) argues that while public investment reduces private investment almost one-to-one by encouraging the private sector to take advantage of public capacity instead of building its own, it is also true that public capital (and infrastructure capital in particular) complements private capital in the production of goods and service. Hence, public investment raises the marginal product of private investment so that—despite the direct negative effect—the long-term consequence of an increase in public investment on private investment is positive.

These results, however, were based exclusively on the United States, and a subsequent wave of cross-country tests of the crowd-out or crowd-in hypothesis has thus far failed to yield any clear conclusions. Recent results from the developing world are ambiguous and show little consistency. For example, Ahmed and Miller (2000) find general evidence of crowding out, but note that public infrastructure expenditures, such as spending on transport and communication, seem to crowd in private investment.

Ghura and Goodwin (2000) report a crowd-in result for a sample of 31 countries, but find more variation on the regional level: Asian and Latin American countries exhibit crowding out, while Sub-Saharan Africa shows that public and private investment are complements. In a slightly smaller sample, Herrera and Garcia (2000) find crowding out in both Latin America and East Asia, with the effect much stronger for Latin American countries. Everhart and Sumlinski (2001) add SOEs to the definition of public investment and, with a sample of 62 developing countries, find that corruption exacerbates crowding out. In fact, the effect of the corruption interaction variable is so significant that in the long run there may well be no crowding out if no corruption is present.

Finally, Wang (2002), using annual data for East Asian economies (developing as well as industrial), finds evidence of substantial gains from positive externalities generated by the public sector, therefore hinting at crowding in. However, he cautions that in the long run the influence of private production on public capital expansion is stronger than the reverse, which might indicate a causal chain in which higher private demand leads to greater public investment.

There is thus no consensus within the literature on whether crowding in or crowding out dominates. Empirical results are often sensitive to sample choice and vary with regard to individual countries and time periods. Hence, whether crowding in or crowding out dominates may depend on complex interactions between private and public investment. It is possible that, up to a certain level, higher public investment may encourage private investment and growth. However, when undertaken in excess (or when existing capacity is used inefficiently), any additional increases in the level of public capital may crowd out private investment.

Source: World Bank staff.

Infrastructure affects opportunities for growth

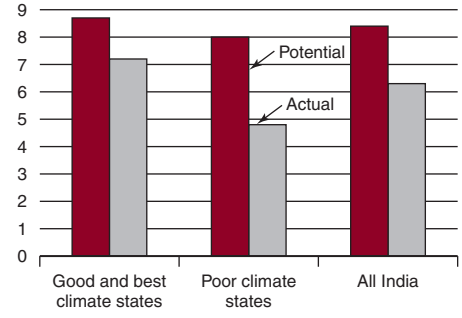
The quality and availability of infrastructure has a major effect on investment opportunities in the private sector. World Bank (2002) notes that "improvements in infrastructure services can help promote competition in other markets, and there is evidence that infrastructure has a positive impact on growth and poverty reduction." In a sample of 100 countries, Easterly and Rebelo (1993) attach an important role to infrastructure capital—particularly transportation and communications—in economic growth. Elements of infrastructure such as paved roads, telephone density per worker, and adequate generation of electricity have been found to have a strong effect on growth (see Easterly and Levine 1997; Canning 1999; and Canning and Bennathan 2000). Even in industries that have very low requirements for energy and transportation services, such as the software industry, the quality and availability of infrastructure play a key role in selecting firm locations because firms rely on satellite facilities to export their products (Balasubramanyam 2001). In addition to promoting economic growth, greater coverage of infrastructure services is also a key determinant of FDI (Balasubramanyam 2001; Stein and Daude 2001).

Infrastructure is a key determinant of the quality of a nation's investment climate. A recent survey study that linked quantitative measures of the investment climate to firm investment and growth experiences demonstrates the potential for improvements in infrastructure. The study, which is based on more than 1,000 firms in 10 Indian states, finds that if each state could attain the "best practice" in India in terms of regulation and infrastructure, the national economy could grow about 2 percentage points faster (see figure 3.15). The gains would be particularly large in the states with weaker investment climates (an extra 3.2 percentage points of growth), thus reflecting the fact that the move from current to best practice in India would be a large improvement. But even in the states with stronger climates, there is significant room for improving the climate in particular areas: moving to the best Indian practice would add 1.5 percentage points to the growth rate for these states. Note that in many ways this is a conservative counterfactual scenario because it would raise states to the levels of regulation and infrastructure quality that are already observed in India. If India could achieve Chinese or Thai levels in various investment climate areas, its potential growth acceleration would be even more dramatic (World Bank 2002a).

The efficiency of infrastructure capacity utilization is just as important as (if not more important than) the capital stock itself. Easterly and Levine (2001) propose that "creating conditions for productive capital accumulation is more important than accumulation per se and policymakers should focus on encouraging TFP [total factor productivity] growth." Hulten (1996) notes that those low- and middle-income countries that use infrastructure inefficiently pay a growth penalty in the form of a much smaller benefit from infrastructure investments. More than 40 percent of the growth differential is due to the efficiency effect, making it the single most

Figure 3.15 Better infrastructure means higher growth

(annual average GDP growth rate 1992–98, percent)



Note: Survey of more than 1,000 firms in 10 Indian states. "Potential" refers to attainment of the "best practice" in India in terms of infrastructure and regulation.
Source: World Bank staff.

important explanatory variable in differential growth performance. Similarly, Aschauer (2000) attributes an important role to the efficiency variable, although he cannot reject the hypothesis of parallel importance of the quantity and effectiveness of public capital at conventional levels. Aschauer (2000) also calculates the growth-maximizing level of public capital, which is vastly exceeded by the actual sample average of 46 developing countries. Thus, it would seem that the average country in his sample has overspent on capital expenditures, thereby lowering the productivity of its public investment program.

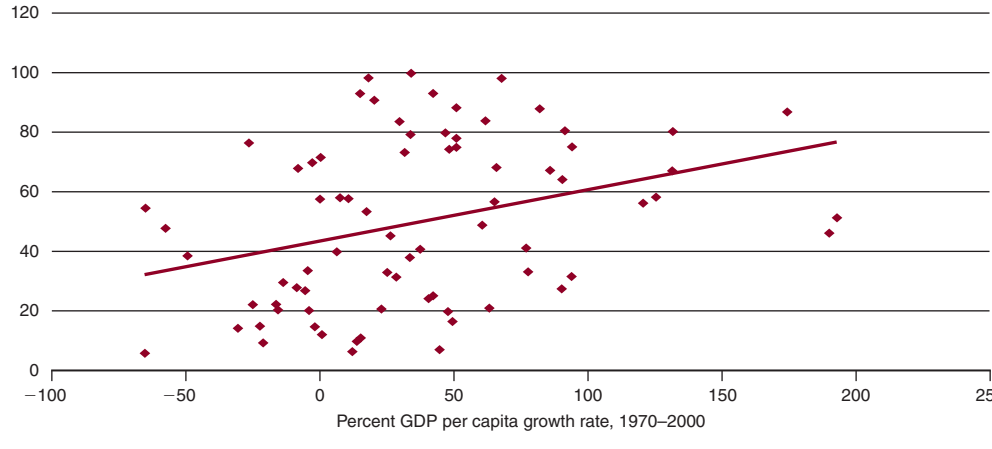
Investments in human resources are critical

Human capital is widely recognized as an important determinant of development and growth. Seminal work by Mankiw, Romer, and Weil (1992) demonstrated a significant improvement in the explanatory power of the Solow growth model when it included measures of human capital. Similarly, many endogenous growth models have benefited from the inclusion of an education variable (see, for example, Romer 1990). Barro (1991) found that for a sample of 98 countries, the growth rate of real per capita GDP during 1960–85 was positively related to initial human capital (proxied by 1960 school-enrollment rates). Figure 3.16 illustrates this concept by showing a clear positive relationship between the 1970 literacy rate and the growth in GDP per capita between 1970 and 2000 for 75 developing countries.

Easterly and Levine (2001) caution that economic growth differences across countries cannot be easily explained by factor (including human capital) accumulation and should focus instead on technology and productivity growth. However, the success of dissemination of more advanced technologies in developing economies is largely determined by the absorptive capacity of the host country. That is, to realize the growth potential of new technology, the country must possess a high enough stock of human capital to be able to assimilate the technology. For example, Borensztein, De Gregorio, and Lee (1998) show that the magnitude of the effect of FDI on growth depends on the available stock of human capital in the host country. Within an endogenous growth model, the researchers

Figure 3.16 Greater literacy is associated with higher growth

(1970 literacy rate, in percent)



Source: World Bank data.

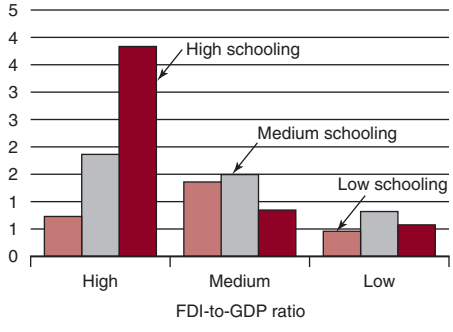
obtain a positive and highly significant coefficient on the interaction variable between FDI and human capital. The results suggest that "the flow of advanced technology brought along by FDI can increase the growth rate of the host economy only by interacting with that country's absorptive capacity."

Several other studies have looked at the relationship between FDI and human capital. For example, Coughlin and Segev (1999), Noorbakhsh, Paloni, and Youssef (2001), and Kolstad and Tøndel (2002) show a positive link between FDI inflows and the stock of human capital in the host country. Balasubramanyam (2001) notes that human resources are a key determinant of FDI.

Countries with the highest levels of both schooling and FDI grew much faster than countries with the lowest levels in the period 1970–89 (figure 3.17). Human capital is also important as an interaction variable between FDI and domestic private investment. Countries with high levels of human capital seem to experience crowding in of domestic investment by FDI, while countries with less human capital suffer the opposite effect (Herrera and Garcia 2000). Thus, high levels of human capital may help increase the overall level of investment through a crowd-in mechanism. Countries with higher human capital also have lower fertility rates and higher ratios of physical investment to GDP. Some evidence suggests that additional government expenditure on education induces additional private expenditures on education. For instance, Foster and Rosenzweig (1996) show that in India higher returns to primary schooling actually induce increased private investment in schooling.

Figure 3.17 Education raises the productivity of FDI, which leads to higher growth

(per capita GDP growth rate, in percent)



Note: The low, medium, and high categories for FDI-to-GDP ratio are below 0.01 percent, 0.01 percent to 0.2 percent, and more than 0.2 percent, respectively. For the schooling variable, the low, medium, and high categories are below 0.4, 0.4 to 1, and more than 1, respectively.
Source: Borensztein, De Gregorio, and Lee (1998).

Despite the overwhelming consensus that human capital is one of the keys to sustained economic growth, finding a robust empirical relationship between education and growth has proven difficult (see Easterly 2001 for a review). One striking example lies in comparing East Asia to Sub-Saharan Africa: Between 1960 and 1985 East Asia's per capita GDP grew more than 4 percentage points quicker than incomes in Africa, yet Africa's educational capital growth was actually higher than Asia's (Pritchett 1999). However, part of the answer to this puzzle emerges from the multidimensionality of the investment climate: education matters only if people are given opportunities to use their skills in productive industries in a supporting enabling environment. Easterly (2001) contends that economies with low black-market premiums[14] on foreign exchange grow faster with higher schooling levels, while economies with high black-market premiums grow slowly regardless of the levels of education. That is, "schooling pays off only when government actions create incentives for growth rather than redistribution."

Policies to promote competition

While competition and entrepreneurship are essentially private sector activities, they require markets that function well. And it is up to governments to ensure an environment in which markets remain contestable

and entrepreneurship is rewarded, which is not easy. Entrenched interests are powerful, and it is often hard to determine whether any particular program is largely in the public interest or in the interest of a much smaller, but more vocal, private constituency. In general, though, following certain basic principles can help promote competition and growth.

Governments and government agencies should operate with transparent rules, should minimize corruption, and should respect property rights. They should also make it easier to start and run businesses. The maze of bureaucratic paperwork that is often required to start businesses in developing countries seriously deters entry into many industries. Moreover, such administrative hassles can be especially pernicious: in some cases they may punish small, local entrepreneurs who lack the resources to overcome such high hurdles. Having more government agencies that can block a firm's path will lead inexorably to more points at which a firm is required to pay bribes to move the process forward.

The government's role extends beyond setting up a generally investment-friendly environment. Until the past decade or so, SOEs have had monopolistic positions in many industries throughout the developing world. The recent wave of privatizations not only has led to large efficiency improvements in these firms and their provision of services, but also has opened those industries to competition. The greatest improvements in service have occurred in industries in which the government promoted competition along with privatization and in which it avoided giving the privatized firm any special monopoly rights. Privatizations are often difficult and controversial. However, governments should be aware that while they can usually increase the price that investors are willing to pay for a privatized firm by giving the firm a monopoly, that same exclusivity usually lowers subsequent investment. That is, investors will be paying for the stream of monopoly profits, not for the right to invest more.

Competition and regulatory agencies can be instrumental in reducing abuses of market power and in ensuring that markets remain contestable. Agencies can work toward this general vision by focusing on two objectives: protecting consumers while ensuring that the regulatory and market rules are credible to investors. These objectives, however, may be difficult to balance when interests compete for regulatory favor. Moreover, there is the risk that a new regulatory agency will become another avenue for corruption, especially in countries with very poor investment climates. An agency will be better able to accomplish its objectives of correcting market failure while avoiding government failure if it meets several criteria. In particular, it must operate in a transparent manner, be accountable, be independent from short-term political pressures, have limits on its discretion, and have adequate capacity to do its job.

The downside associated with failing to meet these criteria can be severe. For example, investment will be difficult to attract if regulatory policies can be easily changed to benefit any given politician's short-term objectives. Likewise, an agency that is not transparent and accountable runs the parallel risks either of frightening away investors or of being captured by the industry it is supposed to regulate at the expense of consumers. Without limits to its discretion, meanwhile, an agency may seek to expand its influence into new areas and may become primarily another obstacle to development and an avenue for rent seeking. Finally, if the agency lacks the capacity to do its job, it will simply be ineffective.

This range of criteria highlights the point that—especially in regulatory and competition agencies—one size does not fit all. The optimal type of regulatory and competition agency (if any) depends not only on the conditions of the market (for example, to what extent an individual firm can exercise market power to thwart entry), but also on the extent to which the country is likely to be able to credibly design and run an institution that meets these criteria. Larger, more stable

countries with effective existing bureaucracies are more likely to be able to meet all the criteria. Other countries may face great difficulties. The resources required to build and adequately staff an agency can be quite sizeable, potentially making it unrealistic for a small, poor country. Some have suggested that when resources and skills are scarce, countries could work together to create regional agencies in order to share the costs and responsibilities. Countries with severe problems of corruption and with a lack of transparency, meanwhile, may have difficulty convincing consumers and investors that a new agency would behave differently from how the government behaved in the past. A government intent on overcoming this reputation and on encouraging competition may make some progress in two ways: increasing the amount of publicly available information on both firms and government agencies, and taking special steps to ensure the transparency of any new initiatives while emphasizing the discretionary limits of those agencies.

Notes

1. Note that these investment categories are not strictly comparable because the FDI flows are taken from balance of payments statistics and include foreign inflows intended for both new investment and acquisition of existing assets. Meanwhile, the other investment figures are derived from national accounts and refer only to new investment. The "domestic private" category is calculated as a residual and, therefore, may not match figures available from other sources.

2. However, his corruption indicator is correlated with other explanatory variables so that the coefficient on corruption is not significant once other explanatory variables are included in the equation.

3. The rise in FDI is moderated because improvements in institutions are also associated with a reduction in FDI as a share of total capital inflows because other types of capital inflows are more sensitive to institutional quality.

4. Not everyone is persuaded by these cross-country regression results. For example, Rodriguez and Rodrik (1999) argue that some indicators of openness are highly correlated with other indicators of economic performance—including macroeconomic policy—or that they imperfectly reflect a country's trade policy regime. The high correlation of components of the Sachs and Warner index with policy and institutional variables yields an upward bias in the estimation of trade restriction effects. Meanwhile, tariff and nontariff barriers, the two variables that directly measure trade openness, have little explanatory power when considered separately in cross-country regressions.

5. Patent citations refer to a requirement in some patent offices that inventors include in their patent application the citations of the patented technology that they used in developing their invention (see Branstetter 2000). These citations are used as evidence of technological spillovers.

6. However, Keller (1998) finds that the role played by import shares in determining productivity levels is limited. Using the Coe and Helpman (1995) model with randomly generated import shares, he also finds a positive relationship between foreign R&D and productivity.

7. The entry cost measure used in figure 3.6 refers to the costs of obtaining the necessary permits and licenses and the other procedures required to set up a new establishment. See Djankov and others (2002) for further details.

8. See Hallward-Driemeier, Iarossi, and Sokoloff (2002) for a longer discussion; Levinsohn (1993); Haddad and Harrison (1993).

9. Of the various regulatory agencies that are seen as obstacles, customs officials ranked second—only behind labor regulators—as a major constraint to doing business in India.

10. Delays are similar for clearing imports through customs. With such uncertainty, firms are likely to need to keep greater inventories of materials on hand, thus incurring significant storage costs and tying up resources that could otherwise be put to more productive use.

11. This will not always be the case, of course. A country could easily enact a regulatory regime that deters investors and increases the risk premium. Yet, on average, regulatory certainty seemed important to investors.

12. See Scherer and Ross (1990), chapters 7 and 8, for a description of this case and others about collusion.

13. Some commentators have suggested that it is a mistake to encourage developing and emerging market economies to enact competition laws because the risks of misapplication are high as a result of weak institutional capacity. Such laws may also become another form of government intervention in markets and may give rise to corruption. However, such objections could also be applied to other policy areas such as tax collection, bank regulation, and so forth. The main

implication instead is that it is important, first, to design a system of checks and balances, including measures for accountability and transparency, and, second, to support institutional building of capacity.

14. The black-market premium here is seen as a proxy for available opportunities for legal and productive employment.

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4

International Agreements to Improve Investment and Competition for Development

Fast-growing developing countries have commonly been successful in setting up investment regimes that facilitate private investment and marshal competition to ensure growth in productivity. As with trade reform, most of the benefit from new sound investment and competition policies comes from unilateral reforms of domestic policies. This chapter explores the potential of international collaboration—collaboration principally in the form of international agreements—to help developing countries consolidate sound investment climates.

International agreements that are associated with multilateral or regional arrangements can potentially provide additional benefits when coupled with domestic reforms. Benefits can take several forms. For investment policies, international agreements usually have the objective of eliciting more investment by locking in reforms and providing additional investor protections. They can also reduce policy externalities that have "beggar-thy-neighbor" consequences. Moreover, participating in international negotiations can prompt partners to undertake reciprocal reforms that would not otherwise occur, as well as strengthen the hand of domestic reformers. For competition policy, international agreements might lead to removal of restraints that inhibit competition, thereby unleashing new price competition that benefits all countries. A central purpose of this chapter is to identify collective actions that have the greatest development effects.

Ministers of the World Trade Organization (WTO) set an agenda for investment and competition when they met in Doha, Qatar, in November 2001, and decided to launch negotiations on a multilateral framework that covers investment and competition. These negotiations are subject to a decision to be made by explicit consensus on modalities at the Cancún Ministerial Conference, to be held in 2003. The purpose of the new framework is "to secure transparent, stable, and predictable conditions for long-term cross-border investment" that will expand trade and "enhance the contribution of competition policy to international trade and development."[1]

The international community, and developing countries in particular, therefore faces two questions: What types of new multilateral initiatives on investment and competition policy can promote more—and more productive—investment, and hence more rapid development? And, which issues are best tackled through voluntary initiatives and multilateral cooperation, and which are best handled through binding commitments, such as those in the WTO and regional arrangements? The answers to these questions require a separate discussion of investment and competition policy.

Can coordinated investment policies increase flows to developing countries and reduce beggar-thy-neighbor policies?

An overall purpose of coordinating an investment policy is to expand the flow of investment

around the world, to minimize distortions that hurt neighbors, and to help improve economic performance. Coordination might contribute to achieving these goals through three main channels: (a) protecting investors' rights in order to increase incentives to invest, (b) liberalizing investment flows to permit enhanced access and competition, and (c) curbing policies that may distort investment flows and trade at the expense of neighbors.

Analysis suggests several broad conclusions. As with trade reforms, unilateral reforms to liberalize foreign direct investment (FDI) are likely to have the greatest and most direct benefit for the reforming country. Beyond this, new international agreements that focus on establishing protections to investors cannot be predicted to expand markedly the flow of investment to new signatory countries. This is because many protections are already covered through bilateral investment treaties (BITs), and even these relatively strong protections do not seem to have increased flows of investment to signatory developing countries. These facts suggest that expectations for new flows associated with protections emerging from any multilateral agreement should be kept low.

International agreements that allow countries to negotiate reciprocal market liberalization and to promote nondiscrimination can reinforce sound domestic policies and contribute to better performance. Because most of the remaining investment restrictions are on services, the existing General Agreement on Trade in Services (GATS) provides an opportunity to meet this objective. Similarly, curbing beggar-thy-neighbor policy externalities can benefit developing countries, especially if agreements focus on two critical issues. The first issue is the reduction of trade barriers that—by depriving developing countries of market access and discouraging their exports—will lessen the attractiveness of opportunities for both foreign and domestic firms to invest in developing countries' export industries. In this regard, reducing trade barriers in developing countries is as important as reducing trade barriers in rich countries. The second issue is the curbing of emerging competition among countries in order to lure foreign investment through incentives. Unfortunately, information on the extent of investment incentives is inadequate to assess their effects. Thus, a high priority for international collaboration is to systematically compile this information.

Finally, participating in international investment agreements may have benefits over and above unilateral reforms if those agreements are accompanied by reciprocal market access in areas of importance to developing countries. These benefits can become clear only in the course of negotiations.

Collective action can improve competition

Greater competition is associated with more rapid development. Lowering policy barriers to trade and foreign investment in developing countries, as shown in chapter 3 of this volume, is a powerful, procompetitive force. International agreements on competition policy might bring benefits beyond unilateral actions—provided that the agreements address the major restrictions that adversely affect developing countries.

Restrictions on competition in the global marketplace that will most hurt development can take three forms. First, policy barriers in markets abroad limit competition from developing countries in these markets. Particularly harmful are the $311 billion in agricultural subsidies and textile quotas, as well as the high border protection, tariff distortions (such as tariff peaks and escalation), and protectionist use of antidumping. Those policy barriers are common in all countries—rich and poor alike. All of these restrictions limit the ability of exporters in developing countries to compete in international markets.

Second, private restraints on competition can adversely affect prices for consumers and producers in developing countries. For example, companies that are based in high-income countries have cartelized some markets;

proven cartels have taxed consumers in developing countries by up to $7 billion in the 1990s. Actions that facilitate prosecution of cartels should be high on the priority list. Such actions can range from more systematic arrangements to exchange information, to granting developing countries the ability to sue under foreign antitrust laws when their trade is adversely affected. Indeed, developing countries would benefit from much greater efforts to identify and to document restrictive business practices that adversely affect prices of their trade.

Third, many governments in high-income countries officially sanction trade restraints by exempting their companies from domestic antitrust laws. For example, many governments permit their companies to cartelize exports. Although these cartels are shrouded in the secrecy of government registries, national export cartels may well raise prices to developing countries. Efforts should be made to make transparent any information on national export cartels. If cartels were found to have adverse price effects, everyone would benefit from reducing these officially sanctioned private restraints on trade. Similarly, antitrust exemptions of ocean transport have given rise to price-fixing arrangements that systematically hurt consumers everywhere, including consumers in developing countries.

Competition policies in developing countries themselves can, in many cases, be improved through increased transparency, nondiscrimination, and procedural fairness. However, international cooperation in this complex area of regulation has to recognize that countries have different capacities and institutional settings, which warrant caution in recommending—much less in mandating—across-the-board policies. This is an area where voluntary programs that facilitate learning and adoption of best practice in developing countries can pay high dividends.

This chapter analyzes first the investment policy issues, and then the global competition issues.

International efforts to promote investment

Any pro-development effort to coordinate investment policies through agreement has as its objectives increasing the flow of investment, minimizing distortions among countries, and helping countries participate in the potential gains from investment and investment-related trade. Chapter 3 of this volume singled out domestic policies that influence the quantity and productivity of private investment, both domestic and foreign. Governments that have provided stable macroeconomic policies and effective property rights for investors, and that have lowered policy barriers to competition have, by and large, enjoyed greater success in creating the conditions for sustained growth. International efforts to support these policies can take several forms: bilateral, regional, and multilateral. They can be binding, as in the case of the WTO and the North American Free Trade Agreement (NAFTA), or nonbinding, as in the case of the Organisation for Economic Co-operation and Development (OECD). The current regimen is a mixture of binding and nonbonding efforts.

Today's international investment framework is a patchwork quilt sewn together over many years

The growing waves of FDI observed in recent decades have been accompanied by a steady rise in international agreements on investment. Agreements are typically founded on the presumptions that cross-border investment provides benefits to both investing and recipient countries, that rules can minimize disputes and provide for their resolution, and that agreed-on rules can enhance both the quantity and quality of investment. The Havana Charter, designed to create the International Trade Organization (ITO) at the end of the 1940s, proposed the inclusion of investment provisions together with trade provisions. The investment provisions were quite limited in scope because many countries—

particularly developing ones—feared foreign control over their natural resources and strategic industries.[2] Since then, a patchwork quilt has emerged, made of differing bilateral treaties, regional arrangements, and multilateral instruments relating to cross-border investment. This regulatory quilt stands in sharp contrast to the more comprehensive system of norms and principles that govern international trade.

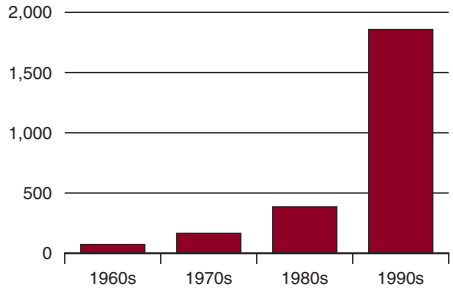
Bilateral agreements. Recent years have witnessed a surge in BITs. The number of BITs quintupled during the 1990s, reaching 2,099 by the end of 2001 (see box 4.1). During 2001 alone, 97 countries concluded 158 BITs (see

Box 4.1 What is a BIT?

The number of BITs mushroomed in the 1990s (see box figures). These agreements typically contain broad definitions of foreign investment, inclusive of nonequity forms, various types of investment assets (including portfolio investments), and intangible assets such as intellectual property. BITs generally avoid a direct regulation of the right to establishment, referring this matter to national laws (and thus recognizing implicitly the right of host countries to regulate the entry of FDI). Most BITs also do not explicitly address ownership and control issues, though they often cover some operational restrictions, such as the admission of key managerial personnel. Only a few BITs discipline the use of performance requirements.

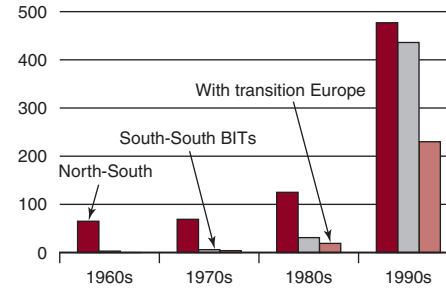
Most BITs prescribe national treatment, most-favored nation (MFN) treatment, fair and equitable treatment, and treatment according to customary international law. In addition, BITs prescribe specific investment protections, which cover topics such as the transfer of funds, expropriation, and nationalization. They typically provide for the settlement of disputes between the treaty partners and between investors and the host state. Provisions for so-called investor-state arbitration normally refer to pre-existing arbitration rules, notably those under the International Center for the Settlement of Investment Disputes (or ICSID, which is affiliated with the World Bank); the United Nations Commission on International Trade Law (UNCITRAL); or the International Chamber of Commerce (ICC).

BITs are increasing...



Source: UNCTAD (2000).

...even among developing countries



Source: UNCTAD (2000).

Source: World Bank staff.

UNCTAD 2002). For much of the post–World War II period, BITs tended to be negotiated on a North-South basis. More recently, however, there has been strong growth in the number of South-South BITs. In 2001, for example, treaties between developing countries accounted for 42 percent of new BITs (UNCTAD 2002). BITs covered an average of 50 percent of all foreign investment flows to developing countries in 1999–2001.

Regional arrangements. Investment disciplines have figured prominently in regional trade and integration agreements, particularly the most recent ones. Some of these agreements embed foreign investment into a broader framework of rules that are aimed at promoting economic cooperation and deeper integration. This framework includes the European Union; NAFTA; the free trade agreement linking the G-3 countries (Mexico, the República Bolivariana de Venezuela, and Colombia); the recently concluded Singapore-Japan agreement; and the European Free Trade Area. Other agreements—such as the OECD's Codes of Liberalization of Capital Movements, the Colonia Protocol on the Promotion and Reciprocal Protection of Investments within the Southern Cone Common Market (Mercosur), and the Asia Pacific Economic Cooperation (APEC) Non-Binding Investment Principles—are less comprehensive with regard to their treatment of the trade-investment interface.

A distinguishing feature of regional agreements with investment disciplines is their tendency to address both investment protection and liberalization (entry) issues, together with disciplines on post-establishment operating conditions and means to settle investment disputes (both state-to-state and investor-state disputes). The architecture of the most-advanced regional free trade and integration agreements reflects the complex interrelations among investment, trade, services, intellectual property rights, competition policy, and the movement of business people. Other important issues that are dealt with in some regional agreements include technology transfers, environmental protection, taxation, conflicting requirements, and standards for the conduct of multinational enterprises.

Multilateral accords. Significant multilateral rules for investment were put in place during the Uruguay Round, which concluded in 1994. All of the following agreements either directly or indirectly address key investment issues: the Agreement on Subsidies and Countervailing Measures (ASCM), the Agreement on Trade-Related Investment Measures (TRIMs), the GATS, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), and the plurilateral Government Procurement Agreement.

Numerous multilateral agreements and arrangements that have been concluded outside the WTO also affect investment and can make a positive contribution to enhancing investment climates in developing countries. Among others, these arrangements include efforts to curb bribery and corruption (OECD, Organization of American States [OAS]); rules governing the conduct of multinational enterprises (OECD Guidelines on Multinational Enterprises, United Nations [U.N.] Global Compact); guidelines on corporate social responsibility and corporate governance (OECD, World Bank); and cooperation on best practices in investment promotion activities (U.N. Conference on Trade and Development (UNCTAD), World Bank).

New efforts exist for collective action on investment

The rising tide of FDI around the world has been, in part, a consequence of a progressive receptivity of developing countries to FDI flows. Just as tariffs have fallen, so too have restrictions on incoming investments (particularly in manufacturing) been lifted. Governments once hostile to transnational corporations (TNCs) now actively seek their participation—and even compete for it. One indicator of this is the change in investment regulations. Between 1991 and 2001, a total of 1,393 regulatory

changes were introduced in national FDI regimes, of which 1,315 (or 95 percent) were in the direction of creating a more favorable environment for FDI (figure 4.1). During 2001 alone, a total of 208 regulatory changes were made by 71 countries, only 14 of which (or 6 percent) were less favorable for foreign investors (UNCTAD 2002). This opens the question of whether this evident willingness to improve the investment regime could be leveraged to achieve some additional benefits, through reciprocating in multilateral negotiations, an issue that we take up below.

The potential—and the challenge—of cooperation on investment policies become clearer if it is broken down into the three core subagendas that parallel the investment climate discussions in chapters 2 and 3. These policies relate to *liberalizing investment* to facilitate access and entry, *establishing investor protections* as an incentive to invest, and *curbing investment-distorting* policies that affect trade and investment location.

Liberalizing investment promotes market access—

The inclusion of investment in international negotiations may lead to greater openness of investment regimes that can be accomplished unilaterally. If investment is negotiated as part of a broader set of trade negotiations, rather than in isolation, then the traditional mechanism of reciprocal access concessions can help create support for greater openness at home and abroad. For example, exporters in developing countries who obtain improved access to foreign agricultural markets can be a countervailing force against those who resist the

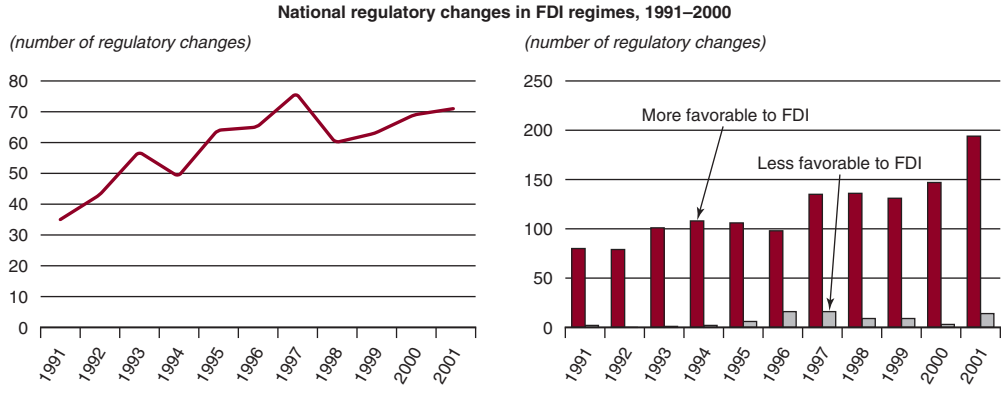
Box 4.2 The Multilateral Agreement on Investment (MAI)

Because investment regulations extend beyond tariffs into domestic regulation, the political difficulties of enticing large groups of countries to harmonize their domestic rules are not trivial. Those difficulties were evident in the latest—and failed—attempt at crafting a multilateral accord. In 1995, developed countries pushed to establish a Multilateral Agreement on Investment (MAI) within the OECD that had the objective of setting "state of the art standards for investment regimes and investment protection with effective dispute settlement procedures."[3] These efforts were unsuccessful, and the MAI was not established.

One reason for the MAI's demise was the waning support within the business community as it became apparent that the level of investment protection afforded to MAI signatories would almost certainly be lower than that offered in BITs. It was apparent that prospects for significant investment liberalization would be held back, first, by concerns of free riding by non-OECD WTO members (which stood to receive many of the benefits of the MAI by virtue of the GATS's MFN requirement without making any reciprocal concessions). Also at play was the reluctance of OECD countries to open up sensitive sectors to foreign investment (for example, to maritime transport and audiovisual services). Labor and environmental groups objected to the fact that the MAI would give TNCs more power to ignore workers' interests and environmental concerns while providing them with extensive rights to challenge domestic regulatory conduct before international arbitration panels. Meanwhile, many developing countries, left out of the discussions because of the MAI's venue in the OECD, protested their unwillingness to accept rules that they had no voice in designing (Gilpin 2000).[4] By the fall of 1998, negotiations on the MAI were formally abandoned, thereby offering sobering insights on the complexity and political sensitivities involved in attempts at comprehensive investment rulemaking.

Source: World Bank staff.

Figure 4.1 Countries are increasingly liberalizing their investment regimes

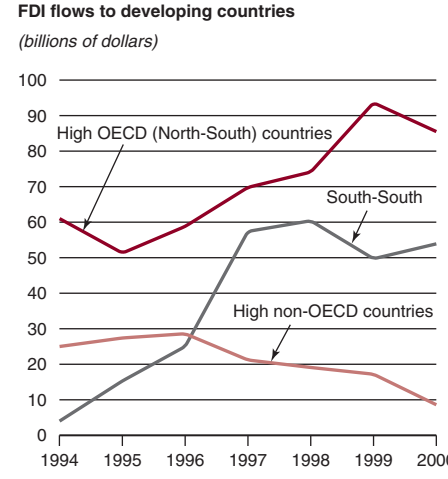


Source: UNCTAD (2002).

elimination of investment barriers in telecommunications. At the same time, the need to fight these battles about the domestic political economy makes a country a credible negotiator for improved access. The process, if it works, could produce a double benefit: liberalizing countries would benefit from the increased competition that is associated with FDI, and their firms would have improved access to foreign markets. A key issue—which can be determined only during the negotiation process—is the extent to which an investment agreement leverages reciprocal commitments among trading partners. Because reciprocal gains are difficult to gauge, an important prerequisite for each country is to ensure that any domestic policy commitment makes sense when seen through the lens of promoting national development.

Even though most foreign investment originates in rich countries and is destined for other rich countries, there may well be some scope for reciprocal agreements that benefit developing countries, even within the narrow domain of investment. Because developing countries are increasingly becoming active as investors themselves, they have a mutual interest in clear rules of access. They tend to invest primarily in other developing countries. Estimates suggest that nearly one-third of foreign investment flows to developing countries originated in other developing countries, up from negligible amounts in the early 1990s (World Bank 2002a), so South-South FDI flows have grown.[5] (See figures 4.2 and 4.3.)

Figure 4.2 South-South FDI is rising

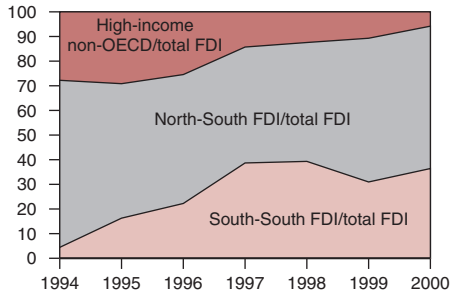


Source: Aykut and Ratha (2002).

Figure 4.3 Share of South-South FDI in total FDI is rising

South-South FDI is rising and so is its share in total FDI

(percent)



Source: Aykut and Ratha (2002).

The preceding argues that the potential for benefits investment agreements to generate merits examination. Coordinated efforts to liberalize investments can subsume two issues: first, *transparency,* and second, *nondiscrimination* in treatment of foreign investment in market access.

Transparency. Transparency involves making relevant laws and regulations available to the public, notifying parties when laws change, and ensuring uniform administration and application. In addition, transparency can be increased by offering affected parties the opportunity to comment on laws and regulations, which implies communicating the policy objectives of proposed changes, allowing time for public review, and providing a means to communicate with relevant authorities.

A nontransparent business environment in a host country raises information costs, diverts corporate energies toward rent-seeking activities, and may give rise to corrupt practices. This environment weighs down both domestic and foreign businesses, though in many cases it may be particularly discouraging to foreigners who are usually less privy to locally available information. This heightened risk of operating in the host country's business environment either translates into higher risk premiums (in the case of pricing corporate assets) or imposes additional information costs on enterprises. To be sure, transparency, alone, can add little if the underlying laws and rules are inadequate or unpredictable.

Case studies suggest that companies may, for example, be willing to invest in countries with legal and regulatory frameworks that would not otherwise be considered "investor friendly"—provided the companies are able to obtain a reasonable degree of clarity about the environment in which they will be operating. Conversely, there appear to be certain threshold levels for transparency beneath which the business conditions become so opaque that virtually no investor is willing to enter, regardless of the extent of the inducement.

These policies do not lend themselves well to including sanction-based dispute resolution procedures in legally binding agreements. Thus, international collaborative efforts should perhaps take other forms such as increasing developing countries' participation in nonbinding best-practice instruments or developing assistance to strengthen institutions. To the extent that transparency obligations are anchored in WTO agreements, monitoring by multilateral peer review and surveillance may provide the best means for promoting governance-enhancing reforms in host countries.

Nondiscrimination in treatment of foreign investment in market access. The practice of placing foreign and domestic sellers on an equal competitive footing is a hallmark of trade agreements. This objective is no less important in investment agreements. Promoting liberalization in international investment essentially boils down to securing nondiscriminatory terms of entry and operation. This approach has elements of both MFN treatment (that is, nondiscrimination as between all foreign entities) and national treatment (that is, nondiscrimination between "like" domestic and foreign entities).

Box 4.3 South-South flows: who invests and who receives?

Most FDI flows within developing countries are between the Association of Southeast Asian Nations (ASEAN) countries, and, recently, among the Latin American countries, especially the Mercosur members (UNCTAD 1999). There are signs that FDI flows from East and Southeast Asia to Latin America and Africa are picking up. According to the Chinese Ministry of Foreign Trade and Economic Cooperation, China attracted $3 billion in investment from 22 developing countries in 1998. Though this figure made up only 7 percent of total FDI inflows to China, the flows originated in a wide spectrum of countries (in terms of size and per capita income levels) and extended to varying sectors (Aykut and Ratha 2002). In addition, Chinese TNCs are becoming prominent in world markets. China has invested, not only in Asian countries, but also in Bangladesh, Brazil, India, the Islamic Republic of Iran, and Poland, in addition to countries in Africa.

The Republic of Korea, an OECD member, invested nearly one-third of its direct investment in developing countries (excluding those in Africa and the Middle East) in 1998. By 1999, Korea had invested nearly 50 percent of its aggregate investment in other developing countries. Malaysian FDI has also expanded its boundaries from East Asia to Latin America and to parts of Africa. Since the second half of the 1990s, almost 30 percent of total FDI inflows into India are from other developing countries—the principal sources being Mauritius, Malaysia, and Korea (Aykut and Ratha 2002). Outflows from Latin America in 2001 were directed primarily at other countries in the region (UNCTAD 2002). Chile continued to be the major player in interregional investment, followed closely by Mexico and Argentina. Some South African TNCs have recently moved to a strategy of international growth, partly through cross-border mergers and acquisitions. A noteworthy example of a global player is South African Breweries, which operates 108 breweries in 24 countries including China, large parts of Africa, and Europe (UNCTAD 2002). FDI outflows from the Central and Eastern European countries such as Croatia, Estonia, and Slovenia are also headed primarily to neighboring countries. A tendency to invest in neighboring countries that are at similar or lower levels of development is another feature of South-South FDI (Aykut and Ratha 2002).

Source: World Bank staff.

Departures from nondiscriminatory treatment essentially take one of two forms: before entry in the "pre-establishment" phase of an investment, and after entry in the "postestablishment" operating conditions of a business. Governments everywhere have been reluctant to extend full pre-establishment privileges to all potential entrants in every sector. Securing nondiscriminatory conditions of treatment is equally important in the postestablishment phase, because foreign investors will typically have significant start-up costs and will be averse to sudden, unanticipated changes in regulatory conditions that may tilt competitive conditions in favor of local competitors. Nondiscrimination commitments in the post-establishment phase can thus send to foreign investors powerful signals of the credibility of a host country's reform efforts.

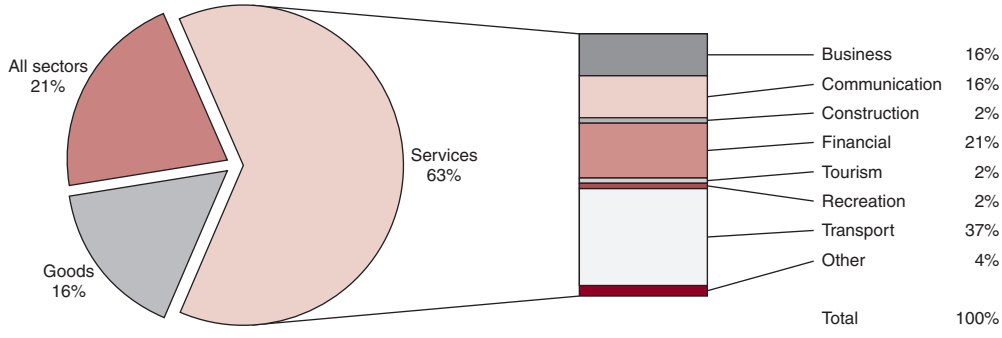
By far the most contentious aspect of liberalization is the pre-establishment commitment to openness, given the tendency to maintain restrictions on entry in a few sensitive sectors. Most countries now permit liberal access to foreign investors in manufacturing. The same holds true—if to a lesser extent—in mining and agriculture. Indeed, as a result of various investment incentive schemes that are not available to domestic firms, foreign investors in manufacturing often enjoy treatment that is better than that available to domestic investors. Most governmental measures that

overtly discriminate against foreign investors and that restrict FDI inflows are maintained in the service sector and concern key industries such as telecommunications, broadcasting and related audiovisual services, satellite services, energy services, financial services (especially banking and insurance), civil aviation, and maritime transport.[6] Sauvé (2002) estimates that 80–85 percent of restrictions affecting international investment are maintained in service sectors. Among the most dynamic sectors of the global economy, services are also where some two-thirds of cross-border FDIs have been directed in recent years (see chapter 2, this volume).

One telling proxy of the potential of services for investment liberalization is provided by the negative lists of measures drawn up by prospective signatories of the ill-fated MAI. The lists identify those sectors in which the negotiators wished to restrict access by foreign investors (see figure 4.4). A similar trend is evident under the NAFTA. Simply put, the market access or agenda for investment is largely centered on services (Hoekman and Saggi 2000; Sauvé and Wilkie 2000).

A multilateral vehicle already exists for realizing the positive externalities that potentially arise from the liberalization of investment in services: the GATS. The GATS has several features that are attractive to countries, potentially making it a useful tool to widen nondiscriminatory access in a reciprocal framework. By having a positive list approach—in which countries voluntarily schedule sectoral commitments to apply national treatment and to grant market access—governments enjoy considerable flexibility to exempt sectors that they deem of special national interest. Once commitments are undertaken, countries accord all suppliers—foreign and national alike—the same conditions of entry and operation in a nondiscriminatory fashion. To date, however, the GATS has fallen short of its liberalizing potential. The coverage of commitments for a large number of countries is limited. About two-thirds of the WTO membership has scheduled fewer than 60 sectors (of the 160 or so specified in the GATS list) (see Stern 2002). In many cases, commitments do not reflect the actual degree of openness (Mattoo 2000). In other cases, countries have not moved actively to schedule sectors—even when domestic policies are open to foreign investments. Finally, sometimes countries' commitments serve to protect the privileged

Figure 4.4 Revealed preferences: governments shield services more often than manufacturing from the winds of investment competition



Note: Listed are nonconforming measures reserved under the draft Multilateral Agreement on Investment.
Source: Sauvé (2002).

position of incumbents, domestic or foreign, rather than to enhance the contestability of markets.

Countries could take greater advantage of the opportunity offered by the GATS to lend credibility to reform programs by committing to maintain current levels of openness or by precommitting to greater levels of future openness. To advance the process of services reforms beyond levels undertaken independently and to lead to more balanced outcomes from the developing countries' points of view, countries could better harness the power of reciprocity by devising negotiating formulas that widen the scope for tradeoffs across sectors (both goods and services) and across modes of delivery, notably temporary movement of workers (Mattoo 2002).

—but protecting investment may not increase flows

A foundation of any country's investment climate is the protection of property rights for its investors. An agreement that encourages countries to improve investor protections has the potential for improving investment flows from abroad and for eliciting more domestic investment. The international community, in general, and developing countries, in particular, might find three benefits from multilateral disciplines on investment protection.

First, an agreement on common standards would promote efficiency by carrying potentially significant economies of scale in making rules: one multilateral agreement could become a "one-stop" substitute for the complex and legally divergent web of existing BITs.

Second, a multilateral regime for investment protection could help counterbalance the bargaining asymmetries built into BITs and into regional agreements conducted along North-South lines. In some cases, the negotiating asymmetries that are common to bilateral agreements have led to treaties in which developing countries have taken on substantive obligations without any reciprocity other than the promise of increases in future private investment. However, there is an important caveat to this argument: To the extent that the power imbalance is redressed in a multilateral agreement in favor of weaker states, then the constituencies within the global business community may well prefer—as was the case in the MAI negotiations—the stronger level of investment protection flowing from BITs, and may lose interest in a multilateral agreement.

Third, a multilateral set of disciplines on investment protection would arguably help developing countries send a positive signal to potential foreign investors regarding the permanence of policy changes, the expected standard of treatment afforded to foreign investors, and recourse to a dispute-settlement procedure.

While these factors suggest that investment flows might increase because of such an arrangement, care should be taken not to overstate the response of investors. Five facts argue for caution. First, the absence of a body of multilateral disciplines on investment protection has hardly deterred cross-border investment activity. Indeed, FDI has far outstripped trade and output growth over the past decade and a half (see figure 4.5).

Second, the absence of an agreement has not prevented substantial unilateral reform (see discussion above, and figure 4.1).

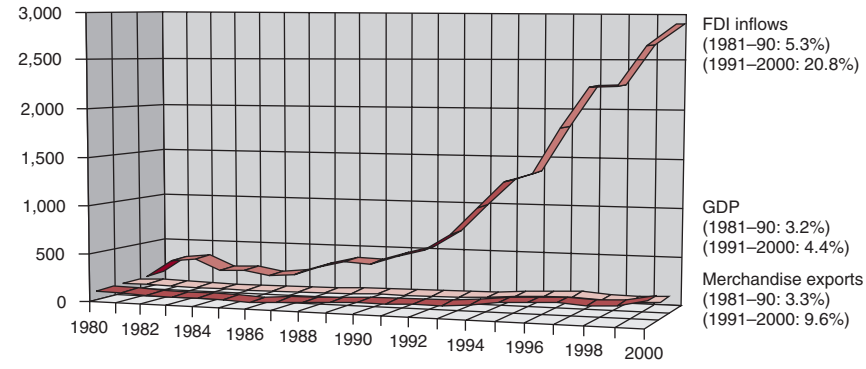
Third, a more precise indicator is the historical experience of the BITs in eliciting new investment. Does the signing of BITs increase the flow of FDI? Hallward-Driemeier (2002) finds few independent effects of BITs on subsequent increases in investment (box 4.4).

Fourth, it is not clear whether multilateral investment disciplines—whether in the U.N., WTO, or OECD—will embody investment protections that are superior—and, therefore, additive—to BITs. In the case of the WTO, the Doha Ministerial Declaration reflects a significantly more-limited approach that clearly does not view a multilateral framework on investment as a substitute for bilateral and regional arrangements. Recent negotiating briefs in the WTO indicate that some major countries have withdrawn support for investor-state

Figure 4.5 FDI is growing faster than exports and output

Developing countries: merchandise exports, output, and FDI inflows, 1980–2000

(index, 1980 = 100; average annual growth rates in parentheses)



Source: UNCTAD (2001), Handbook of Statistics: World Bank (2002), World Development Indicators; and WTO (2001), International Trade Statistics.

dispute settlement, which would tend to lessen the additive value of investor protection in a multilateral accord.

Dispute settlement is another critical—and as yet unresolved—issue that will influence the content of any multilateral agreement to strengthen investor protections. Most BITs contain dispute resolution mechanisms that allow investors to challenge government rulings before arbitration panels or international courts. In the context of the WTO, while there is generally little support for the inclusion of investor-state arbitration provisions in a prospective multilateral investment agreement, WTO rules on investment protection could entail complications even when administered through state-to-state dispute settlement. For example, what would be the appropriate remedy in an instance of unlawful expropriation of a foreign investment? These difficult and contentious issues will take time to resolve in any international agreement.

Beggar-thy-neighbor investment distortions must be minimized

Governments have adopted policies that may affect the location and performance of transnational investment. Three negative policy externalities—when one country's policies adversely affect another—merit discussion. The first and most powerful of these negative policy externalities are investment-distorting trade barriers. Tariffs, tariff escalation, and other forms of protection discourage investment—both foreign and domestic—in export industries in developing countries. Said differently, if developing countries confront impediments to market access abroad, the effect of the barriers is to lower the potential stream of earnings in their export activities. This change reduces the incentive for foreign and domestic investors to invest in production for export in developing countries. Quota arrangements, antidumping actions, subsidies, overly restrictive rules of origin, and other trade restrictions distort not only trade, but also investment, and these distortions are arguably the largest negative policy externality affecting investment in developing countries.

Two other sets of policy externalities figure prominently in investment decisions: performance requirements—to compel multinational companies to locate a greater part of the value added chain in the domestic market—

Box 4.4 Do BITs increase investment flows? Only a bit

BITs are instruments used by countries to protect their foreign investors, while host countries view BITS as an important means of attracting foreign investors. BITs can provide the basis for resolving disputes; they can also impose potentially extensive obligations on the part of the governments hosting the investment. For example, almost all treaties stipulate compensation for the expropriation of investments. In some cases, treaties proscribe any government action—even environmental actions or other regulations—that would reduce the value of the private investment and they establish grounds for compensation. Such compensation could either entail extensive liabilities for the host government or compel it to refrain from making certain policy choices. Against this backdrop, the question of whether BITs actually increase FDI is important.

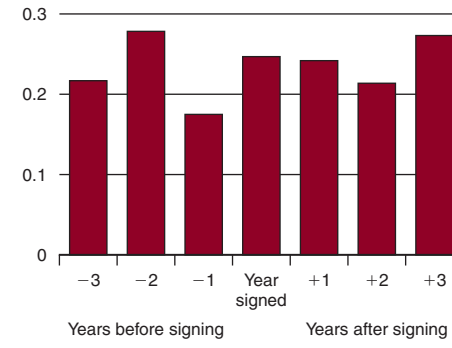
Surprisingly little empirical work has been done to test BITs' role in attracting FDI. UNCTAD, in a recent study, found little evidence that BITs increased FDI (UNCTAD 1998). That work looked at a single year of investments and tested whether the number of BITs signed by the host was correlated with the amount of FDI it received. Hallward-Driemeier (2002) redid that test, but applied it to 20 years of data, looking at the bilateral flows of OECD members to 31 developing countries. The Hallward-Driemeier test covered the vast majority of FDI flows, as well as those relationships that were historically the bulk of such treaties. Overall, the evidence is, at best, weak that BITs increase the amount of FDI. By the end of the 1990s there were many more BITs, and FDI had increased dramatically. However, controlling for a time trend, there was little independent role for BITs in accounting for the increase in FDI. Countries that had concluded a BIT were no more likely to receive additional FDI than were countries without such a pact.

Another question is whether a BIT would draw attention to a particular location, thus leading to an increase in flows in the aftermath of negotiations. However, comparing flows in the three years after a BIT was signed to those in the three years before, there was no significant increase in FDI (see box figure).

A third question is whether the relative amount of FDI that a source country allocated to a particular host country was affected by the presence of a BIT. The evidence here is that concluding a BIT is positively associated with receiving a larger share of a source country's FDI outflows, but that the result is not statistically significant.

The share of FDI received by developing countries is relatively unaffected by the signing of a BIT

(share of annual FDI flow)



Source: Hallward-Driemeier (2002).

Some countries have looked to BITs as a way of signaling their respect for property rights. Particularly if their reputation for protecting such rights is weak, they have seen the signing of a BIT as a way of assuaging the concerns of foreign investors. Conversely, the credibility of such a signal may not be that strong. It may be that the domestic rule of law must be sufficiently strong before foreigners are willing to consider the terms of the BIT as being enforceable. To test between these hypotheses, the study ran regressions that included measurements of the rule of law, government effectiveness, and regulatory quality. These measures were then interacted with the presence of a BIT. The results indicate that in weak investment climates, the BIT does not serve to attract additional FDI. However, in countries with stronger investment climates, the presence of a BIT does weakly increase the amount and relative share of FDI that the host receives.

Source: Hallward-Driemeier (2002).

and investment incentives—usually through tax breaks or direct transfers from the state to attract FDI. Even when these policies benefit the domestic economy, they both have the potential for adversely affecting trade and investment flows with neighbors. Therefore, further international cooperation to curb their negative effects can create positive benefits for all.

Unlike restrictions on entry that primarily affect services, performance requirements and investment incentives usually affect manufacturing. In general, performance requirements have been the instrument of choice for developing countries that are seeking to ensure that TNCs' activities generate the greatest possible spillovers for their economies. OECD countries have been the predominant users of investment incentives to attract investment, though in recent years numerous developing countries have followed suit (see chapter 3, this volume; see also UNCTAD 2002).

The trade-distorting effects of performance requirements—termed TRIMs—have for some time been subject to negotiated disciplines at both the regional and multilateral levels. WTO disciplines on performance requirements were codified with the TRIMs Agreement in 1995. Among performance requirements, the most prevalent measures relate to local content, joint ventures (or domestic equity participation), exports, technology, and employment requirements. The initial rationale for export requirements was in part to relieve the pressure on the trade balance that inward investment—particularly import-substituting investment—was generating. Local content requirements were designed to maximize vertical linkages and development of local skills.[7] Current discussions of changes to the TRIMs Agreement are associated with the review process that is mandated under Article 9 of that agreement.[8] At present, these debates are not on the Doha Agenda.

In contrast with disciplines on performance requirements, disciplines on investment incentives are—with the exception of the European Union's comprehensive set of disciplines on state aids—more limited. The Uruguay Round's ASCM introduced limited disciplines on the granting of investment incentives. These disciplines are largely indirect because they apply solely to export subsidies and other goods-related transactions—that is, a government may invoke the agreement's provisions only when certain types of investment incentives used by certain types of members can be shown to distort trade in goods.[9]

Strengthening disciplines on investment-distorting incentives could benefit developing countries because those disciplines would reduce the scope for this zero-sum tax competition. However, progress in crafting a set of multilateral disciplines on investment incentives has been negligible to date. One reason for this stalemate is that in large federal governments many investment incentive programs originate at the subnational level as instruments to promote regional development. Another reason is that many emerging developing countries have themselves become heavy users of incentives in recent years. Consequently, investment incentives have not figured prominently among topics to be discussed in international forums such as the WTO. The ill-fated discussions in the MAI were also unsuccessful in broaching investment incentives.

Nonetheless, competition among governments for FDI through incentives is becoming increasingly common in many parts of the world. Developing countries often find themselves in competition with each other, but few examples can be found of developing countries in direct competition with developed countries. Also, competing developing countries are often middle-income countries. Four reasons seem to explain these patterns.

First, studies show that the bulk of incentive-bidding activity among governments takes place within regions, rather than globally (Oman 2000; Charlton 2002). Only a handful of developing countries situated close to developed nations experience direct competition with the deep pockets of the treasuries of rich countries. Mexico's automotive industry under NAFTA is perhaps the most prominent example of this situation.[10]

Second, locational competition tends to be strongest between close neighbors with similar economic conditions, factor endowments, and policy regimes. Competition is also strongest in high-skill, technologically intensive industries, particularly for firms producing goods for export. Automakers, silicon chip producers, and pharmaceutical firms are among the most sought-after investments. Only a limited number of higher-income developing countries are likely to qualify for such a category of investment.

Third, competition is likely only when investors are somewhat indifferent about where to locate an investment among alternative locations. This indifference implies that only the more relatively advanced economies (emerging or transition economies) could have cause to bid against developed nations.[11]

Fourth, overt bidding wars between countries are relatively rare—even though bidding may be intense within particular countries—and are typically limited to a few sectors. They generally occur when individual projects are exceptionally large and when the sectors in question (for example, automobiles or electronics) are considered a high priority for national or regional economic strategies (Charlton 2002).

To be sure, striving for a ban on all incentives may be counterproductive because, in some cases, incentives can offset local disadvantages or can be used to capture spillovers from inward FDI (see Hoekman and Saggi 2000). In the case of Ireland and Portugal, for example, incentive programs have played a significant role in attracting investment to less-developed regions. In the case of Brazil, some evidence shows that incentives competition may have contributed to reducing regional disparities, because FDI in some sectors (particularly automobile manufacturing) is increasingly located outside the traditional industrial heartland around São Paulo (Cano 1998). While it is probable that, with respect to incentives, stories of failures and excessive expenditures outnumber successes, agreements must contain some elements of flexibility. A first step is generating adequate information that can be used to assess the trade- and investment-distorting consequences of incentives—and, more broadly, to evaluate their net development benefits.

Taken together, the existing multilateral agreements do provide limited discipline on certain types of beggar-thy-neighbor policies that are currently in use around the world. With respect to curbing incentives, even though potential benefits for countries exist from a multilateral accord, the absence of evident momentum at the multilateral level—when combined with a regional pattern of possible tax competition and trade effects—suggests that regional arrangements may be more promising for international collective actions. However, data are lacking. Multilateral efforts to improve information on investment incentives, perhaps through a WTO mechanism, would help remedy that lacuna and allow better analysis of the extent of investment distortions.

Summary: Getting the biggest development benefit from international collaboration on investment

Developing countries can benefit from international collaboration to liberalize market access for investment, to address investor protections, and to minimize investment distortions. Five conclusions emerge.

First, in each of these areas the primary benefits of attracting high-quality investment from sound investment policies are likely to result from unilateral enacting of domestic reforms. Long a truism for trade liberalizing reforms, this conclusion—given the apparent lack of investor responsiveness to international agreements—is increasingly germane to investment. Many of the remaining restrictions are on services. As we have seen in chapter 3, progressive liberalization in services can produce substantial economy-wide benefits and should be a priority for consideration as part of any development strategy. Better telecommunications, banking, auditing services, retail and wholesale trade, and the other service industries have multiple linkages to the

Box 4.5 Disciplines on corporations can also improve the investment climate

Currently, proposed investment rules in the WTO focus exclusively on disciplines for governments, but they say little about responsibilities of corporations (see Moran 2002). Improper corporate behavior—bribery or improper accounting—can corrode the social fabric of developing and developed countries alike. In the wake of the Enron, Arthur Andersen, and WorldCom accounting scandals in the United States, efforts to improve corporate transparency and good conduct assume a new importance. Many such activities outside the WTO are under way.

To help combat bribery and corruption, the OECD has recently established the Convention on Combating Bribery of Foreign Public Officials in International Business Transactions. The convention, put into force in 1999, currently includes all 29 OECD members and five nonmembers (Argentina, Brazil, Bulgaria, Chile, and the Slovak Republic) as signatories. The convention makes bribing a foreign public official a criminal offense. It also encompasses noncriminal rules for prevention, overall transparency, and cooperation between countries, and it ends the practice of allowing tax deductibility of foreign bribes. Many countries, however, have yet to modify their national legislation to implement the convention fully. Regional forums of cooperation can also help. For example, the Inter-American Convention against Corruption was established in 1996 in the OAS; in April 2001, the Summit of the Americas created an implementation mechanism for the Inter-American Convention. Experience shows that, for anticorruption initiatives to be effective, participation by civil society, private agencies, and the general public is critical. In this context, cooperative efforts by nongovernmental organizations (NGOs), such as Transparency International, the Global Coalition for Africa, the Novartis Foundation, and the Public Affairs Center, and by international organizations and banks, such as the World Bank, the International Monetary Fund (IMF), the Asian Development Bank, the U.N. Development Programme, and the U.S. Agency for International Development, in developing approaches to counter corruption are noteworthy.

Other programs have a more technical focus. The World Bank's work on corporate governance emphasizes disclosure, transparency, the rights and treatment of shareholders and stakeholders, and the duties of board members. Using the OECD's Principles of Corporate Governance as a benchmark, the Bank prepares corporate governance assessments for its client countries to assess their institutional frameworks for corporate governance. In addition, the World Bank and the IMF together initiated the Financial Sector Assessment Program and the Reports on the Observance of Standards and Codes.

More broadly, the U.N. adopted the Global Compact in July 2000 to allay concerns about the social effects of globalization on the developing world. About 100 major multinationals and 1,000 other companies across the world's regions are currently engaged in the Global Compact. Projects relate to making microcredit more accessible, reducing carbon dioxide emissions, fighting against human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), and expanding of basic education in local communities. In a similar vein, the OECD significantly revamped its Guidelines on Multinational Enterprises in 2000 by adding recommendations about eliminating child and forced labor, improving internal environmental management, addressing human rights, finding methods to combat corruption, and improving disclosure and transparency.

Source: World Bank staff.

rest of the economy, and can be sources of productivity growth for the whole economy. But the pace and form of investment liberalization necessarily must vary across sectors and across countries, because they require regulations that are consistent with local capacities and national objectives. The international community can assist with these efforts through multilateral and bilateral development assistance, government-to-government

information exchanges, and private efforts to inform and assist governments.

Second, international agreements that focus on liberalizing conditions of entry by removing barriers that discriminate against foreign competition may help consolidate domestic reforms at the same time that they open new avenues for reciprocity abroad. Because of the sensitivity of investment regimes, especially in services, any agreement has to allow for country diversity and must permit governments the flexibility to design liberalization in ways consistent with their development strategies. Because the GATS provides this flexibility and addresses most of the remaining outstanding restrictions, multilateral efforts could concentrate on expanding the still-limited coverage of the GATS by increasing the number and quality of commitments that allow commercial presence. Harnessing the full force of reciprocity—both across modes (especially by putting on the table any temporary movement of workers) and across sectors—may help motivate this expanded coverage.

Third, an international agreement that seeks to substantially increase investment flows by increasing investor protections seems destined, on the basis of available evidence, to fall short of expectations. Some key issues are already covered by relatively strong investor protections in BITs. Moreover, it is not clear that any investor protections emerging from multilateral negotiations would add markedly to existing protections found in bilateral agreements. Finally, merely creating new protections does not seem to be strongly associated with increased investment flows. For these reasons, the overall additional stimulus of multilateral rules that apply to new investment over and above unilateral reforms would probably be small—and virtually nonexistent for low-income developing countries.

Fourth, international agreements can usefully discipline two forms of beggar-thy-neighbor policy externalities that are particularly adverse to development. The first and most important are investment-distorting trade measures. Tariff escalation, tariff peaks, quota arrangements, and other barriers—barriers that are common among developing countries as well as between rich and poor countries—stifle developing countries' exports and the investment needed to supply them. Reducing these trade barriers would precipitate new investment in exports as these activities expand, and some portion of this new investment can be predicted to come from abroad. The second set of externalities concerns disciplines for investment incentives that distort the allocation of investment. Cooperative measures at the multilateral level have the advantage of being conceptually clean and broad based. However, because investments tend to affect countries in close regional proximity, countries may find it easier to work on rules that curb disadvantageous competition on investment incentives through regional arrangements. A prerequisite for collective action is information on the extent of investment incentives and their effects; thus, a multilateral inventory of investment incentives is a high priority. One option is to set up an annual surveillance process, perhaps under the auspices of the WTO or as part of the IMF's annual surveillance.

Finally, if new investment arrangements leverage reciprocal commitments for reforms abroad on other issues on the trade agenda, particularly new market access, then agreements would certainly help developing countries. These matters can be decided only in the course of negotiations.

International agreements to promote competition and competition policy

Promoting development requires not only policies to encourage investment, but also policies to ensure that investment is productive; among these policies, competition is one of the most powerful. Most policies to promote competition are domestic, and an important conclusion of chapter 3, this volume, is that the reduction of policy-related barriers to competition is essential to raising domestic

productivity. Among the many domestic policy barriers to competition, the most prominent often involve aspects of globalization, such as tariffs, restrictions on FDI (especially in services), state monopolies, and competition-limiting regulations in postprivatized sectors. Competition policy that disciplines private restraints in domestic markets is also important. However, competition laws have to be appropriate to local circumstances because they rely heavily on the strength and independence of the judiciary, the enforcement capacity of legal authorities, and probity in public administration. A well-intentioned law in an inappropriate institutional environment can become a source of bureaucratic harassment and corruption.

Governments working together in a multilateral or regional framework may be able to enact policies that widen the scope of competition and thereby confer benefits beyond those obtained from unilateral reforms. Analysis has to begin with the restraints on competition in the global marketplace that most adversely affect developing countries and that, if removed, would provide the biggest stimulus to development.

Three categories of restraints on competition in the global marketplace are particularly adverse. First are those that involve *policy barriers to trade* that disadvantage exporters in developing countries by directly limiting their ability to compete in markets. The most important barriers affect agriculture, textiles, and other labor-intensive manufactures and services. Second are *private restraints on international competition* that can raise prices to consumers or to producers in developing countries. These restraints include international cartels that are commonly illegal in OECD countries when they affect OECD markets. Third are *officially sanctioned restraints* that may adversely affect developing countries' import or export prices. We discuss below the effects of exemptions from antitrust laws that governments grant to their firms national export cartels, and the price-raising effects of ocean transport and aviation arrangements that systematically hurt developing countries. Competition policies in developing countries themselves can, in many cases, be improved through increased transparency, nondiscrimination, and procedural fairness. All of these policies are subjects of international negotiation, but they have quite different potential effects on development.

The most important restraints on competition are policy barriers to trade

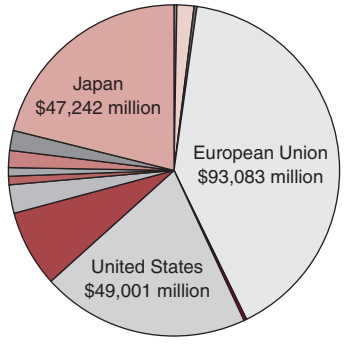
Exporters from developing countries—particularly exporters of agricultural products, textiles, and labor-intensive manufactures and services—confront significant restraints on their ability to compete in global markets. Developing countries generally face higher barriers to exports than do industrial countries (World Bank–IMF 2002). Japan and the United States provide maximum protection against imports from developing countries, while European Union protection is skewed against imports from middle-income countries. Developing countries, with average barriers higher than those in rich countries, also raise barriers against competition from other developing countries. Taken together, protectionist measures such as high tariffs, tariff peaks, restrictive tariff rate quotas on low-tariff imports, and domestic and export subsidies are ubiquitous and raise barriers to competition from all developing countries. Because the world's poor people usually produce agricultural and labor-intensive products, the world trading system is tilted against the poor. The average poor person selling into the global marketplace confronts tariffs that are twice as high as those faced by people who are not poor (World Bank 2002c; see also Oxfam 2002).

Subsidies and trade barriers in agriculture are particularly pernicious. In developed countries tariff rates in agriculture are twice those of manufactures. Sheltering of agriculture by hefty subsidies aggravates the effects of these tariffs (OECD 2001; World Bank–IMF 2002). The costs of such price supports are borne by low-income consumers in

protected markets—those consumers who spend a large proportion of their income on food, while the supports benefit only a handful of large farmers. The U.S. subsidies to cotton producers, for example, cost taxpayers nearly $4 billion a year—three times the U.S. aid budget for Africa—while adversely affecting low-income West African economies that produce cotton. High protection and support of the sugar industry in the European Union and the United States is another example of these harmful policies. Total OECD support for agriculture amounted to 1.3 percent of the gross domestic product of those countries in 2001, with the producer support estimates[12] the highest in the European Union in absolute terms (see figure 4.6). Prices received by OECD farmers were on average 31 percent above world prices (measured at the border) (World Bank–IMF 2002). Though efforts have been made to lower protection for agriculture in OECD countries, the recently enacted 2002 U.S. Farm Bill increases support spending to a projected $45 billion, or 21 percent of producer income during fiscals 2002–07 (see appendix 2). This increase may well aggravate secular deterioration in developing countries' terms of trade through its effects on long-term world prices. Protection of agriculture is also common in developing countries—comparable in weighted ad valorem equivalent terms—but is much lower when subsidies are taken into account (see World Bank–IMF 2002).

Figure 4.6 OECD countries spent $230 billion in 2001 to support agricultural producers

Producer support estimate by the OECD countries totaled $230 billion in 2001



Source: World Bank–IMF (2002).

Policy barriers restrain competition in clothing and textiles with similarly adverse effects on developing countries. Developing countries account for about 50 percent of world textile exports and 70 percent of world clothing exports (World Bank–IMF 2002). Under the Uruguay Round Agreement on Textiles and Clothing, quota restrictions are to be abolished gradually during 1995–2005. The slow pace of removing restrictions on competition in textiles and clothing has resulted in sizable losses in export earnings and productive employment in many developing countries. The combined negative income effect for developing countries caused by quotas and tariffs on industrial-country imports amounts to $24 billion annually, and the export revenue loss is $40 billion (World Bank–IMF 2002).

Impediments to competition take other forms as well. Between 6 and 14 percent of the tariff lines of Canada, the European Union, Japan, and the United States are subject to tariff peaks, in some cases at rates well over 100 percent (Hoekman, Ng, and Olarreaga 2001). Developing-countries' exporters may be displaced by high tariff peaks in Canada and the United States (in textiles and clothing) and in the European Union and Japan (in agriculture, footwear, and food products). Even though France exports 12 times more to the United States than Bangladesh, U.S. tariff revenues on imports from Bangladesh were roughly the same tariff revenues on imports from France (Gresser 2002). Escalating tariffs—in which protection is lower for primary products but increases as the local value added increases—discourage development of forward processing. Chilean firms, for example, can export fresh tomatoes to the United States, paying a tariff of 2.2 percent; however,

if they dry and package the tomatoes, the U.S. tariff is 8.7 percent; and if they make salsa out of the tomatoes for export, the duty is 11.6 percent (Schiff 2001). By reducing the demand for higher-processed imports from developing countries, tariff escalation prevents developing countries from diversifying exports into areas of their competitive advantage. These tariff structures are common in poor as well as in rich countries (see World Bank 2002c: 45).

Another restraint on competition is frequent recourse to antidumping and other types of contingent protection. Antidumping laws were originally created to counteract predatory practices of foreign sellers into a home market. This was the original rationale for U.S. antidumping legislation of 1916. The fear was that a foreign firm (or cartel) could deliberately price products low enough to drive existing domestic firms out of business and to establish a monopoly. Once established, the monopolist could more than recoup its losses by exploiting its market power. For predation to work, the monopolist or cartel would not only have to eliminate domestic competition, but would also have to be able to block entry by new competitors. It would, therefore, need to have a global monopoly, need to convince the importing government to impose or tolerate entry restrictions, or need to be able to raise private entry barriers (Hoekman and Kostecki 2001).

In practice, post–World War II cases of successful predatory dumping are the exception, not the rule. More than 90 percent of all antidumping investigations would never have been launched if a competition standard—potential threat of injury to competition—had been used as a criterion (Messerlin 2000).[13] As it has evolved, antidumping has become a favored vehicle for restricting competition from imports, and it is applied with increasing frequency by developing countries against each other. Since 1995, countries have initiated more than 1,800 antidumping investigations (table 4.1). Although industrial countries have traditionally been the main users of such measures, developing countries have been more active in recent years, led by India, Argentina, Brazil, and South Africa. In the seven years to 2001, developing countries initiated almost two-thirds of all investigations, well in excess of their share in world trade. However, developing countries have also been the target of nearly 60 percent of investigations, mostly initiated by other developing countries. The recent steep rise in antidumping investigations

Table 4.1 Many antidumping investigations were initiated during the 1995–2001 period

	Affected countries					
Initiating country	Industrial countries	United States	European Union	Developing countries	Transition countries	Total
Number of investigations	511	102	313	1,086	248	1,845
Industrial countries	128	17	67	363	114	605
Of which						
United States	79	0	46	146	30	255
European Union	15	6	0	165	66	246
Developing countries	379	85	242	718	131	1,228
Transition countries	4	0	4	5	3	12
Percentage of investigations	28	6	17	59	13	100
Industrial countries	21	3	11	60	19	100
Of which						
United States	31	0	18	57	12	100
European Union	6	2	0	67	27	100
Developing countries	31	7	20	58	11	100
Transition countries	33	0	33	42	25	100

Source: WTO Secretariat, as reported in World Bank–IMF 2002.

puts the predictability and nondiscriminatory application of trade policies at risk.

Removing these restraints on competition from developing countries would have a big development payoff. These issues and detailed policy recommendations have been well analyzed elsewhere (see, for example, World Bank 2002c). Suffice it to say that dismantling both worldwide trade barriers and agricultural subsidies could increase long-term growth in developing countries by as much as 0.5 percent annually, which, when taken together with terms-of-trade improvements, could reduce the number of people living in poverty by as much as 13 percent by 2015. One-third to one-half of the welfare gains would accrue to the developing world (World Bank 2002c). Because of the growing importance of South-South trade and the remaining high barriers among developing countries, removing the barriers to competition among themselves would produce substantial gains (see World Bank 2002a; and World Bank–IMF 2002). These facts underscore the importance of the Doha Development Agenda of the WTO and the various regional efforts around the world that could lower trade barriers to developing countries' exports. Because not all countries will benefit from some reforms (such as removing the textile quotas), a broader reform that covers all trade issues and is linked to development assistance is vital.

Private restraints on international competition can raise prices to developing countries

Besides policy barriers to competition, large international companies with market power can form cartels that fix prices, allocate markets, and restrain competition. Although trade reform and the expansion of potential competitors in markets around the world have undoubtedly reduced the scope for private cartels, the numerous international cartels uncovered in the 1990s suggest that market forces alone do not offer complete protection against price-fixing and market-allocation arrangements that raise prices to developing countries. These cartels are typically illegal when they adversely affect a country's own commerce. However, OECD governments have no authority to prosecute cases when cartel activities function outside their national jurisdictions and cannot be shown to affect prices of imports or domestic goods.

The 1990s saw the uncovering of several international cartels. Prosecutions of international cartels picked up after 1993 when the United States revised its anticartel enforcement practices to grant amnesty to the first cartel member that cooperated with authorities. Before 1993, approximately one firm a year applied for leniency under anticartel laws, and big cases were rare; now, one firm a month applies for leniency. U.S. fines against domestic and international cartels during the 1990s totaled $1.7 billion. The publicity associated with these prosecutions (many of which affected international markets as well as the United States) encouraged prosecutions by other enforcement agencies, including those in several middle-income countries (for example, Brazil and Korea). Antitrust authorities in the United States and European Union alone prosecuted 40 international cartels during the 1990s.

Cartels that have been uncovered through law enforcement have had a substantial role in increasing the prices to developing countries. Although estimates vary, the average international price increases caused by international cartels have been estimated to be on the order of 20–40 percent. The estimated price increases resulting from cartels, as shown in six high-profile international cartel prosecutions (table 4.2), vary widely—from 10 percent for stainless steel tubes to 45 percent for graphite electrodes. Cumulative overcharges to developing countries over the life of the cartels in the six cases ranged from $3 billion to $7 billion, depending on whether SITC or HS codes are used. Developing countries imported 12 products that had a value of sales of $11 billion in 2000 and that were sold by international cartels prosecuted during the 1990s (figure 4.7); if price collusion were to raise

Table 4.2 International cartels can be expensive: estimates of sales and overcharge

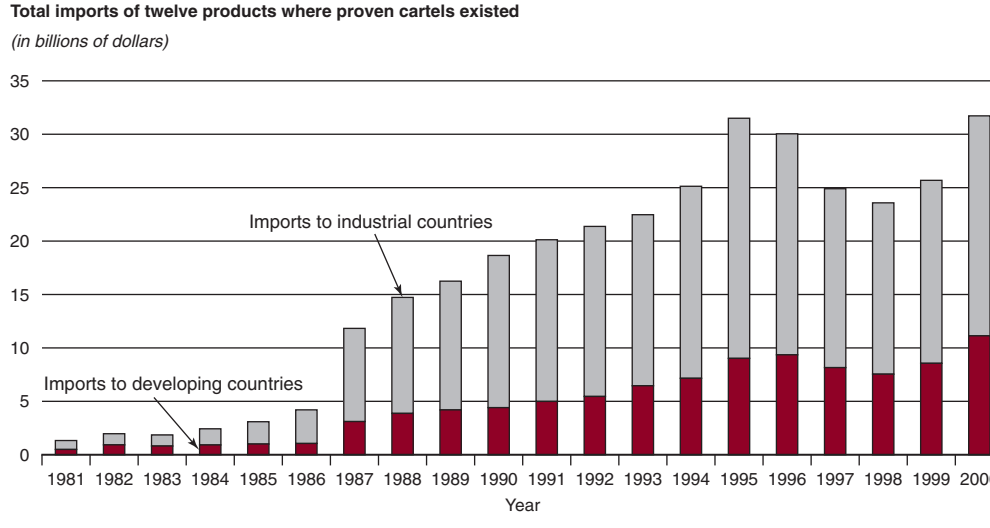
Product	Years of cartel	Number of firms	Cartel sales		Price increase	Possible overcharge to developing countries		Fines
			SITC	HS		SITC	HS	
Vitamins	1990–99[a]		$26.4 billion	$10.8 billion	35%	$3.05 billion	$1.71 billion	Almost $2 billion
Citric acid	1991–95	111	$9.9 billion	$447 million	20%	$402 million	$67 million	Over $250 million
Bromine	1995–98	2	$598 million	$409 million	15%	$46 million	$8 million	$7 million
Seamless steel tubes	1990–95	8	$26.6 billion	$21.7 billion	10%	$1.63 billion	$1.19 billion	99 million euros
Graphite electrodes	1992–97	23	$9 billion	$7 billion	45%	$1.35 billion	$975 million	Over $560 million
Lysine	1992–95	5	$4.8 billion	$913 million	10%	$294 million	$43 million	About $200 million

SITC = Standard International Trade Code; HS = Harmonized System Classification.
Notes: Figures for each cartel span the entire period of the conspiracy. Sales are approximated using export statistics from countries of origin of indicted firms and thus exclude domestic sales. If participating firms are multinationals and the locations of their subsidiaries are known, sales are calculated by taking into account the exports of countries of subsidiaries. When that information is unavailable and production is understood to be global, sales are calculated by using exports of all countries producing the cartel product. Overcharge refers to imports to developing countries / (1 + price increase) × price increase. Sales calculations provided are based on the SITC Revision II and the HS 1988.
a. Because the cartel ended in February 1999, sales and overcharge estimates are aggregated from 1990 to 1998.
Source: Connor (2001), Levenstein and Suslow (2001), OECD (2000), and World Integrated Trade Solution database.

prices by an average 20 percent, the total overcharges would have reached almost $2 billion in 2000.

Despite the rise in prosecutions, reining in international cartels remains difficult. The fines imposed by authorities often fall well short of the estimated overcharges, raising questions about the effectiveness of prosecution as a deterrent for cartel behavior. Moreover, 24 of the 40 cartels prosecuted by the United States and the European Union lasted for at least four years, indicating that market forces are not always adequate to rapidly eliminate cartels. The history of cartels

Figure 4.7 Imports affected by cartels rose from 1981 to 2000 for both rich and poor countries



Source: World Bank staff.

Box 4.6 The lysine cartel, 1995–2001

Lysine is a food additive used in hog and poultry feeds. The global lysine cartel lasted from 1992 to 1995. During that period the five participants controlled more than 97 percent of global capacity. Cartel members engaged in price-fixing, allocating sales quotas, and monitoring volume agreements. In 1994, at the peak of the cartel's effectiveness, the price of lysine reached about $1.20 per pound, approximately $0.50 above the competitive price level.

Estimates of the overcharges to U.S. customers during this period vary and are as high as $141 million. Although no formal analysis of non-U.S. overcharges is available, the observed lower prices in Asia suggest overcharges in the rest of the world were lower than those in the United States. According to Connor (2001) a reasonable projection of the global overcharge by the lysine cartel would be in the $200 million to $250 million range. A more conservative estimate assumes a 10 percent overcharge on $1.4 billion in global sales during the life of the cartel, for a total of $140 million (OECD 2000: 16).

The cartel had a significant effect on both potential producers and users of lysine. Lysine production in 1994 was at least 20 percent less than under competitive conditions, resulting in lower production among the feed and meat industries that depend on lysine. Moreover, the cartel limited potential developing-country competitors by using price discrimination across regions, and it froze the relative positions of the leading firms in the market, when compared with the very fluid situation before the conspiracy. Although a few relatively small producers entered the market during the 1990s (mainly in Hungary, the Slovak Republic, and South Africa), most new entrants began production only after the lysine cartel had been broken up in 1995. China, in particular, has been a source of increasing lysine production. Nevertheless, the five original participants in the cartel continued to control 95 percent of global capacity at the end of the decade.

Source: Connor (2001).

indicates that some operate intermittently over decades.[14]

New initiatives to discipline illegal international cartels

Firms will be deterred from price fixing and forming cartels if the fines for doing so, multiplied by the probability of being caught (that is, the expected value of the cost), exceed the extra profits that result from this anticompetitive behavior (that is, if the potential punishments for creating cartels exceed the benefits). Reforms that raise the sanctions on cartels and that increase the probability of successfully prosecuting cartels will tend to dissuade more firms from forming cartels, whether domestic or international. The secret nature of most cartel agreements poses a special problem because it implies that governments must actively search for evidence or must encourage cartel members to come forward with evidence; otherwise, firms will perceive the probability of prosecution to be very low (Evenett, Lehmann, and Steil 2000).

One option for curbing illegal international cartels is to extend further the extraterritorial reach of industrial nations' anticartel laws (Hoekman and Mavroidis 2002). When a competition authority in an industrial economy uncovers a cartel that affects markets both inside its own borders and in other countries, then that authority could take enforcement action on behalf of all affected nations. A stronger version would have the competition authority take action even if the cartel affected a foreign market without affecting the home market. In both cases, the authority could request help in collecting evidence from enforcement bodies in other nations. Fines and sanctions against the cartel would be determined on the basis of its detrimental effects on all affected economies.

Yet another option is to grant governments of developing countries—or their citizens—

standing in the major OECD countries so those affected could initiate private injury suits against companies headquartered under the jurisdiction of a particular antitrust authority. Because most antitrust actions are driven by private complaints and through private suits, such legal changes would markedly strengthen the hand of consumers and businesses in developing countries to curb private restraint practices. The principal attraction of such a proposal is that it would allow developing countries to benefit from the sophisticated investigative powers and regulatory expertise in the OECD competition authorities. The enforcement record in the 1990s suggests that the overwhelming majority of cartel members have their headquarters in industrial economies. A drawback to the proposal is that extraterritorial application is a perennial source of tensions among countries, and the incentives are low for OECD governments to take actions against their own firms for effects in foreign markets.

A more modest option for reform could focus on notification and information exchanges by national enforcement authorities. This exchange would build on the growing number of bilateral cooperation agreements on competition matters, thus expanding their scope to include many more economies. The objective here is to raise the probability of successfully prosecuting cartels by encouraging the sharing of conspiracy-related information between enforcement authorities. The modalities for this type of international cooperation have received considerable attention in recent years, not the least of which is the OECD's nonbinding Recommendation on Hard Core Cartels. However, this approach essentially offers gains only to those economies that have effective competition laws, and many developing economies do not. Furthermore, the amount of information that can be exchanged on cartel cases today is highly constrained because most countries have laws against sharing confidential information. The original intent of those laws was to protect legal business secrets and plans, and the confidentiality provisions have, unfortunately, been applied to illegal conduct uncovered during cartel investigations. These restrictions on information exchange are especially worrisome at a time when so much evidence about international cartels is being collected through national leniency programs, thereby suggesting that the potential for information exchange could be considerable.

Another approach is a multilateral agreement. Proponents of including competition on the multilateral agenda have gravitated toward a relatively narrow focus. They are seeking disciplines on (a) the so-called core issues of nondiscrimination, national treatment, and transparency; and (b) private "hard core" international cartels. These disciplines would apply to all WTO members, both industrial and developing, with technical assistance and capacity building envisaged. Most recent discussions have emphasized the need for voluntary international cooperation (Anderson and Jenny 2001).[15]

In summary, policies that help developing countries discipline international cartels more effectively would have a potentially large benefit, for consumers in rich and poor countries alike.

Officially sanctioned private restraints can hurt trade to developing countries . . .

Officially sanctioned restraints on trade make up the third major category of competition restrictions that adversely affect developing countries. These restraints take the form of exemptions from domestic antitrust laws and pertain to certain types of international activity. Many governments legally permit their own private firms to cartelize export markets—as long as markets affected are outside the country, and export cartels do not provide an opportunity for producers to fix prices at home. Indeed, numerous economies have explicitly exempted export cartels from their domestic competition laws—essentially providing some legal cartel privileges for their national firms, but not foreign firms (table 4.3). U.S. soda ash producers have

Table 4.3 National exemptions to competition law for exporters

Country	Type of exemption	Reporting requirement
Australia	Contracts for the export of goods or supply of services outside Australia	Submission of full particulars to the national authority within 14 days
Brazil	Joint ventures for exports, as long as there are no effects on the Brazilian market	Approval by the national authority
Canada	Export activities that do not affect domestic competition	None
Croatia	Agreements that contain restrictions that aim to improve the competitive power of undertakings on the international market	Notification of the agreement to national authority within 30 days after conclusion of the agreement
Estonia	Activities that do not affect the domestic market	None
Hungary	Activities that do not affect the domestic market	None
Japan	Agreements regarding exports or among domestic exporters	Notification of and approval by the industry administrator
Latvia	Activities that do not affect the domestic market	None
Lithuania	Activities that do not affect the domestic market	None
Mexico	Associations and cooperatives that export	None
New Zealand	Arrangements that relate exclusively to exports and that do not affect the domestic market	Authorization of the national authority
Portugal	Activities that do not affect the domestic market	None
Sweden	Activities that do not affect the domestic market	None
United States	Webb-Pomerene Act: activities that do not affect domestic competition	Webb-Pomerene Act: filing of agreements with the U.S. Federal Trade Commission
	Export Trading Companies Act: strengthened immunities granted by Webb-Pomerene Act	Export Trading Companies Act: Certificates of Review provided by U.S. Department of Commerce

Source: Evenett and Ferrarini (2002); drawn from OECD (1996), OECD (2000), and <http://www.gettingthedealthrough.com> (accessed May 2002).

taken advantage of these provisions in U.S. law to form an export cartel, which has subsequently been the target of European and Indian enforcement actions. Generally, these cartels may attempt to raise prices in their export markets to the detriment of overseas consumers. Their success depends on the number of other foreign competitors in these markets. Because competition is more likely to be limited in the smaller markets of developing countries, it is probable that developing countries are adversely affected disproportionately.

Because cartel registers are secret in Europe and Japan, and virtually secret in the United States, information on their extent, products, and geographic coverage is nil. The legal exemptions are known, and the latest available information—from the OECD in 1974—has indicated a broad proliferation. The initial rationale for export cartel exemptions was that small exporters could join to share the allegedly substantial costs of marketing their products abroad. Even if such arguments were legitimate in the past, most small- and medium-sized enterprises in industrial economies today export without a need for cartels, so the rationale is moot.

Another exemption from OECD antitrust laws is maritime transport, which inadvertently put developing countries at the mercy of price fixing. The exemption in U.S. law extended to maritime transport has facilitated, through shipping conferences, collusive arrangements in ocean-liner shipping. Agreements among private shipping companies have a long history, beginning with trade between the United Kingdom and India in the 1870s. Such arrangements have taken different forms, including the conclusion of agreements on uniform freight tariff rates and conditions of service, the establishment of exclusive or preferential working relationships between shipping lines, or the integration of shipping networks through strategic alliances.

The power of such arrangements has eroded in recent years because outside shipping lines have gained a significant share of

Table 4.4 Breaking up floating cartels could help developing countries

(Economic effects of ending private restrictions on ocean-liner competition)

Effect	Amount
Reduction in price of ocean transport	20%
Projected total savings for U.S. imports	$2.1 billion
Projected savings for developing-country imports	$2.3 billion

Source: Fink, Mattoo, and Neagu (2001); World Bank (2002c).

the market and regulators have moved to encourage greater price competition. Nonetheless, Fink, Mattoo, and Neagu (2001) conclude that a breakup of cooperative working agreements and price-fixing arrangements among the major private carriers could reduce transport prices by 20 percent on U.S. routes, for a savings of $2 billion or more (see table 4.4; see also Francois and Wooton 2001).

If developing countries could save the same percentage of their import costs, then their total import bill would fall by $2.3 billion. This figure is probably an underestimate of the effect of breaking up private constraints on ocean trade services for developing countries. Their freight charges are more likely to be subject to price-fixing than are freight charges on industrial-country routes because low traffic volumes limit the number of commercially viable competitors. For example, the European Commission found that the Associated Central West African Lines abused its dominant position by providing rebates to shippers that complied with its policies, as well as carrying out other anticompetitive practices.[16]

. . . and international agreement could rein in their adverse effects

Multilateral efforts to curb national export cartels, as well as to rein in private restraints in regulated industries that have been rooted in exemption from antitrust laws, are particularly well suited to the WTO. Most governments today either encourage or acquiesce to national cartels that adversely affect markets beyond their borders. Government support for beggar-thy-neighbor export cartels is anachronistic in an era of global trade rules. Reciprocal international agreements offer the promise of reducing foreign distortions to domestic markets in return for commitments to desist from such practices. Agreements on international cartels involve giving up some rents from exporting in return for the benefits of more competitive markets at home.

A multilateral accord to curb export cartels would probably benefit developing countries. An alternative and less-ambitious approach is to narrow the coverage to sectors in which it can be demonstrated that small- and medium-sized enterprises cannot compete internationally without a mechanism to share burdens such as marketing costs, and so on. Because the extent of injury to foreign consumers is not known, a minimalist policy toward export cartels involves disclosure. If export cartels are allowed to retain their legality, governments should agree to require that firms seeking to establish an export cartel publicly register as such—and that those registries be updated annually and made accessible to the public over the Internet. Furthermore, if these cartel exemptions were specifically to aid small firms, then there is no argument for permitting large firms to participate.

Similarly, countries could agree to end antitrust exemptions for maritime transport and, at the same time, give standing so exporters in developing countries that are harmed by subsequent cartel activities can sue under antitrust statutes. This change would have significant effects by unleashing competition in this sector and by altering an arrangement that today drives up the cost of exporting from many developing countries.

International collaboration can strengthen domestic competition policies

Domestic policies in developing countries have a significant effect on competitive conditions. Chapter 3 underscored the particular importance of policy barriers to competition, particularly in trade, in restrictions on

incoming FDI, and in restrictions on new entry (foreign or domestic) in regulated industries. Chapter 3 also concluded that the potential role of a domestic competition agency was shaped largely by the domestic institutional environment. In some countries with strong legal and judicial systems, a competition agency could help augment competition; in other countries with weak legal and judicial systems, establishing a competition agency could be counterproductive if they become a source of rent-seeking and corruption.

International discussions on trade policy have, since their inception, seen domestic competition policy as an issue associated with market access. Competition policy is intrinsically related to the principles of national treatment and MFN treatment insofar as competition law allows recourse to address certain kinds of discriminatory policies and arrangements that deny foreigners access to markets.[17]

The launching in 1997 of the WTO Working Group on Trade and Competition Policy signaled the beginning of the most recent international discussions about the interface between trade and competition, as well as the possibility of multilateral cooperation on competition law. Not all domestic competition matters give rise to international trade problems, and vice versa. There are situations when the lack of, or inappropriate application of, competition law can impede trade and market access, however. After five years of discussions, governments have progressively retreated from ambitious applications (such as harmonization) to proposals that focus on core principles, transparency, nondiscrimination, and procedural fairness. Governments may perhaps also focus on provisions addressing illegal international cartels (see discussion above). Aside from these general principles, the exact content of national competition laws could vary considerably in the range of conduct and structural disciplines that they include.

From a national point of view, for competition law to be a priority it must yield a higher payoff than other choices. Competition law is technical and requires the use of skills that are in short supply in many developing countries. Building capacity to apply competition legislation effectively will take time. Given that competition law is applied on a case-by-case basis, dealing with systemic trade and investment barriers and with government regulations that restrict competition may generate a higher rate of return (see chapter 3). Kee and Hoekman (2002) have investigated the effect of the existence of a competition law on estimated industry markups over cost. They used cross-country, cross-industry time series panel regressions that include data on the number of firms by industry (turnover), sales (market size), and import competition. They concluded that antitrust legislation on its own has no effect on markups, but that imports and entry have a major and statistically significant effect in reducing markups (see chapter 3). Competition law is found to have an indirect effect, however, by reducing the first order marginal effect of imports and by reinforcing the marginal effect of domestic competition. That effect is stronger in the more-developed and larger economies.

The effect of government policies that restrict competition for nontradables may be more important from a development perspective than is antitrust enforcement, because those policies affect the price and quality of key intermediate inputs that determine the competitiveness of industries on world markets (for example, Fink, Mattoo, and Neagu 2002; Francois and Wooton 2001). Depending on the capacity of government, a role may exist for a competition agency that reviews new policy and regulatory barriers to competition (see chapter 3, this volume, as well as Anderson and Holmes 2002).

As Winters (2002) notes, administration of competition law is complex, and its misapplication can have a costly and chilling effect on investment. Issues relating to the institutional design, the independence of investigating authorities, the effective judicial review and appeal mechanisms, and the availability of

expertise—both legal and analytical—are all critical issues for the effective application of antitrust law. Therefore, the development of competition law in many countries has occurred gradually over a long period, and continues to evolve. The necessary administrative apparatus cannot be put into place within a short time frame. The institutional guarantees necessary for a competition authority to be independent from eventual political influence (so that it can concentrate on its mandate) require government acceptance that branches of the national administration will operate outside its direct control. Until a few decades ago most European Union member states had no experience in the field of antitrust. Before a government determines national priorities, both the costs and benefits of competition enforcement ought to be considered, including the possibility of perverse outcomes through capture or corruption.

This discussion suggests that the reciprocal bargaining and enforcement framework of the WTO is less well suited to collective action

Box 4.7 International cooperation aids competition policy

Several entities outside the WTO have activities that are germane to competition policy. For example, the OECD launched a Global Forum on Competition in October 2001 to stimulate a comprehensive policy dialogue about competition, and that goes beyond its previous activity of providing technical assistance. The Forum, backed by the OECD's Committee on Competition Law and Policy, engages in high-level discussions with key officials from member and nonmember countries, including countries that do not have well-developed competition enforcement authorities. The objective of the Forum is, first, to encourage common understanding and sharing of experiences among a larger number of competition officials and, second, to generate benefits through cooperation, conflict prevention, and voluntary convergence. Its first meeting successfully highlighted the role of competition policy and of its authorities in economic reform; it also fomented greater international cooperation on such matters. The latest semiannual meeting in February 2002 discussed the merits of competition policy for developing economies, international cooperation in merger and cartel cases, capacity building, and technical assistance. In addition, the forum benefits from contributions of regional organizations such as the Common Market for Eastern and Southern Africa and international organizations such as the World Bank, UNCTAD, and the WTO.

Another example of an entity outside the WTO with activities germane to competition policy is the ICN, created on October 25, 2001, to deal with international antitrust enforcement through regular consultations between government officials, private firms, and NGOs from around the world. According to its mandate, the ICN will "formulate proposals for procedural and substantive convergence through a results-oriented agenda and structure." Its special status stems from the fact that it is maintained by the enforcement authorities themselves, has voluntary membership, and is not bound by rules, but rather by a community of interests. The first annual conference was held in Italy during 2002 and sparked discussions on reforms to the merger review process; the advocacy role and activities of competition agencies (especially in developing and emerging economies); and recommendations on best practices. Individual enforcement authorities will have the flexibility to make decisions on the most suitable means of implementing the recommendations. The ICN will address complex issues, and newly established competition authorities will no doubt benefit from the collective experience of other member agencies.

Though it is too early to gauge the success of the Global Forum on Competition and the ICN in terms of fostering global cooperation, they play a useful role in disseminating information on best practices for implementing a competition law policy.

Source: World Bank staff.

on competition law than international collaboration through development assistance and other venues. To be sure, international negotiations can help reinforce progressive domestic reforms in competition law (see Birdsall and Lawrence 1999).[18] However, in this complex area of domestic regulation, one size does not fit all, and, as many WTO members have noted, cooperation on competition-law policy requires establishing a domestic enforcement capacity that at present is beyond the reach of many developing countries. Other channels can help disseminate best practices to countries wishing to strengthen their competitive conditions. Several agencies and forums have work programs on international competition policy. These agencies include the OECD, UNCTAD, and the International Competition Network (ICN) (see box 4.7). The OECD and UNCTAD have developed their own guidelines or recommendations for tackling international cartels, but they have no powers of enforcement or investigation. The nascent ICN has focused more on international mergers and acquisitions, and it is intended to facilitate information exchange and dissemination of best practices.

Conclusions

For both investment and competition policy, domestic reforms that are implemented unilaterally in the national interest of promoting a sound investment climate and a more competitive economy are likely to yield the most direct and positive effect on growth and poverty reduction. The international community can assist the reform process through multilateral and bilateral development assistance, government-to-government information exchanges, and private efforts to inform and assist reform-minded governments. Countries may be able to use regional and multilateral agreements to motivate progressive reforms at home at the same time that they use reforms to leverage reforms abroad to promote development. Yet to be effective, these agreements must be designed to achieve specific objectives that will be important to developing and reinforcing positive domestic policies rather than distorting them.

For investment policy, international agreements may help increase flows of foreign investment, but evidence suggests that these benefits are likely to be limited unless they focus on creating nondiscriminatory terms of liberalization and on eliminating adverse policy externalities. Agreements that curb beggar-thy-neighbor investment policies that distort investment location are particularly important in two areas. One critical area is investment-distorting trade barriers—that is, border protections, agricultural subsidies, tariff escalation, and other practices that bias investment flows away from developing countries' export activities because such barriers discourage imports from those countries. A second critical area is disciplining competition among governments to lure foreign investment through wasteful investment incentives. An important initial step is developing an inventory of the extent, costs, and distorting consequences of those incentives. Agreements should be carefully designed to limit their scope to areas where international externalities exist. In the case of the WTO, the design should focus on reducing discrimination and increasing market access. International cooperation on the design of domestic regulation is more effectively provided through development assistance—whether bilateral, regional, or multilateral.

For competition policy, an agreement would potentially have large benefits if it addressed those restrictions on competition in the global marketplace that most adversely affected developing countries: policy barriers to competition that hurt exporters, private restraints in the form of international cartels, and officially sanctioned private restraints emanating from antitrust exemptions. Much more information is needed in this area on the prevalence and effects of policies that restrict competition. The international community can collaborate with developing countries by providing technical and financial assistance

to foster mutual learning, information exchanges, and cooperation on competition policy.

Notes

1. WTO 2001a, Paragraphs 20 and 23 in the Doha WTO Ministerial Declaration. The need for enhanced technical assistance and capacity building in these areas was also recognized.

2. See Ostry 1997; see also Hart 1996.

3. United States 1998, as cited in Gilpin 2000: 184.

4. See Smythe 1998.

5. South-South FDI is calculated by comparing developing countries' FDI inflows with recorded outflows from other regions. This figure may be more accurate than others because developing countries often underreport FDI outflows. In addition, round tripping of a country's own capital can overestimate the FDI figure (World Bank 2002a).

6. For a cogent description of the predominance of services in the NAFTA reservation lists, see Rugman and Gestrin 1994. See also Gestrin and Rugman 1993.

7. By 2003, all members must have completely phased out performance requirements that were in place at the time of the agreement and that were grandfathered through a notification process. All 27 notifications of policies not consistent with the agreement were from developing countries. Almost half of notified measures related specifically to the automotive sector. Many of these performance requirements have already been phased out during the transition period. Ten countries that requested an extension of the transition were granted an additional four years, to 2003.

8. WTO members are faced with two options. First, they can agree to re-open the agreement, which seems unlikely. Second, they can seek to reduce or elaborate on the length of the Annex Illustrative List. The issue is that, even though both notifications and disputes have, to date, centered primarily on the "illustrated" list (notably on local content and, less so, on trade-balancing requirements), the agreement arguably prohibits a greater range of as-yet unspecified performance requirements. Introducing greater specificity in the language could enlarge the effective coverage of the agreement or confine it to the illustrated list.

9. Within the framework of the ASCM the scope for discipline lies in the challenge of an investment incentive that can be shown to be specific, to be within the meaning of the agreement, and to be contingent on export or on having an "adverse effect" on the trade of another member. The difficulty of such a challenge depends on the specific types of policies that are in question. One of the key factors in determining a subsidy is the "financial contribution" that could cover the range of fiscal and financial incentives that are used by developed and developing countries. These disciplines have yet to be tested. In the case of services, the GATS provides a mandate for developing "necessary multilateral disciplines to avoid such trade-distortive effects." The work has progressed slowly.

10. There is evidence of significant investment diversion away from the Caribbean Basin countries and toward Mexico, but Mexico's adherence to NAFTA has almost certainly been a more important motivating factor than the use of fiscal or financial incentives, which it can generally ill afford.

11. This is not to deny the potential risk of "investment poaching," including within developing countries. Studies have indeed documented the negative welfare implications that derive from incentive packages that merely transfer investment from one location to another without creating new jobs or improving productivity. In the case of Brazil, for instance, the consensus among researchers is that heavily indebted states have granted very large tax breaks to automotive companies to build factories that the companies had intended to build in Brazil anyway (Rodríguez-Pose and Arbix 2001).

12. Producer support estimates are the annual monetary value of gross transfers from consumers and taxpayers to support agricultural producers. These numbers are taken from World Bank–IMF 2002.

13. The fact that predation has very little to do with antidumping as it is practiced is perhaps best illustrated by the United States, which has two antidumping statutes. One, the Antidumping Act of 1916, maintains a predation standard for antidumping; the other, the Tariff Act of 1930, as amended, has a price and cost-discrimination standard. Invariably cases invoke the second act and not the first.

14. Epstein and Newfarmer 1980, for example, found that a cartel for heavy industry operated off and on from December 1939 through the mid-1970s, with overcharges of more than 20 percent on sales of steam turbines and other products.

15. WTO members with established competition enforcement seem to insist that a precondition for cooperation is that developing countries adopt legislation and establish enforcement capacity: "[C]ooperation with respect to competition matters [is] only possible when a competition regime [is] already in operation; that is, when there [is] a domestic competition law of some sort and a domestic competition authority existed with sufficient powers to effectively enforce that law . . . . While cooperation could be provided within a voluntary framework of mutual interest, it would not be possible for a developing country to eradicate anticompetitive practices which had an impact on their

markets unless it also developed a national competition law" (WTO 2001c: 27, para. 79).

16. See World Bank 2002c for a fuller discussion of conferences on ocean liners.

17. See WTO 2002.

18. Birdsall and Lawrence (1999) write: "When developing countries enter into modern trade agreements, they often make certain commitments to particular domestic policies—for example, to antitrust or other competition policy. Agreeing to such policies can be in the interests of developing countries (beyond the trade benefits directly obtained) because the commitment can reinforce the internal reform process. Indeed, participation in an international agreement can make feasible internal reforms that are beneficial for the country as a whole [and] that might otherwise be successfully resisted by interest groups."

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Appendix 1
Regional Economic Prospects

East Asia and Pacific

Recent developments

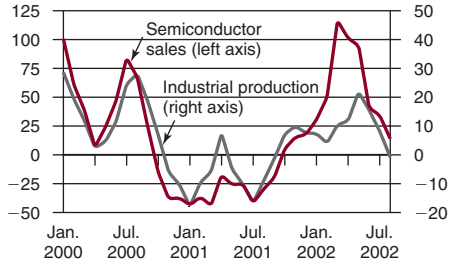
THE EAST ASIA ECONOMIC RECOVERY that began in late 2001 continued to strengthen in the first half of 2002, but momentum slowed after the summer and uncertainties have increased. Output growth in developing East Asia is estimated to have risen to 6.3 percent in 2002 from about 5.5 percent in 2001, led by China growing at more than 7 percent. Output growth has rebounded most rapidly in those economies, such as the Republic of Korea, Malaysia, Taiwan (China), Singapore, and Thailand, that had been hardest hit by 2001's steep fall in world trade and high-tech demand. Annualized growth in the first half of 2002 over the last half of 2001 jumped to a 5- to 10-percent range in most of these economies, although industrial production and trade data indicate that output growth softened in the second half of the year. Elsewhere in the region growth had in any case slowed less among transition economies such as China and Vietnam, because of continued strength in domestic demand and a less marked slowdown in exports. Growth in Indonesia and the Philippines had fallen less sharply to a 3- to 3.5-percent pace in 2001 from a 4- to 5-percent pace in 2000, and the cyclical rebound in these countries (while more pronounced in the Philippines), has also been less clear-cut than elsewhere in the region.

The recovery so far has been underpinned by both external and domestic demand. A gradual pickup in world conditions from 2001's severe global slowdown supported a revival of exports, including exports in the important high-tech sector. U.S. dollar prices for many important East Asian primary commodity exports such as rice, rubber, palm oil, coconut products, and lumber also rose sharply after late 2001, although they rose from the very low levels reached following several years in which steep declines in the terms of trade inflicted large income losses in many East Asian countries. Intraregional exports have been strong, most notably those to China, which jumped an amazing 50 percent in the first half of 2002. Supportive monetary and (in several cases) fiscal policy conditions have fueled domestic demand. Household spending in the region has been especially robust, boosting spending on cars and other consumer durables, but private investment still lags. Debt-equity ratios, though they have fallen in some instances, remain high by international standards in most cases, and together with low corporate profitability, continue to depress the investment climate and undermine the prospects for accelerated medium-term growth.

World semiconductor sales and orders for high-tech equipment in the United States rebounded strongly in late 2001, but growth rates had already peaked before the summer of 2002, and the levels remained far below the

Figure A1.1 Emerging high-tech Asia: semi-conductor dollar sales and industrial production*

(percent change, 3m/3m saar)



Note: Through August 2002. *Rep. of Korea, Malaysia, Singapore, and Taiwan (China).
Source: SIA and national sources through Datastream, World Bank staff estimates.

record levels of 2000 (figure A1.1). A sharp fall in North American semiconductor equipment bookings in August and September suggests that this year's incipient revival in the depressed global high-tech industry may have faded. Several East Asian countries report some slippage in August-September export and industrial production growth from the high rates reached around midyear.

Steep falls in global equity markets in June through September, evidence of renewed weakness in industrial country growth, continued turmoil in emerging markets, rising world oil prices, and terrorist attacks in the Philippines and Indonesia are among the factors that have substantially increased uncertainty about prospects for the region.

Near-term outlook

How well are East Asian countries able to ride out new external and internal shocks that may arise? Here the experience of the last two years is cautiously encouraging. Neither the serious export decline of 2001 nor the hefty terms-of-trade losses of recent years led to a new wave of corporate and financial failures in the countries previously hit by the 1997 crisis. Local East Asian financial markets have been remarkably resilient in the face of the global equity and emerging market turmoil.

On balance, countries in the region appear comparatively well placed to weather the present high levels of external risk, especially if they can build on recent successes and continue to advance reforms that further reduce their vulnerability to external shocks and foster sources of domestic productivity growth. Improvements in macroeconomic conditions have been key to cushioning the impact of external shocks and volatility in international capital markets on East Asian countries over the last three years. Most countries have strengthened national balance sheet positions by running continuous current account surpluses since the 1997 crisis, reducing foreign debts (including short-term debt), and building up foreign reserves. The adoption of more flexible exchange rate regimes has also allowed countries to adapt to external shocks more smoothly (while the recent fall in the U.S. dollar has alleviated concerns about a loss of competitiveness in countries with currencies on a dollar peg, such as China and Malaysia).

A potential source of macroeconomic vulnerability in East Asia, however, is the higher level of public sector debt (including contingent liabilities) accumulated after the 1997 crisis in several countries. Public debt levels are quite high in Indonesia and the Philippines, and are not insignificant elsewhere. Public debt-to-GDP levels are now starting to fall because of rising currencies and lower interest rates, and well-judged fiscal policy measures can build on this trend so as to secure medium-term fiscal sustainability.

Private investment in the crisis-affected countries still remains weak, compared with pre-1997 crisis levels. However, these peak levels were based on overoptimistic expectations and abundant foreign capital. Continued economic growth, macroeconomic stability, low interest rates, rising currencies, and policy efforts to improve the investment climate should lay the groundwork for an investment

revival in due course. Equity markets in East Asia also fell sharply in this period, but over the last one or two years they have generally outpaced industrial country equity markets. In countries with flexible regimes, currencies generally rose against the dollar during 2002 while remaining steady or depreciating modestly against the yen. The stronger trend in currencies occurred despite the fact that domestic interest rates in most countries were significantly lower than average 2001 levels, and is striking evidence of improving investor perceptions of the region.

The October terrorist attack in Bali is also expected to reduce near-term growth in Indonesia. Receipts from tourism represent 4 to 5 percent of gross domestic product (GDP) in Indonesia, and in Southeast Asia generally. Indonesian tourist arrivals could fall by around 20 percent, based on the experience of the 1997 terrorist attack on tourists in Luxor, the Arab Republic of Egypt, and the impact of previous political unrest in Indonesia itself. Lower levels of tourist arrivals and the adverse impact of the attack on consumer and business confidence could reduce Indonesia's growth by 1 percentage point in 2003. Governments in Southeast Asia must now grapple with a major security challenge that also has potentially divisive domestic political implications—all at a time when many countries are moving into the next turn of their electoral cycles. A loss of focus on development and reform priorities could result.

In this environment, acceleration of growth is unlikely, although there are also no signs of sharp deterioration. Regional GDP is expected to grow 6.1 percent in 2003 and 6.4 percent in 2004. Growth in the region, excluding China, is expected to reach 3.8 and 4.3 percent in 2003 and 2004 respectively. Median inflation is expected to remain low, albeit probably above the historically low 2.5 percent in 2002. With export volumes growing at a rate of around 9 percent, the current accounts remain on average at a comfortable surplus of 2.5 percent of GDP.

Long-term outlook

East Asian countries face growing demands for better-quality public goods and services,

Table A1.1 East Asia and Pacific forecast summary

(percent per year)

				Baseline forecast			
Growth rates/ratios	1991–2000	2000	2001	2002	2003	2004	2005–15
Real GDP growth	7.7	7.0	5.5	6.3	6.1	6.4	6.2
Private consumption per capita	5.8	6.0	6.2	5.7	5.2	5.6	5.6
GDP per capita	6.4	5.9	4.5	5.4	5.2	5.6	5.4
Population	1.2	1.0	0.9	0.9	0.9	0.8	0.7
Gross domestic investment/GDP[a]	28.7	29.2	30.1	32.8	33.9	34.9	30.4
Inflation[b]	5.6	5.0	6.6	2.5	3.6	3.6	...
Central gvt. budget balance/GDP	−1.2	−3.3	−3.3	−3.6	−3.4	−3.3	...
Export market growth[c]	9.7	14.1	−2.5	3.6	9.2	8.7	...
Export volume[d]	11.4	22.5	2.5	15.9	15.7	11.3	...
Terms of trade/GDP[e]	0.0	0.0	−0.4	−0.5	−0.1	−0.3	...
Current account/GDP	0.5	3.6	2.7	2.7	2.7	2.5	...
Memorandum items							
GDP growth: East Asia excluding China	4.5	5.4	2.3	3.6	3.8	4.3	5.0

... Not available.
a. Fixed investment, measured in real terms.
b. Local currency GDP deflator, median.
c. Weighted average growth of import demand in export markets.
d. Goods and nonfactor services.
e. Change in terms of trade, measured as a proportion to GDP (percentage).
Source: World Bank baseline forecast, November 2002.

not least for better law and order. Protecting the lives and property of the public and upholding rule of law are essential complements to the ongoing emergence or consolidation of representative or democratic government in the region, as well as a basic underpinning for economic development. The Bali terrorist attack underlines the importance of strengthening security and law and order, through both national and cooperative regional efforts.

Continued public sector and governance reforms are important if greater fiscal discipline in East Asia is to be combined with meeting public demand for more and better public goods and services, such as law and order, health, education, basic research, technology dissemination, and infrastructure generally. Many of these things are valuable to consumers in their own right, are key elements of a productive investment climate, and provide a crucial underpinning for political legitimacy and stability. There is now open discussion and acknowledgment of these issues in the region, though the pace of reform is generally slow, except in the Republic of Korea, Malaysia, and Singapore.

Countries have generally continued to make some progress (at varying rates) on corporate and financial restructuring, reforms to improve financial supervision and regulation, and strengthening corporate governance. However, most countries need to deepen corporate and financial sector reform efforts, as well as further the broader institutional agenda of fostering private sector development and strengthening the investment climate. It is notable that the sectors which are more dynamic are those where the corporate restructuring agenda is less urgent, for example, small- and medium-scale enterprises or large exporters who have moved more quickly to resolve their debts. This is especially important because China's World Trade Organization (WTO) accession is leading to a restructuring of regional production networks, a surge in foreign direct investment (FDI) to China, and an increase in competitive pressures in other countries in the region, especially those competing directly with China in low wage sectors.

Efforts to strengthen regional cooperation in East Asia have gained ground in recent years, alongside the region's long-standing commitment to multilateral trade liberalization and integration. The Association of Southeast Asian Nations (ASEAN) Free Trade Area (AFTA) came into force at the beginning of 2002 among the six original members. Association members now seek to build on their success in reducing tariff barriers and fostering deeper integration by tackling issues such as non-tariff barriers, product standards, customs procedures, trade in services, transport and logistics, and investment flows. At the same time the Initiative for ASEAN Integration (IAI) has been launched to help new and less-developed members (Cambodia, the Lao People's Democratic Republic, Myanmar, and Vietnam) build capacity and integrate more fully into the AFTA over time. Regional discussions and cooperation in the ASEAN+3 (ASEAN, China, Japan, and Korea) and other new forums also continue to develop.

Against this background, per capita GDP in the region could grow solidly at a rate of around 5.5 percent during the coming decade, although this implies a slowing by 1 percentage point compared with the previous decade of rapid catching up. As population growth also slows during the coming 15 years—being 0.5 percentage point lower than during the 1990s—the long-run trend in GDP growth is estimated to be 6.2 percent, 1.5 percentage point below the trend during the 1990s.

South Asia

Recent developments

Growth in the South Asia region is projected to average 4.6 percent in 2002. This downward revision from the *Global Economic Prospects 2002* forecast of 5.3 percent GDP growth for the year largely reflects adverse weather conditions, continued internal and external security concerns, and the more protracted than anticipated recent global economic slowdown. As a consequence,

given slower demand growth, inflation has remained low throughout most of the region, notwithstanding high oil prices. Further, government budget balances are expected to post rising deficits in most countries. On an aggregate level, current account balances—which strengthened during 2001, reaching a surplus in the case of India—are projected to show a slight improvement during 2002. This is partly due to lower levels of imports, which are generally projected to more than offset the negative impact of slow export volume growth dampened by weak external demand.

Because agriculture is a key sector in the region's economies, important to both employment and growth, the recent drought has restrained output, although the late rains (in some cases flooding) have somewhat ameliorated the shortfall for the season. As a consequence, 2002 harvests are expected to be generally smaller than in 2001, an outcome that is expected to put some additional pressure on government coffers through increased transfers for drought relief.

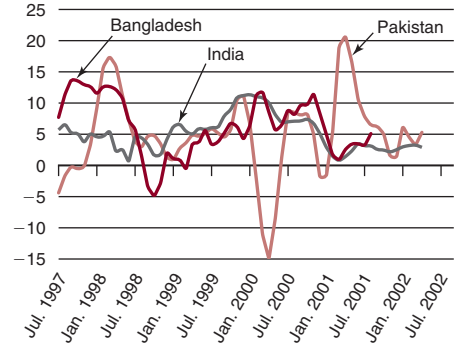
Security issues are an ongoing concern, although there has been some easing of tensions in parts of the region, paving the way for improved growth conditions. The diminished fighting in Afghanistan from late 2001, and the more recent introduction of a new government in June 2002, has led to a rebound in activity to begin rebuilding the economy from extremely low levels and contraction in 2001.

Throughout the region, the weakening of economic conditions has complicated efforts at fiscal consolidation. Although some countries were able to achieve budget targets by cutting expenditures—including spending on development programs—to offset revenue losses, India notably did not cut expenditures. Citing concerns about the magnitude of India's domestic debt—estimated at 70 percent of GDP—Standard and Poor downgraded Indian government paper to junk bond status in October 2002.

External demand in South Asia's major markets has been subdued in the first half of 2002, although it shows some firming relative to the contraction witnessed in 2001 for most of the region's economies. During the second half of 2002, preliminary data suggest some further acceleration of export volume growth, although not as strong as projected in *Global Economic Prospects 2002,* given the more protracted recovery in world trade volumes. Import volume growth has been dampened by sluggish demand for raw materials and intermediate goods by exporters and by weak domestic demand conditions. The overall impact of these factors has led to a net improvement in the region's trade balance. This improvement, combined with a rise in the region's aggregate worker remittances—reflecting portfolio shifts following the September 11 attacks and, in the case of Bangladesh, a sharp increase in private inflows due to improvements in the speed with which remittances are transferred through official channels—has contributed to an increase in the region's foreign reserve holdings. Given the recent weakness of the U.S. dollar, a number of currencies in the region have appreciated during 2002. However, a general monetary stance of maintaining competitiveness suggests that these short-term

Figure A1.2 Industrial production in South Asia

(3-month moving average, y/y percentage change)



Source: International Monetary Fund, International Financial Statistics.

cross-currency dynamics will reverse and that regional exchange rates will resume a path of depreciation.

Near-term outlook

Our near-term outlook is premised upon continued improvement in both domestic political stability and regional security issues—although tensions will remain evident. A marked improvement in Sri Lanka's political and policy environment, for example, should allow that country to enjoy a sharp acceleration of GDP over the near term—and, indeed, into the medium term. In contrast, continued domestic political pressures would cause Nepal to underperform relative to regional growth averages in the near-term forecast horizon.

We are also assuming a return to more normal weather patterns over the next two years, in contrast to the recent drought conditions discussed above. Agriculture accounts for approximately one-fourth of regional output, but the impact of improved harvests will be even more pronounced for the poorest households, for whom the rural economy provides the largest share of employment. Higher rural incomes will feed through into stronger private consumption growth, but prospects for investment—particularly in the private sector—are more mixed, as continued concerns over stability will at least partially offset the impetus to invest generated by stronger domestic and external demand. Industrial production will marginally underpace real GDP growth, as the service sector continues to provide the main near-term contribution to growth over much of the region.

Our global projections of a recovery in world trade prospects translate into strengthening external demand conditions for the economies in the South Asia region. Partly because of the above assessment of the domestic economy, the region is forecast to post a firming of growth to an average of 5.4 percent in 2003 and 5.8 percent in 2004. Trade balances should benefit, although import growth will also strengthen along with external demand, given the high import content of exports and high import intensity of consumption. Coupled with a modest deterioration in the

Table A1.2 South Asia forecast summary

(percent per year)

				Baseline forecast			
Growth rates/ratios	1991–2000	2000	2001	2002	2003	2004	2005–15
Real GDP growth	5.2	4.8	4.4	4.6	5.4	5.8	5.4
Private consumption per capita	2.0	1.4	4.1	2.6	3.6	4.0	3.2
GDP per capita	3.3	2.9	2.6	2.9	3.8	4.2	4.1
Population	1.9	1.9	1.7	1.7	1.6	1.6	1.3
Gross domestic investment/GDP[a]	21.9	24.2	24.9	25.8	25.8	25.5	24.8
Inflation[b]	7.9	3.9	6.1	5.0	5.1	6.8	…
Central gvt. budget balance/GDP	−10.3	−9.7	−10.3	−10.3	−9.8	−9.2	…
Export market growth[c]	12.8	13.1	0.4	2.8	7.3	7.9	…
Export volume[d]	10.9	7.4	5.3	8.3	8.8	8.5	…
Terms of trade/GDP[e]	−0.1	−0.8	0.4	0.0	0.2	0.2	…
Current account/GDP	−1.5	−0.8	−0.3	−0.1	−0.2	−0.2	…
Memorandum items							
GDP growth: South Asia excluding India	4.3	4.2	3.8	3.9	4.8	5.2	5.3

… Not available.
a. Fixed investment, measured in real terms.
b. Local currency GDP deflator, median.
c. Weighted average growth of import demand in export markets.
d. Goods and nonfactor services.
e. Change in terms of trade, measured as a proportion to GDP (percentage).
Source: World Bank baseline forecast, November 2002.

terms of trade, these growth patterns are expected to translate into a slight increase in the regional average current account deficit to GDP ratios.

Macroeconomic policies in the region have historically been biased toward accommodating growth and have generated fiscal imbalances. Generally, revenue mobilization remains a challenge in the region. The unsustainable nature of fiscal deficits has been widely recognized by governments across the region—although this does not imply that a consensus has been reached. Therefore, the introduction of prudent fiscal policies over the next two years could be tempered by political considerations, and by the need to address the lagged effects of the current downturn in agricultural output. Indeed, budget deficits in many countries could deteriorate in the next fiscal year. One of the key problems is the scale of public debt—large servicing requirements limit the scope for cutting expenditures, especially in conditions of extreme poverty. The main issue for the region is extending the tax base, but progress to date has not been as rapid as anticipated. The introduction of tax reforms in India, for example, has been delayed.

Most regional economies have a general monetary policy posture involving depreciation aimed at shoring up foreign reserves and promoting exports through increased competitiveness, which is forecast to also have a positive impact on current account balances. This conduct of monetary policies had been facilitated by relatively weak inflationary pressures across the region. In general, consumer price inflation in the region has been relatively low, despite the droughts and firm oil prices of recent years. Several countries have subsidies for fuel and some foods, a policy that cushions the impact of imported inflation on consumer prices. However, these are being lifted in some cases (for example, Pakistan). While the recent slowdown in demand will restrain price rises initially, inflation is forecast to rise moderately later in 2003 and in 2004 as growth momentum builds, and as the average prices of non-oil imports rise.

Long-term prospects

Long-term growth in South Asia is forecast to average about 5.5 percent, in line with the growth forecast in *Global Economic Prospects 2002*. This forecast is somewhat higher than the 5.2 percent average real growth posted during the 1990s. The higher projected growth over the coming decade, through 2015, reflects a number of underlying assumptions, such as the assumption of a larger contribution of growth by the private sector. This in turn reflects the expectation of progress with fiscal consolidation and continued structural reforms, including reforms in trade, banking, privatization, and infrastructure. These factors, combined with the improvement in human capital indicators in recent years—such as rising literacy rates and school enrollments, and declining infant mortality rates—will lead to an increase in productivity. Despite a projection of declining infant mortality rates, overall the South Asian population growth rate is projected to decelerate because birthrates are expected to decline faster. Lower population growth in the coming decade, along with the forecast growth rates, implies that per capita GDP growth will be close to 4 percent per year.

Risks

Downside risks to the forecast include a weaker than anticipated recovery in global demand, translating into slower export growth and lower regional GDP. Similarly, a continuation of adverse weather conditions would result in lower than anticipated growth caused by lower agricultural output. Domestic political uncertainty could slow down implementation of fiscal and other structural reforms. Regional political tensions also pose important threats to the growth forecasts, potentially aggravating economic disruptions and increasing poverty rates, as well as generating less severe effects, such as declines in tourism revenues and the reduction of foreign assistance. Generally, the region faces a number of vulnerabilities, as evidenced by the covariant shocks over recent years—such as droughts in

Pakistan, floods in Bangladesh, natural disasters in parts of India, and civil war in Sri Lanka. Vulnerability to such shocks has contributed to the high incidence of transient poverty in a country such as Pakistan, and probably explains the large year-to-year fluctuations in income and poverty that are observed. Such vulnerability can also have a profound impact on the growth prospects of a country, since uninsured risk can affect the ex ante behavior of economic agents.

Latin America and the Caribbean

Recent developments

Unlike most other developing regions where economic growth strengthened in 2002, GDP contracted 1.1 percent in Latin America, about 1.6 percentage points lower than anticipated in the spring. This growth deceleration from 0.4 percent in 2001, however, was the result of enormous economic contraction in a handful of countries, fueled in large part by the external environment and aggravated by domestic factors. Growth performance in the region, excluding Argentina, is expected to be 0.7 percent in 2002, somewhat lower than last year's growth of 1.2 percent. Negative spillover effects from the meltdown in Argentina began to affect neighbors in the region in the second half of the year.

Figure A1.3 GDP growth in LAC, 1997–2002

(percent y/y)

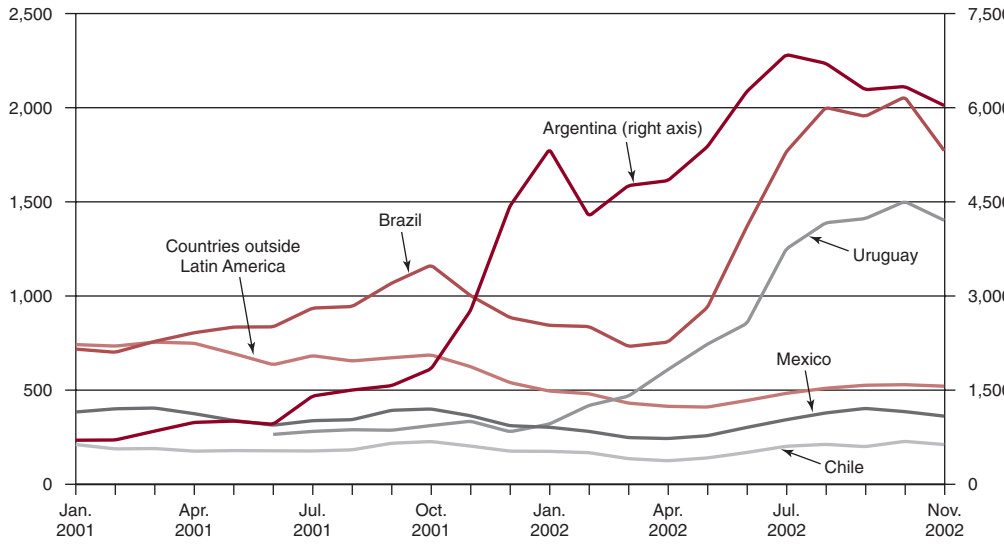
Note: *Other LAC = Brazil, Chile, Mexico.
Source: Datastream and World Bank staff estimates.

The external environment for most of Latin America was more adverse than expected at this stage of the global economic recovery. Despite low interest rates in industrial countries, capital flows to developing countries fell, and the decline was especially pronounced in the Latin America and the Caribbean (LAC) region, partly because of the crisis in Argentina and its small neighbors. After falling for most developing countries between October 2001 and April 2002, spreads on external debt rose sharply for many LAC countries—Chile, Mexico, and small Central American and Caribbean countries had only a small rise (figure A1.4). Few countries were able to attract the necessary capital flows to sustain a strong growth recovery in the absence of rising domestic savings. U.S. growth, after a strong start in the first quarter of 2002, weakened significantly thereafter, while European growth was anemic, resulting in lower growth expectations for LAC principal markets in the short term. The region's export market growth rate was a disappointing 1.2 percent in 2002 and was not helped by the price fall in key commodities exported by the region (for example, sugar fell by 26.5 percent, arabica coffee by 8.8 percent, bananas by 7.4 percent, aluminum by 6.5 percent, and copper by 0.2 percent). Moreover, tourism revenues were weak because of reduced air travel from North America (affecting the Caribbean countries), and the collapse of income in Argentina significantly affected tourism in Paraguay and Uruguay as well as workers' remittances to Bolivia and Paraguay.

Domestic factors are important in explaining the weak economic performance in a small set of countries, and these countries contributed most to the region's dismal growth performance in 2002. In Argentina, the lack of political consensus on a sustainable macroeconomic framework has delayed an International Monetary Fund (IMF) program, shrunk

Figure A1.4 Spreads for selected LAC countries

(basis points above U.S. Treasuries)



Source: Datastream and World Bank staff estimates.

net capital flows even further, and led to a deep, protracted economic contraction in excess of 10 percent. This affected other Mercosur affiliates deeply, especially Uruguay and, to a lesser extent, Paraguay and Bolivia. In Brazil, uncertainty associated with the elections as well as with the global outlook weighed on investor confidence in spite of sound macroeconomic policies, slowing the pace of growth recovery. In the República Bolivariana de Venezuela, an acute political crisis that culminated in a short-lived coup contributed to a resurgence in large-scale capital outflows, little investment outside of the oil sector, and a steep decline in growth.

The confluence of these factors weakened the acceleration in growth that one would expect in the context of recovering global activity. Policy responses, constrained by high debt levels, high external borrowing requirements, and contracting external financing, were unavoidably contractionary. In Uruguay, a financial crisis ensued as Argentines withdrew a large amount of dollar deposits, depleting reserves and causing the currency to float, and forcing the authorities to embark on fiscal consolidation and monetary tightening. GDP growth is estimated to have fallen by about 10 percent. Brazil was forced to tighten fiscal policy but was able to lower short-term policy rates only temporarily and experienced significant increases in long rates. The initial surge in Brazilian investment at the beginning of the year gave way to a more muted second-half growth. In Colombia, the fiscal accounts remain vulnerable, with the government making small progress in reducing the fiscal deficit to bring debt dynamics onto a sustainable path in the wake of presidential elections, escalating civil war, and lower-than-expected growth. Peru, in contrast, was able to make progress in addressing the fiscal deficit and in keeping the public debt situation under control; growth accelerated in 2002. Ecuador benefited from relatively high oil prices, but the authorities had difficulty in reducing the fiscal deficit, a move necessary to maintain macroeconomic discipline in a dollar

economy. In Central America, low export earnings from falling coffee prices and weak demand in the United States, and relatively high fiscal and external deficits, limited fiscal expansion. And some Caribbean countries were faced with little scope for fiscal expansion or monetary easing in light of declining tourism revenues; weak prices of bananas, sugar, and aluminum; and, in the case of Jamaica, a large debt overhang that was exacerbated by the financial sector crisis in the mid-1990s. In Mexico, the government stuck to fiscal discipline—helped by higher-than-expected oil prices—and is making slow progress with key reforms, while being only partially successful in increasing non-oil government revenues.

Overall, policies in Latin America were instrumental in keeping inflation from accelerating in most countries. However, countries that had a sharp adjustment in their exchange rates due to a sharp fall in net capital flows did face inflationary pressures. Inflation (as measured by consumer price index—CPI) rose to fairly high levels in Argentina (about 45 percent), in Venezuela (in excess of 20 percent), and in Uruguay (about 20 percent). Given high debt levels and worsening public debt dynamics—due to high interest rates and depreciating currencies—most authorities were unable to pursue countercyclical policies, and unemployment remained high throughout the region (21.5 percent [May] in Argentina, 19 percent [September] in Uruguay, 16.2 percent [June] in Venezuela, 17.2 percent [September] in Colombia, and 9.7 percent [September] in Chile).

Slow world growth and external financing constraints compelled an adjustment in the region's external accounts. Import volumes fell for a second consecutive year (mostly due to sharp declines in Argentina, Uruguay, and Venezuela), and the current account deficit narrowed from over $50 billion (or 2.9 percent of GDP) in 2001 to below $25 billion (or 1.5 percent of GDP) in 2002, with most of the adjustment coming after April. The level of foreign reserves in August was around $10 billion lower than at the end of last year, due primarily to sharp declines in Argentina and Uruguay.

Near-term outlook

The region's growth prospects are expected to improve in 2003, supported by strengthening of the global economy, particularly in trade volumes, commodity prices, and capital flows. The region's GDP is now expected to grow by 1.8 percent in 2003—still almost 2 percentage points lower than the spring forecast and in line with the downgrading of world growth, provided there is a turnaround in the current uncertain political and financial market outlook. Greater fiscal adjustment in a number of countries with high debt and relatively large financing requirements is a necessity for reducing economic vulnerabilities. This, along with reforms currently on the agendas of many countries, is needed to restore investor confidence (which will lower interest costs), attract more equity external financing, and reinvigorate growth.

In the baseline forecast, it is assumed that Argentina will put in place an externally supported macroeconomic program that will be reaffirmed by the new government after the election in March 2003. Depending on its actual timing, this would lead to a revival of growth, possibly by midyear—but may not show up in strong annual growth until 2004. If this scenario were to materialize, it would improve prospects for the smaller Mercosur countries. The base case also depicts a new Brazilian government that maintains prudent macroeconomic policies and succeeds in restoring market confidence. Regional GDP growth is expected to rise to 3.7 percent in 2004.

There are a number of positive factors for the region that give credence to the baseline forecast. Mexico has weathered the recent global downturn very well. Sound policies have kept investors confident and inflows large, and the upturn in U.S. growth should bolster a rapid expansion in 2003. Chile also has fared well in light of negative effects from

Table A1.3 Latin America and the Caribbean forecast summary
(percent per year)

Growth rates/ratios	1991–2000	2000	2001	Baseline forecast 2002	2003	2004	2005–15
Real GDP growth	3.3	3.7	0.4	−1.1	1.8	3.7	3.8
Private consumption per capita	2.3	2.4	−1.1	−2.8	−0.3	1.9	2.5
GDP per capita	1.6	2.1	−1.2	−2.6	0.3	2.3	2.6
Population	1.7	1.6	1.6	1.5	1.4	1.4	1.2
Gross domestic investment/GDP[a]	19.8	19.7	19.3	18.0	17.3	18.1	22.0
Inflation[b]	12.5	6.4	6.9	5.0	4.2	4.4	...
Central gvt. budget balance/GDP	−3.1	−1.8	−1.8	−2.6	−3.1	−3.0	...
Export market growth[c]	11.4	11.9	−1.5	1.2	8.2	8.8	...
Export volume[d]	8.6	10.5	1.4	4.7	11.1	10.9	...
Terms of trade/GDP[e]	0.2	0.6	−0.5	−0.1	−0.3	−0.5	...
Current account/GDP	−2.8	−2.4	−2.9	−1.5	−1.3	−1.8	...
Memorandum items							
GDP growth: LAC excluding Argentina	3.1	4.5	1.2	0.7	1.9	3.6	3.8
Central America	4.4	2.9	1.6	2.1	3.1	3.6	4.0
Caribbean	3.5	6.2	2.7	3.6	4.3	4.3	4.2

... Not available.
a. Fixed investment, measured in real terms.
b. Local currency GDP deflator, median.
c. Weighted average growth of import demand in export markets.
d. Goods and nonfactor services.
e. Change in terms of trade, measured as a proportion to GDP (percentage).
Source: World Bank baseline forecast, November 2002.

Argentina and adverse terms of trade, and expected firming of copper prices should underpin growth. The policy stance of the new Colombian administration has been positive for investors, and it has strong support from the United States for assistance in resolving the guerrilla war. Expected strengthening of metals prices next year should help Peru to reduce the rise in external financing as the economy recovers from the 2001 recession. And the small island states in the Caribbean have shown resilience in the face of strongly negative external and domestic factors—Jamaica has stayed the course with tight fiscal policy (a primary surplus of 9 to 11 percent of GDP in the past three years); Trinidad and Tobago's economy continued to grow despite political uncertainty.

However, risks are on the downside in the short term. Argentina faces enormous obstacles in its financial system, and while the situation has stabilized somewhat in 2002, the authorities will face a difficult situation in containing inflation in 2003—with the monetary overhang and weak public finances. While it is assumed that the required political consensus will be attained before the March 2003 elections, there are risks that the consensus may not materialize that quickly. The incoming Brazilian administration will have to take confidence-building measures to reverse the current market uncertainty. Should Brazil fail to maintain a sustainable macroeconomic policy framework, its correspondent weak economic performance will have a major impact on regional economic prospects. Venezuela will be facing lower oil prices, which will make necessary adjustment even more painful. And Caribbean countries face the possibility of a delayed recovery in tourism, which would reduce the fiscal space to tackle the ever-present risk of natural disasters.

Long-term prospects

Per-capita GDP growth over the long term (2005–15) is projected to average 2.6 percent a year, 1 percentage point higher than the

growth achieved by the region in the 1990s. Improvement in macroeconomic management in a number of countries throughout the 1990s, albeit emanating from crises, should provide the basis for a good investor climate. This has already encouraged FDI into the region at the fastest pace of all regions, even though this has been due partly to privatization of public enterprises and mergers and acquisitions. The next wave of FDI is likely to be in greenfield activities, as witnessed in Costa Rica's attracting high-tech firms. Regulation and supervision of financial sectors have been strengthened since the early 1990s, but there remains room for further improvement. Potential gains from global trade have increased with trade liberalization during the 1990s, leading to high and rising ratios of trade to GDP (Chile, Mexico, the Caribbean Community and Common Market, and other small economies are examples). Moreover, the region has been proactive in deepening trade integration, especially with North America, through negotiations to establish a Free Trade Association of the Americas (FTAA) and bilateral agreements (Chile and Central America with the United States).

At the same time, the region remains more vulnerable than many other developing regions. First, a high debt overhang from the 1980s remains a problem to finance in many countries. In the 1990s, some countries continued to rely on significant debt financing, particularly in the public sector. Public debt-to-GDP ratios rose in some countries and the maturity of that debt shortened in duration, increasing their vulnerability to shifts in investor sentiment as they question debt sustainability. LAC countries may have to learn to live with less debt in the future, adjusting public expenditures as required. Countries need to create fiscal space during good times (boom years) to be able to conduct countercyclical policies in future downswings in economic activity. Second, many countries, especially the low-income coffee producers, also need to further diversify their export base to reduce vulnerability to large swings in commodity prices. Finally, the region still lags in financial deepening (which could help raise national saving rates), infrastructure, and quality of institutions—areas that need to be improved before the region can attain high sustainable growth rates.

Europe and Central Asia

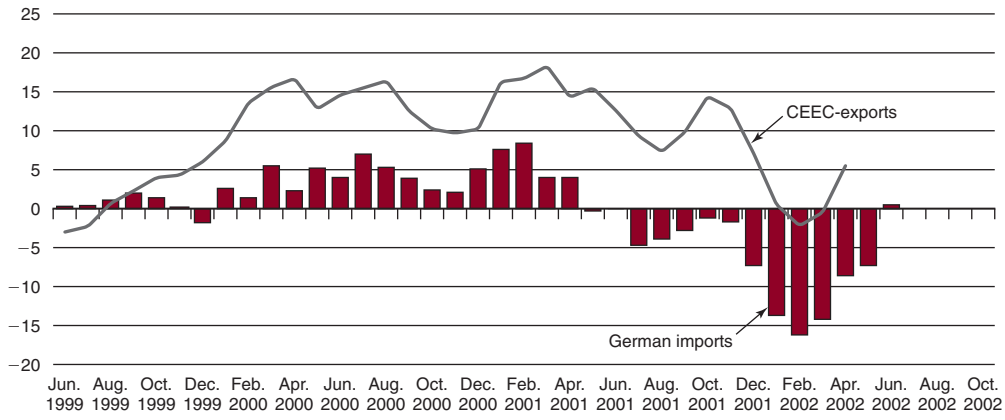
Recent developments

The slack external environment, especially in Western Europe, is contributing to a general slowdown of growth in most of the countries of the Europe and Central Asia (ECA) region in 2002 relative to 2001. However, the region has weathered the recent global economic downturn relatively well, largely because of fairly strong domestic demand throughout most ECA countries, and sustained high oil prices to the benefit of the oil-exporting Commonwealth of Independent States (CIS) countries. Whereas almost all ECA countries are facing a moderation of growth in 2002, Turkey is expected to post a recovery—a massive swing from the over 7 percent collapse in GDP that it posted in 2001—which is raising the region's average growth for the year. As a consequence, aggregate growth for the ECA region is projected to expand from an estimated 2.3 percent in 2001 to 3.6 percent in 2002. Growth in the ECA region (excluding Turkey) is forecast to decelerate to 2.3 percent in 2002 from 2.9 percent in 2001.

The Central and Eastern European (CEE) countries, in particular, have been affected by weakening demand from Western Europe—their main export market—as well as by exchange rate appreciation in many of the subregion's economies. As a result, export volume growth has slowed significantly, although it still remains at impressive levels in a number of countries (such as the Czech Republic, Hungary, and Poland), as they have increased market penetration (see box 1.2 in chapter 1). Thus, the consequent drag on GDP is not as high as it might have been. Furthermore, easing import volumes—which largely reflect

Figure A1.5 German imports and CEECs exports in dollars, 1999–2002

(3-month moving average, y/y percentage change)



Source: International Monetary Fund, International Financial Statistics.

high import intensity of exports in all of the CEEs—are helping to reduce the impact of the slowdown in export volumes. Strong domestic demand, witnessed in most of the CEE countries, is partially offsetting the loss in impetus to growth from the slowdown in the external sector. Domestic demand has been generally supported by lower inflation, easing interest rates, and expanding private consumption. In some countries, fiscal policy has become more expansionary, notably in the Czech Republic, Hungary, and the Slovak Republic. Poland is the main exception to this picture of relatively strong domestic markets, with tight monetary conditions, weak wage growth and record unemployment rates translating into anemic domestic demand. While inflationary pressures have generally been subsiding in the CEE subregion, they remain significant (in double digits) in Romania, Turkey, and the Federal Republic of Yugoslavia. Many of the CEE countries continue to run relatively high current account deficits of above 4 percent, although sufficient external financing has been sustained. Continued significant FDI inflows, in particular, are helping to finance the current account deficits, in addition to generally supporting domestic demand and regional growth. Turkey remains a key question mark. Indicators for early 2002 point to a recovery, facilitated in part by the new reform program, lower interest rates, and improved confidence relative to 2001. However, uncertainty linked to the continued implementation of the current economic program of the new government, as well as heightened political instability in the Middle East, could contain the building growth momentum, as interest rates have begun to rise and market sentiment is becoming more cautious. Lowering interest rates remains important to achieving a sustainable public debt.

Relatively firm oil prices—fueling fiscal linkages in oil producers and bolstering intra-CIS trade—have sustained the recent recovery in the CIS subregion, partially buffering it from the deterioration in external conditions. Nevertheless, given the moderation in external demand, exchange rate appreciation in a number of countries (such as the Russian Federation), and some easing in oil prices in the first half of 2002, growth is moderating throughout the CIS subregion. Hydrocarbon exporters—Azerbaijan, Kazakhstan, Russia, and Turkmenistan—in particular have experienced robust growth, although growth has

slowed significantly from 2001. Increased investment in production capacity in the energy sector has also supported economic activity in these countries. Among the energy-importing CIS countries, other factors have contributed to the continued strong growth, including relatively good harvests in the Kyrgyz Republic (combined with increased gold production), Tajikistan (combined with increased aluminum production), and Ukraine. Not only because Russia represents the largest weight in the subregion, but also because it represents a major export market for many of the CIS countries (in addition to some of the CEEs), continued strong growth in Russia has also sustained growth in the subregion. As in many CEE countries, domestic demand has been underpinned in the CIS countries by falling inflation rates and lower interest rates. While inflationary pressures have eased in all the CIS countries, they remain a source of concern in some cases, particularly in Belarus and Uzbekistan. Inflation rates in Russia and Tajikistan are also expected to post in the double digits in 2002, but at more moderate levels. While energy-related receipts boosted revenues, fiscal positions remained relatively prudent in the energy-exporting CIS countries, although they became somewhat more expansionary in Azerbaijan and Kazakhstan. To provide for budgetary smoothing, Azerbaijan and Kazakhstan have created national funds for windfall oil rents. With the decline in energy prices posted in 2001 (in both real and nominal terms) from the spike posted in 2000, the fiscal surplus in Russia narrowed, although recent firming in oil prices should contribute to some stabilization of budget receipts for 2002 over 2001. In other CIS countries, fiscal policy has been more expansionary, in general, generating widening deficits (for example, in Ukraine). Throughout the CIS subregion, current account surpluses (for instance, in Russia and Ukraine) are narrowing and deficits (in most of the remaining CIS economies) are widening somewhat, because of exchange rate appreciation, rising imports, and, until more recently, moderating oil export earnings. Russia's current account surplus has narrowed, although it remains very large.

Near-term outlook

Growth in the CEE countries is expected to begin increasing again in 2003, assuming a firming of European Union (EU) import demand in 2003, which is projected to strengthen significantly in 2004. For Turkey, assuming relative political stability and the continued pursuit of the current reform program by the new government, the recovery is expected to be sustained in 2003. Growth in the CEE subregion is forecast to accelerate from 2.3 percent in 2002 to 3.1 percent and 4.3 percent in 2003 and 2004, respectively. As the EU accession process moves forward, it is expected that the first round of new members in particular will continue to receive significant FDI inflows (in addition to EU transfers), which will remain an important source of external finance and underpin long-term growth.[1] While a number of important hurdles remain—linked in particular to the negotiations on the existing common agricultural policy (CAP), on the EU's budget, and on transfers to new member countries—the process is still on schedule.[2] Growth is expected to slow in the CIS subregion (through fiscal and trade linkages) through 2004, assuming significant declines in oil prices in both 2003 and 2004 (from a projected $25 per barrel in 2002 to a forecast of $23 per barrel and $20 per barrel in 2003 and 2004, respectively). CIS GDP is forecast to decline from a projected 4.4 percent in 2002 to 3.5 percent and to 3 percent in 2003 and 2004, respectively. While Russia's current account is expected to remain in surplus over the near term, it is forecast to narrow markedly as energy prices soften. In 2003 and 2004, growth is expected to average 3.4 percent and 3.6 percent, respectively, for the ECA region as a whole.

Long-term prospects

In the CEE, during the second decade of transition, a number of factors are expected to contribute to stronger growth than posted during the previous decade. These include

Table A1.4 Europe and Central Asia forecast summary

(percent per year)

Growth rates/ratios	1991–2000	2000	2001	Baseline forecast 2002	2003	2004	2005–15
Real GDP growth	−1.7	6.6	2.3	3.6	3.4	3.6	3.6
Private consumption per capita	0.2	9.1	1.5	4.8	4.0	3.8	3.7
GDP per capita	−1.9	6.4	2.2	3.5	3.3	3.5	3.5
Population	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Gross domestic investment/GDP[a]	23.6	22.1	21.9	20.6	20.8	21.2	28.6
Inflation[b]	128.0	9.8	7.0	3.2	5.8	5.7	...
Central gvt. budget balance/GDP	−4.4	−5.4	−6.5	−6.2	−6.0	−5.5	...
Export market growth[c]	10.7	12.9	6.7	2.1	6.4	8.1	...
Export volume[d]	9.4	10.9	8.8	6.4	8.2	7.5	...
Terms of trade/GDP[e]	0.0	−1.6	3.0	−2.5	−1.3	0.1	...
Current account/GDP	−2.3	−4.9	−1.8	−2.4	−2.4	−2.3	...
Memorandum items							
GDP growth: transition countries[f]	−2.6	6.4	4.6	3.5	3.3	3.5	...
Central and Eastern Europe[f]	0.6	3.8	2.9	2.3	3.1	4.3	...
CIS	−4.4	8.4	5.9	4.4	3.5	3.0	...

... Not available.
a. Fixed investment, measured in real terms.
b. Local currency GDP deflator, median.
c. Weighted average growth of import demand in export markets.
d. Goods and nonfactor services.
e. Change in terms of trade, measured as a proportion to GDP (percentage).
f. Excluding Turkey.
Source: World Bank baseline forecast, November 2002.

higher investment rates and ongoing restructuring of the capital base. Continued improvements in the policy environment, including greater macroeconomic stability, are expected to underpin the projected higher growth rates. The EU accession process and coming membership will continue to act as an anchor for structural reforms and will help attract significant inflows of FDI. While structural reforms are being pursued in many CIS countries, in general, implementation is not as advanced or as widespread as in the CEE subregion's economies, and in some cases there is significant resistance to structural reforms. This implies lower long-run growth in comparison. The recent boom in hydrocarbon rents has provided an impetus to growth, facilitated the introduction of a number of reforms in many of the oil-exporting countries, and contributed to an increase in investment outlays (particularly in the energy sector). However, given the volatility of energy market prices, these economies will not be able to sustain recently achieved higher growth rates until diversification from energy becomes much more broadly based. Given the degree of energy dependence in many of the CIS economies, particularly Russia, the projected softening of oil prices—to an average nominal price of about $18 to $19 per barrel for the 2005–10 period, in the underlying forecast—implies a ratcheting down of the subregion's growth from recent high rates.

Risks

Weaker than anticipated recovery in the EU area would reduce external demand for regional economies, particularly for the CEE countries, and thus translate into lower growth. In many CEE countries high current account deficits could become an important downside risk for international credit, if FDI inflows suddenly dry up (which a pronounced delay in the EU accession process could trigger). For CIS hydrocarbon exporters, which are highly dependent on energy prices,

a sharper decline in oil prices than forecast poses a significant downside risk. In Russia, as a consequence, a more rapid decline in growth than projected would result in lower external demand for a number of the other economies of the CIS and of some CEEs (that is, the Baltic states). Greater political uncertainty or a reversion from the reform program in Turkey could undermine its fledgling recovery and result in much lower than anticipated growth—and affect some of its trade partners (including Bulgaria). Some of the poorest CIS countries (Georgia, the Kyrgyz Republic, and Tajikistan) have relatively high external debt (up to 200 percent of exports), placing them at risk of default if growth does not materialize as anticipated and external assistance is not forthcoming. Greater political instability and heightened tensions in the Middle East could prove destabilizing to economic (and political) positions in the neighboring ECA countries, particularly in Turkey and in some of the southern-tier CIS countries. Aside from potentially undermining tourism revenues, there could be trade disruptions and a general rise in the perception of risks in the region leading to higher interest rates.

Sub-Saharan Africa

Recent developments

Sub-Saharan Africa was not immune to the chilling effects of the global recession. The slowdown may have been less pronounced there than elsewhere, but the collapse in world trade and steep declines in commodity prices had a depressing effect on economic performance. Services exports, primarily tourism, were further affected by the September 11 terrorist attacks. In real terms, GDP growth slowed from 3.2 percent in 2000 to 2.9 percent in 2001 and 2.5 percent in 2002. With the exception of Nigeria, oil exporters generally outpaced the region, especially those where production was increasing—Angola, Equatorial Guinea, Sudan—as oil prices, though down from 2001, remained relatively strong. Meanwhile, countries where severe drought put a damper on agricultural production fared worse and, as usual, the worst outturns were to be found in countries experiencing civil and political strife. But slowdown was widespread throughout the region.

The subdued economic performance in 2002 is attributable to the region's export dependence on European markets, where growth was weak. As a result, exports remained basically stagnant in real terms. On the plus side, there was a turnaround in non-oil commodity prices, albeit from historically depressed levels. After reaching a low in October 2001, non-energy commodity prices rebounded sharply, gaining 26 percent in export weighted terms by August 2002. The main contributor was cocoa, which was up 80 percent, but other commodities gained as well—robusta coffee up by 20 percent, cotton up by 33 percent, copper by 7 percent, and gold by 10 percent. Because the upward momentum began late in the year, on an annual basis many commodity prices exhibited declines in 2002, and most remain well below peak levels of the mid-1990s. Nevertheless, modest real price gains over the medium term will deliver a measure of relief to external balances. Oil prices, too, remained stronger than expected, an outcome that, though unwelcome to non-oil exporters, was a positive benefit to the region as a whole.

The disappointing results for tourism, which accounts for 11 percent of regional export receipts, reflected not only the weakness of Europe's economy, but the aftermath of September 11. Some important destinations—such as Mauritius, which benefits from its reputation as a safe destination—saw an increase in the flow of arrivals in 2002. Most other countries, however, only partially recovered from the impact of September 11. According to estimates by the World Travel and Tourism Council (WTTC),[3] Sub-Saharan travel and tourism exports slowed to just 1.5 percent growth in 2001 before recovering to 4.3 percent in 2002. Both years represent growth significantly below potential. The WTTC estimates September 11 to have cost 3.2 percent

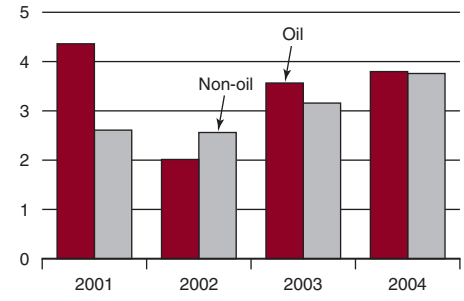
of exports and 1.3 million jobs over the period 2001–02.

In the domestic sphere, agricultural production was disrupted by drought and, in the case of Zimbabwe, political disturbances. As a result, nearly 30 million persons were left in need of emergency food aid. Approximately half of them were in southern Africa, which experienced a second successive year of poor harvests. Malawi, Zambia, and Zimbabwe were most affected, and because agriculture constitutes a large share of their economies, incomes and consumption spending were depressed. But Ethiopia suffered the worst, with drought putting at risk an estimated 15 million persons. However, the effects were quite localized. South Africa experienced a bumper maize harvest, which gave a strong boost to domestic spending.

South Africa sustained a recovery through the first half of 2002, with broad-based strength in agriculture, as well as in export-oriented mining and manufacturing, which benefited from the rand's weakness. On the expenditure side, domestic demand grew at a 2.3 percent annual pace in the first half, reflecting buoyant fixed investment, strong private consumption, and a moderately expansionary fiscal stance, though weak inventory accumulation slowed the pace. In the external

Figure A1.6 Real GDP growth of Sub-Saharan Africa oil and non-oil exporters

(percent)



Source: World Bank staff estimates.

Table A1.5 Sub-Saharan Africa forecast summary

(percent per year)

Growth rates/ratios	1991–2000	2000	2001	Baseline forecast 2002	2003	2004	2005–15
Real GDP growth	2.2	3.2	2.9	2.5	3.2	3.8	3.7
Private consumption per capita	−0.6	−1.4	0.7	0.3	0.8	1.3	1.2
GDP per capita	−0.4	0.7	0.5	0.1	0.9	1.5	1.5
Population	2.6	2.5	2.4	2.4	2.3	2.3	2.2
Gross domestic investment/GDP[a]	16.9	17.9	18.7	18.9	18.6	18.2	21.1
Inflation[b]	9.8	6.3	5.4	4.3	3.9	4.2	...
Central gvt. budget balance/GDP	−3.0	−0.6	−0.3	−0.4	−0.5	−0.3	...
Export market growth[c]	14.4	10.8	0.1	2.4	7.1	7.8	...
Export volume[d]	4.1	4.3	2.8	1.1	5.3	5.8	...
Terms of trade/GDP[e]	0.0	2.1	−1.1	−1.5	0.2	−0.8	...
Current account/GDP	−2.1	−2.3	−2.2	−3.0	−1.8	−1.2	...
Memorandum items							
GDP growth: SSA excluding South Africa	2.7	3.3	3.6	2.7	3.7	4.2	...
Oil exporters	2.5	4.8	4.4	2.0	3.6	3.8	...
CFA countries	2.6	2.3	3.2	2.9	3.3	3.8	...

... Not available. SSA is Sub-Saharan Africa. CPA is Communaute Financiere Africaine.
a. Fixed investment, measured in real terms.
b. Local currency GDP deflator, median.
c. Weighted average growth of import demand in export markets.
d. Goods and nonfactor services.
e. Change in terms of trade, measured as a proportion to GDP (percentage).
Source: World Bank baseline forecast, November 2002.

accounts, tourism has been slow to recover from the effects of September 11, but the weaker rand boosted net visibles trade, and the current account balance moved back into a small surplus. The main concern for the South African economy was an uptick in inflation—not surprising after a nearly 40 percent depreciation of the rand in 2001, but nevertheless putting upward pressure on interest rates. Robust wage gains were only partially offset by higher productivity, resulting in a substantial rise in unit labor costs. Nevertheless, indications are that monetary restraint will prevail, and the outlook is for inflation to ease. The rand stabilized at an average of 10.9 against the dollar in the first three quarters of the year, after weakening to above 12 in late 2001.

In Nigeria, adherence to reduced Organization of Petroleum Exporting Countries (OPEC) quotas more than offset the impact of stronger-than-expected oil prices, while budget gridlock constrained government spending, resulting in a real GDP decline estimated at 0.6 percent from 2001. Unfortunately, the strength of oil revenues may have also relieved pressure to implement urgently needed structural reforms, as evidenced by the discontinuation of the informal monitoring arrangement with the IMF. Politically, the situation remains tense. Local elections have been postponed twice, and national elections are now scheduled for April 2003. President Obasanjo has come under strong pressure by the National Assembly on budgetary issues. If oil prices decrease, as expected in the near term, Nigeria's problems will mount, though there are indications that these problems may be offset by a significant medium-term expansion of the energy sector, consistent with expected OPEC policies. The United States is particularly interested in expanding oil purchases from Nigeria in an effort to diversify sources of supply to decrease dependence on the Middle East.

Near-term outlook

The forecast calls for growth to accelerate in 2003–04 on the strength of a pickup in external performance. Overall, the forecast anticipates real growth rising to 3.2 percent in 2003 and 3.8 percent in 2004, around 1.1 percent in per capita terms. Faster growth in Europe will boost export volumes, and price trends will remain broadly favorable as supply-demand balances for most commodities tighten with the recovery in the world economy. Cocoa, already at a 15-year high, is the main exception. Oil prices are expected to ease, though they remain significantly above late-1990s lows. While large, real price gains for commodities important to Sub-Saharan Africa are unlikely to be sustained in the medium term, the widespread introduction of structural reforms and market liberalization are expected to raise export competitiveness, and the region should remain a significant commodity supplier for the foreseeable future. On balance, with import price inflation remaining low, non-oil exporters' terms of trade are forecasted to strengthen marginally in 2003–04.

Along with a modest improvement in external sectors, the forecast assumes a stronger domestic performance. The expectation is for a return to more normal weather conditions, which will underpin a recovery of agriculture and consumption spending, while faster growth stimulates a cyclical upturn in investment. Overall, domestic demand will remain the primary source of GDP growth, as rising import demand—constrained mainly by the availability of financing—holds net exports in check. Indeed, current account balances are expected to narrow marginally as foreign direct investment eases back from recent levels with a slowdown in privatization offerings such as Air Madagascar, though at the same time more favorable economic conditions overseas should have a positive impact on remittances.

For the region's oil producers, weaker export prices will be offset by higher production. Major new offshore developments are scheduled to come onstream in the Gulf of Guinea (Angola, Equatorial Guinea, and Nigeria) over the next few years, and despite the fall in prices oil sectors should remain highly

profitable. As in the past, however, more general spillovers to non-oil sectors will be relatively muted. As a result, growth of oil producers will improve from 2 percent in 2002 to 3.6 percent in 2003 and 3.8 percent in 2004. Falling terms of trade will widen current account deficits, though oil prices are expected to remain comparatively strong, above $20 per barrel, containing the pressure on external performance and fiscal accounts.

Long-term prospects

The forecast anticipates per capita growth averaging 1.5 percent over the 2005–15 period, near the levels achieved in the mid-1990s. The outlook is optimistic—such a result would signify a reversal of the region's long-term historical decline—but even so growth will fall short of what is needed to reduce poverty and achieve the Millennium Development Goals. Sub-Saharan Africa will continue to lag behind other developing regions, and by 2015 the number of persons living on less that $1 per day is forecasted to rise by nearly 30 percent, from 315 million to 404 million.

The outlook is predicated on a continuation of broad trends toward better standards of governance and economic policies. The great majority of countries in the region have begun preparing Poverty Reduction Strategy Papers, and nine are in different stages of implementation of the strategies. Early results seem promising. At the same time, NEPAD (the New Partnership for Africa's Development) and other regional initiatives are enhancing the credibility of governments and strengthening intraregional cooperation. There has been encouraging progress as well toward resolving intractable conflicts in central Africa, even though events in Côte d'Ivoire, Madagascar, and Zimbabwe underscore the fragility of the region's political processes. Improved policy environments should stimulate faster productivity growth and diversification from agriculture, and reduce export dependence on primary commodities.

These internal developments, coupled with modest improvements in the external environment, will promote diversification, encourage higher savings and investment, and stimulate productivity growth. Despite a dismal overall record, the region boasts a number of exemplary performers (Botswana and Mauritius) and cases in which policy reform has produced dramatic turnarounds (Ethiopia, Mozambique, Tanzania, and Uganda). At the same time, a panoply of deep-rooted problems will continue to plague economic performance. There are no quick solutions to low levels of human and physical capital, poor infrastructure, HIV/AIDS, civil strife and negative perceptions of international investors, and excessive export specialization will continue to expose external sectors to high price volatility. Nevertheless, if the new realism that appears to be taking hold on the continent proves to be more than just rhetoric, there is adequate reason to believe the moderate improvement in overall performance that the forecast anticipates can be achieved.

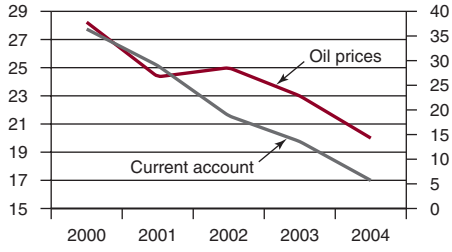
Middle East and North Africa

Recent developments

Despite a continuation of high oil prices, growth in the Middle East and North Africa (MENA) region slowed in 2002 to 2.5 percent, down from 3.2 percent in 2001 as the events of September 11, 2001, continue to reverberate throughout the region.

For the oil-exporting countries, growth remained above 2 percent. The larger increases in growth that might have been expected from both high oil prices and increased public expenditures were offset by a slowdown in production and exports, a result of tightened OPEC quotas put into place in 2001 to support higher oil prices. To counter these effects, some oil exporters have implemented expenditure programs financed with increased oil revenues. In the absence of a strong private investment response to the reform program it had implemented, Algeria, for example, put a four-year economic recovery program in place worth about 10 percent of 2001 GDP, aimed at

Figure A1.7 Oil prices and current accounts



Source: World Bank staff estimates.

supporting growth in domestic demand while enhancing social and economic infrastructure.

Diversified exporters faced worsening conditions in 2002, with GDP growth falling to 2.2 percent, a decline of 2 percent from 2001. External factors leading to this decline include the deterioration in export market growth for Egypt, Morocco, and Tunisia, as well as sharp declines in the tourism sector in North Africa and the several countries in the Levant, following the events of September 11, 2001. In Egypt, the number of tourists fell 41 percent year-on-year in the last quarter of 2001, and even by the end of the first half of 2002, tourism had not yet returned to precrisis levels. In Morocco, tourist arrivals were down by over 20 percent in the first half of 2002. For some countries in the region, however, the declines in tourism from abroad have been partially offset by MENA nationals diverting their tourism to within the region. Tourist receipts may likely show an even larger decline than tourist numbers, as many firms in the tourist sectors have discounted heavily. Exports to the EU have also suffered, in particular Moroccan textiles and electronics exports to the EU. Jordan has been somewhat insulated from this situation, as its export demand from India and the United States continued to grow quite strongly in 2002.

Internal factors have also contributed to a decline in growth in several countries. The positive agricultural growth of 2001 in Morocco slowed down somewhat in 2002 because of the less favorable weather conditions. To prevent a potentially steep increase in the current account deficit, fiscal and monetary policies were tightened in Tunisia; this action contained domestic demand pressures and reduced pressures on external balance but exacerbated the impact of the slowdown stemming from the external shocks. Though tourism has begun to recover gradually in Egypt, the recovery of the private sector has been hampered by unresolved problems with the exchange rate regime, which have their roots in the late 1990s.

Short-term prospects

Growth prospects for MENA are clearly contingent upon whether military actions are taken in the region. Assuming that there is no conflict over the next year (and thus that there is a gradual resumption in confidence in the region), the region's growth is forecast at 3.7 percent for 2003–04. A recovery would be expected for both oil-exporting countries and diversified exporters. The public expenditure programs being implemented by oil-exporting countries over the next several years to improve infrastructure, agriculture, and support reforms in social sectors would help to increase the public sector's contribution to growth. Growth is expected to average 3.6 percent

Figure A1.8 Export volume growth

Source: World Bank staff estimates.

Table A1.6 Middle East and North Africa forecast summary

(percent per year)

Growth rates/ratios	1991–2000	2000	2001	Baseline forecast 2002	2003	2004	2005–15
Real GDP growth	3.2	4.2	3.2	2.5	3.5	3.7	3.2
Private consumption per capita	0.3	1.4	1.1	0.6	0.8	0.8	1.1
GDP per capita	1.0	2.2	1.3	0.6	1.5	1.7	1.4
Population	2.2	2.0	1.9	1.9	1.9	1.9	1.8
Gross domestic investment/GDP[a]	21.2	21.6	22.0	22.5	22.7	22.9	24.3
Inflation[b]	6.0	4.8	4.2	4.1	4.0	4.0	…
Central gvt. budget balance/GDP	−1.1	−1.4	−1.1	−2.1	−2.4	−2.4	…
Export market growth[c]	10.1	13.3	−1.0	3.0	7.8	8.2	…
Export volume[d]	5.0	7.6	2.4	2.7	5.7	5.8	…
Terms of trade/GDP[e]	0.5	8.4	−0.9	−0.9	−1.1	−1.4	…
Current account/GDP	−2.1	6.8	5.2	3.3	2.3	0.9	…
Memorandum items							
GDP growth: Oil exporters	2.4	3.6	2.4	2.4	3.7	3.6	…
Diversified exporters	4.0	3.7	4.3	2.2	2.7	3.6	…

… Not available.
a. Fixed investment, measured in real terms.
b. Local currency GDP deflator, median.
c. Weighted average growth of import demand in export markets.
d. Goods and non-actor services.
e. Change in terms of trade, measured as a proportion to GDP (percentage).
Source: World Bank baseline forecast, November 2002.

for the oil-exporting countries, supported by likely increases in OPEC oil quotas in 2003 to meet growing demand in a period of tight crude inventories. Additionally, Algeria's crude production capacity is set to increase, and its gas exports are expected to experience growth unfettered by quotas, indicating higher growth in the short term. However, much of the growth increase in Algeria in the medium term would come from the large public sector stimulus currently under way. This would revive domestic demand for the duration of the expenditure program. In Saudi Arabia, the stock market is performing well, and credit to the private sector is rising, auguring favorably for 2003–04. The Islamic Republic of Iran will see the revival of the agricultural sector after several years of drought, with the expansion in gas exports and the continuing relaxation of import restrictions buttressing growth in the non-oil sector.

Growth in diversified exports would be expected to increase to 2.7 percent in 2003 and 3.6 percent in 2004. Export market growth would be expected to rise considerably in 2003–04, and the tourism industry would also be expected to recover from its slide since September 11, 2001, as the external environment gradually improves through 2004. Some of the diversified exporters, such as Morocco and Tunisia, will not be able to rely on government stimulus for growth because of the need to pursue fiscal consolidation and keep large inflexible expenditures, especially the government wage bill, under control. Overcoming the vulnerabilities unveiled by the external shocks would call for a faster pace of structural reforms to improve prospects for private sector investment. Morocco must rely on privatization receipts to lower budget deficits, but this financing option will diminish over the medium term as the better candidates for privatization are sold off and the revenues from the former parastatals decrease, implying higher deficits in the future unless expenditure reforms occur. This will require, among other things, public sector reforms, in particular reforms related to the wage bill,

that underlie high expenditures. Weaknesses will remain in the private sectors of several countries. Jordan is weathering the downturn more successfully than other countries because of the high demand for its exports in India and the United States, but weak consumer demand and subdued rates of lending to the private sector indicate that domestic weakness will continue. Egyptian private sector activity is weak, reflecting credit conditions and tight monetary policy (although the recent 100 basis point fall in the discount rate to 10 percent will help somewhat); falling bank earnings in 2002 indicate that private sector investment will remain sluggish in the short term. In the current policy context, the government will continue expansionary fiscal policy despite already high deficits and will put off the implementation of reforms that might have the potential for high social costs.

Recent political events obviously cast a shadow over prospects in the region. The continuing uncertainty stemming from the potential actions against Iraq would significantly affect the gradual recovery in the short-term forecast. Oil exporters would benefit from increased quotas and higher oil prices initially, but these impacts would probably be short lived. Diversified exporters would suffer more, particularly from declines in the tourism industry. Even the expectations surrounding military action within the region could significantly affect growth in the short term. Moreover, the effects of military action on confidence in already fragile global capital markets may lead to increased spreads and a flight to quality, particularly from countries in the region close to the field of war.

Long-term prospects

Even if relatively stronger growth performance is managed in the short term, growth in the long term is expected to average just over 3.2 percent.

The policy environment affecting long-term growth is gradually improving in many countries in the region, albeit at a gradual pace. Jordan is reaping the benefits of a more open trade regime, and many of the North African countries are pressing ahead with more liberal trade relations. However, budget deficits in these countries could lead to problems, particularly in those countries that rely heavily on privatization revenues to finance increased expenditures. The temporary nature of receipts from privatization makes reforms in public expenditures (and the public sector policies that underlie them) and taxation of paramount importance in the future. Furthermore, many of the Mediterranean countries are currently facing sluggish growth or stagnation in the private sector, with low levels of growth in private investment. This indicates the need for strengthening the investment climate and removing bottlenecks in access to finance and backbone productive inputs that hamper private sector investment. In Egypt, long-term prospects appear weak. The policy reform agenda has slowed, mirroring the slowdown in the domestic economy. The current policy mix includes an expansionary fiscal policy to counter the tight monetary policy necessary to support the exchange rate.

In the oil-exporting countries, Iran has unified its exchange rate, allowed the formation of private banks, reaffirmed its commitment to privatization, and is pushing ahead with fiscal reforms. Algeria is considering the deregulation of the power industry and opening the sector to private investment, and has announced the privatization of public companies. In Saudi Arabia, customs tariffs have been reduced to pave the way for a customs union with the Gulf Cooperation Council in 2003, negotiations are under way with the WTO, and new legislation is being prepared to increase competition in domestic capital, labor, and insurance markets. However, many of these changes are occurring very gradually, and some are being greatly delayed. Algeria has not pushed ahead with its announced privatizations, and reform in the power sector is very slow. Many of the oil-exporting countries in the region still have large and inefficient

public sectors, and low rates of private investment in the non-hydrocarbon sectors. Reforms in these sectors leading to efficiency gains and higher potential growth rates will be required.

In the long term, the region has to continue to address several obstacles. The region relies very heavily on a narrow range of external revenue sources, particularly oil, remittances, and tourism, and this reliance introduces the potential for vulnerability in export earnings. Although several countries have adjusted nominal exchange rates in recent years, fixed exchange rate regimes in several countries may adversely affect export competitiveness and offset gains made from trade and customs reforms. Receipts from tourism and remittances are vulnerable to the sluggish income growth in source countries and recurring political conflicts and potential military action in the region. Oil revenue windfalls are usually temporary, and real long-term oil prices are expected to decline, particularly after 2005–06, when Caspian oil production is expected to come onstream.

Notes

1. At both the June 2002 summit in Seville and October 2002 summit in Brussels, the European Community (EC) confirmed that eight of the ECA EU accession candidate countries (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic, and Slovenia) are on track to conclude accession negotiations at the end of 2002 and to sign formal accession treaties in 2003. The official target is for enlargement to happen in time for the mid-2004 European Parliament elections. Bulgaria and Romania are at an earlier stage in the accession process and are expected to accede somewhat later. Turkey is also an accession candidate, although it has yet to begin formal negotiations.

2. Following the forthcoming EC Copenhagen summit in mid-December 2002, the existing 15 EU member countries' national parliaments will vote to approve or reject enlargement.

3. WTTC. 2002. The Impact of Travel and Tourism on Jobs and the Economy—2002. http://www.wttc.org.

Appendix 2
Global Commodity Price Prospects

Crude oil prices increased about 3 percent in 2002 as a result of tight supplies and Middle East tensions. Non-oil prices increased about 5 percent, led by a 9 percent increase in agricultural commodities, which more than offset a 4 percent decline in metals and minerals (figure A2.1). Uncertainty about the strength of the global economic recovery contributed to the decline in metals and mineral prices, but the effect of uncertainty on agricultural prices was offset by lower supplies of selected commodities, such as grains and oilseeds, because of drought. The weakness in the U.S. dollar supported commodity prices.

Crude oil prices are expected to remain firm in early 2003 because of the potential for military action against Iraq and tight supply conditions resulting from production restraint on the part of the Organization of Petroleum Exporting Countries (OPEC). Once Middle East tensions ease, oil prices are expected to decline because non-OPEC oil supplies will increase and Iraqi oil will return to the market. The average price of crude oil is projected to decline from $25 per barrel in 2002 to $23 per barrel in 2003. By 2005, crude oil prices are projected to decline to $19 per barrel.

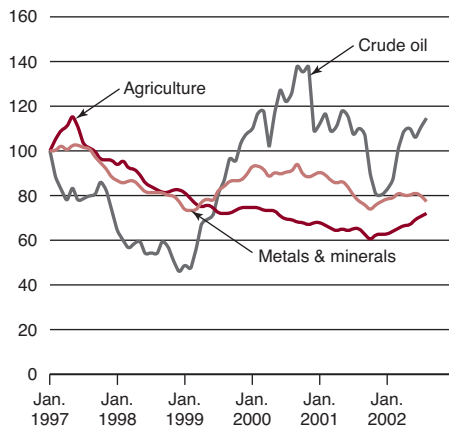
Non-oil prices are in the early stages of price recovery. That recovery is expected to last about three years before nominal prices will begin to weaken. The strength of the global economic recovery will strongly influence the timing and strength of the recovery in metals and mineral prices. However, the recovery of agricultural prices will be more strongly influenced by supply increases and by recent weather disturbances such as El Niño and droughts. The index of nominal non-oil commodity prices is projected to increase by 5.8 percent in 2003 and by nearly 8 percent by 2005 in real terms. (Specific forecasts for commodity price and price indexes for 2002, 2003, 2005, 2010, and 2015 in current and constant dollars are given in tables A2.13–A2.15 later in this appendix.)

Agricultural commodity prices appear to have reached a cyclical low, after declining since mid-1997, and by 2005 nominal prices are expected to increase about 13 percent over 2002 levels. The increases will leave nominal prices of most agricultural commodities well below 1997 highs. Prices of specific agricultural commodities have declined much more than the average decline because of large supply increases, weak demand, or both. Some of those prices are not expected to recover to 1997 levels for the foreseeable future. Because of large supply increases from Vietnam and Brazil and because of slow growth in demand despite low prices, robusta coffee prices, for example, have fallen to nominal lows not seen since the 1960s. In 2002, cotton prices fell to nominal levels, which were last seen in 1986 and the mid-1970s. Palm oil prices declined by more than half from 1998 to 2002 and reached nominal levels last seen in 1986.

In real terms,[1] robusta coffee prices fell 85 percent from 1980 to 2001, and cotton

Figure A2.1 Commodity price trends

(index, January 1997 = 100)



Source: World Bank.

prices fell 61 percent from 1980 to 2002. Real palm oil prices declined 60 percent from 1980 to 2001. The extreme price declines in agricultural commodities resulted from a number of factors, including large increases in productivity, slow growth in demand caused by falling population growth rates and income elasticities, and policies that support production in high-income countries. Several large commodity exporters experienced depreciation of exchange rates. That depreciation, which was linked to Asia's economic crisis, further contributed to price declines.

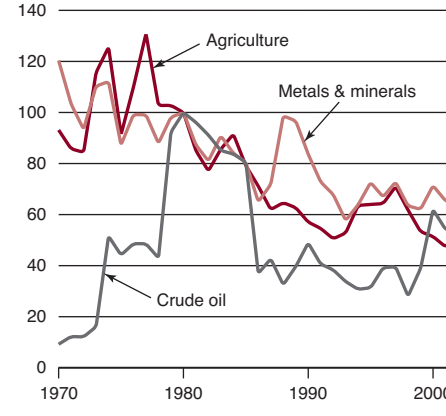
Metals and mineral prices fell about 4 percent in 2002 as a result of weak demand, high stocks, and continued production increases. A recovery in prices following the October 2001 lows stalled in 2002 as the economic recovery slowed and as industrial demand failed to rebound as expected. Most metal markets were in surplus, and stocks remained high. A number of metal producers closed their production facilities in an attempt to prevent further stockbuilding and price declines. Despite such efforts, production increased in a number of countries. That increase, coupled with an absence of strong growth in demand, pressured prices lower. Nickel has been the one major metal to sustain price increases that can be attributed to low stocks and expectations of tight supplies. Gold prices also rose strongly in 2002, mainly because of the buyback of producers' hedge positions. However, the decline in equity markets, weakening of the U.S. dollar, and nervousness about military activity in the Middle East also contributed to the price rise.

Crude oil prices began 2002 below $20 per barrel because of weak demand, increasing supplies from non-OPEC producers, and overquota production in several OPEC members. Nevertheless, OPEC production restraint has been sufficient to bring prices back to the top of OPEC's targeted range of $22 to $28 per barrel. Significant OPEC cutbacks, which commenced in early 2001, started to draw down crude oil stocks during the second half of 2002 and generally supported higher prices. In addition, increasing uncertainty about a supply disruption from a possible U.S. attack on Iraq helped push prices higher—to near $30 per barrel.

Real commodity prices declined significantly from 1980 to 2001, with the World Bank's index of agricultural prices down 53 percent, crude oil prices down 46 percent, and metals and mineral prices down 35 percent (figure A2.2). Such declines in commodity

Figure A2.2 Real commodity prices

(index, 1980 = 100)



Source: World Bank.

prices, relative to manufactures prices, pose real challenges for developing countries that depend on primary commodities for a substantial share of their export revenues. The declines are expected to continue in the longer term as productivity increases in commodities continue to outpace those in manufactures.

Agriculture

Agricultural commodity prices are expected to increase about 9 percent in 2002 after falling 9 percent in 2001. The increase follows sharp declines from 1997 to 2001 that reduced the World Bank's index of annual agricultural prices by 38 percent. Prices are expected to increase 13 percent from 2002 to 2005 in nominal terms. That increase will recover a little more than one-third of the 1997–2001 decline. The recovery of prices is expected to be modest because of weak growth in demand, continued rapid increases in production and productivity, and high stocks in some commodities, such as coffee, cotton, and sugar. Real prices will rise an estimated 11 percent from 2002 to 2015. However, the rise in real prices is a reflection of current low prices rather than a change in the long-term trend of declining prices relative to manufactures.

There has been considerable disparity among commodities: prices of some commodities (cocoa) reached multiyear highs in 2002, while others (coffee and cotton) have recently reached new lows or continue to decline. The disparity is related partly to the different levels of carryover stocks, and partly to the effects of weather conditions on supply. Droughts in Australia, Canada, and the United States reduced yields and contributed to increases in grain and oilseed prices.

The United States enacted a new farm bill, which will be in effect from 2002 to 2007. The bill raised price supports for many commodities and included some commodities that had not previously been included under government programs (see box A2.1). The European

Box A2.1 U.S. Farm Bill

On May 13, 2002, the United States enacted a new farm bill, the Farm Security and Rural Investment Act of 2002. The new bill covers a six-year period, from 2002 to 2007. Low commodity prices had led to a series of annual bailouts to supplement regular subsidy programs under the previous law. The new farm bill essentially extends those temporary bailouts through the six-year life of the bill.

The key features of the new farm bill are higher price supports for major crops, the revival of target prices to give more subsidies to producers when world prices fall, and a large increase in conservation programs. The bill continues fixed annual payments to grain and cotton farmers. It creates a new target price system similar to the one abolished in 1996, to provide supplemental payments when prices fall below certain levels—except that acreage set-asides are no longer necessary for farmers to qualify for payments under the new bill. It allows farmers to update planting records that are used in calculating certain program payments. The bill also establishes new subsidies for dairy farmers as well as for producers of lentils, chickpeas, peanuts, honey, wool, and mohair. It expands the Conservation Reserve Program, which pays farmers to let environmentally sensitive land stand idle, and it establishes a new Conservation Security Program to pay crop farmers for improved environmental practices.

Under the 1994 Uruguay Round Agreement on Agriculture, the United States agreed to limit spending on domestic agricultural support programs, which are considered trade distorting, to $19.1 billion per year. Since payments are not fixed, but are determined by the levels of market prices as well as the levels of support, it is not possible to know whether payments under the new farm bill will exceed the agreed limit. If it appears that this limit will be met or exceeded, the U.S. Congress has instructed the U.S. Department of Agriculture (USDA) to take steps to reduce payments so as not to exceed this limit.

Source: Bank staff.

Box A2.2 E.U. Common Agricultural Policy

President Chirac of France and Chancellor Schroeder of Germany reached a budget agreement on the Common Agriculture Policy (CAP) in Brussels October 26–27, 2002. The agreement limits CAP budgets to increases of 1 percent annually from 2006 to 2013 from an estimated budget of 45.6 billion euros in 2006. Total direct and indirect support to E.U. agriculture was estimated at 117.9 billion euros in 2001 by the OECD; more than half of that support comes from higher food prices paid by consumers.

Participants in the Brussels summit proposed that agricultural support to new E.U. accession countries increase from 25 percent of current member-support levels when those countries join in 2004 to 40 percent in 2007 and parity by 2013. The agreement puts a limit on CAP spending increases even after the 10 accession countries join in 2004, a limit that could necessitate CAP reforms as the accession countries' support levels increase or that could require shifting of funds from farmers in current member countries.

E.U. Agriculture Commissioner Franz Fischler had proposed radical CAP reforms in July 2002 in the Midterm Review of Agenda 2000. The reforms would shift income support away from production of surpluses and toward meeting of tough environmental, animal welfare, and food safety standards. According to the proposal, E.U. farmers would get a single decoupled payment based on historical references—regardless of whether they continue production on the same scale. Direct spending on farmers would be cut by 3 percent per year over seven years, and the savings would be spent on rural development. Aid to large farms would be capped. This proposal has proved controversial, and several European states have indicated their opposition to changing the current system.

Sources: Agra Europe Ltd., London and European Commission. Information about the Common Agricultural Policy can be found on the European Union Web site: http://europa.eu.int/pol/agr/index_en.htm.

Union reached an agreement that limits future budget increases for the Common Agricultural Policy through 2013 (see box A2.2).

Beverages

The World Bank's index of beverage prices (comprising coffee, cocoa, and tea prices) increased about 17 percent in 2002, largely because of a 70 percent increase in cocoa prices. In contrast, coffee and tea prices remained weak. The sharp increase in cocoa prices reflects production problems and the recent coup attempt in Côte d'Ivoire, a major producer of cocoa. The weakness in coffee prices can be attributed to large stocks, weak demand, and large production increases by major exporters. Tea prices declined as a result of abundant supplies and weak growth in demand.

Coffee. Coffee prices fell to record lows and became the most visible symbol of the declines in agricultural commodity prices during 2002. In real terms, coffee prices are currently less than one-third of their 1960 level. The decline reflects mostly the surge in supplies, but the equally important longer-term problem is weak demand. According to the U.S. Department of Agriculture (USDA), per capita annual coffee consumption in the major importing countries has been stagnant, at about 4.5 kilograms of green coffee equivalent, during the past decade.

Global coffee production in the 2002–03 season is expected to increase 10.7 percent from last season's 110.7 million bags (table A2.1). Brazil, the dominant producer with one-third of global output, is expected to produce a record 46.9 million bags, while Colombia and Vietnam, the second and third largest producers, will each reach about 10 million bags.

A number of unsuccessful attempts have been made to arrest the price decline. The Association of Coffee Producing Countries, which has urged coffee producers to join its

Table A2.1 Coffee production in selected countries
(million bags)

	1997–98	1998–99	1999–2000	2000–01	2001–02	2002–03
Brazil	22.8	35.6	30.8	34.1	33.7	46.9
Colombia	12.2	10.9	9.5	10.5	11.0	10.9
Côte d'Ivoire	3.7	2.2	5.7	4.3	3.3	3.3
Indonesia	7.8	6.9	6.7	6.5	6.0	5.8
Mexico	5.1	5.0	6.2	4.8	4.7	5.2
Vietnam	6.9	7.5	11.0	15.3	12.3	10.5
World	96.4	108.4	113.3	117.0	110.7	122.6

Source: U.S. Department of Agriculture.

export retention scheme for the past three seasons, ceased operating on February 1, 2002. A plan backed by the International Coffee Organization, which called for removal of low-quality coffee beans from the market, was not well supported by some coffee-producing countries because it did not compensate producers of low-quality beans. A number of countries have also undertaken their own price-support schemes or stock-holding mechanisms. Brazil, for example, has subsidized put options to effectively guarantee a minimum price to producers. While such schemes may be partially successful in the short run, they could exacerbate the oversupply problem in the long run.

We project a recovery in both robusta and arabica prices in 2003 and a further recovery in arabica in 2004. Nevertheless, we recognize the risk that it may take longer for the recovery to materialize if the recent supply surge persists. Over the long term, real coffee prices are expected to recover, but they will remain well below the historical highs of the 1970s and more recent highs of the 1990s. By 2015, real arabica and robusta prices are projected to increase about 75 percent from the 2002 levels. Prices would still be about only half of their 1990s peaks.

Cocoa. Cocoa prices led the recovery of agricultural commodity prices, after falling to a three-decade low in February 2000. Since then, cocoa prices have more than doubled to a 16-year high amid supply disruption in major producers from political instability and from producers' responses to extremely low prices. Production in two major producers, Côte d'Ivoire and Ghana, is estimated to be down 4 percent and 2 percent, respectively, in the just-ending 2001–02 marketing season. The extreme price increases in response to such relatively small changes in output were partly caused by speculative buying by commodity funds. In addition, uncertainty about the reliability of supplies prompted strong demand from processors.

Cocoa prices are expected to remain at their 2002 level next year. They will decline 12 percent in 2004 as production continues to increase. This forecast is based on the assumptions that (a) the strong prices enjoyed this season have already given incentives to growers to maintain their trees and to increase production; (b) part of the recent surge in prices may have been caused by speculative activities of a short-term nature that are unlikely to be carried over into the next year; and (c) the recent coup attempt in Côte d'Ivoire has been repelled.

In response to high prices, growth in demand for cocoa in the current and next marketing season is expected to slow from the 1990–2000 average of 2.4 percent. But it should then return to historical growth rates (table A2.2). By 2015, real prices are projected to decline 25 percent from 2002 levels.

Tea. The three-auction average tea price fell 6 percent in 2002 as supplies continued to increase relative to demand and stocks remained high (table A2.2). Production in major exporters (India, Kenya, and Sri Lanka) was up

Table A2.2 Global balance for beverages

	1970	1980	1990	1999	2000	2001	Annual growth rate (%) 1970–80	1980–90	1990–00
Coffee *(thousand bags)*									
Production	64,161	86,174	88,849	113,345	117,049	110,773	2.11	1.36	1.20
Consumption	71,536	79,100	96,300	104,670	106,580	108,450	1.01	1.97	0.22
Exports	54,186	60,996	76,163	92,256	89,968	88,788	0.78	2.41	1.68
Cocoa *(thousand tons)*									
Production	1,554	1,695	2,506	3,073	2,812	2,750	0.46	4.62	1.16
Grindings	1,418	1,556	2,335	2,967	3,014	2,823	0.16	4.48	2.58
Stocks	497	675	1,791	1,341	1,111	1,101	2.38	13.89	−4.66
Tea *(thousand tons)*									
Production	1,286	1,848	2,516	2,900	2,960	3,030	4.09	2.87	1.49
Exports	752	859	1,132	1,259	1,330	1,389	2.35	2.39	1.62

Notes: Time reference for coffee (production and exports) and cocoa are based on crop year shown under the year that production begins: October to September for cocoa and April to March for coffee. Coffee consumption and tea data are based on the calendar year.
Sources: International Coffee Organization (ICO), International Cocoa Organization (ICCO), Food and Agriculture Organization (FAO) of the United Nations, International Tea Committee (ITC), U.S. Department of Agriculture, and World Bank.

4 percent in 2001—the last year for which data are available. Other exporters, such as China and Vietnam, have also been increasing exports rapidly, and such increases could further weaken prices.

Prices are projected to increase modestly from the 2002 lows (up 3 percent in 2003), but they will remain depressed relative to the highs in 1997 and 1998. If emerging exporters, such as Vietnam, continue to increase exports, there is a significant risk that prices could continue to fall. However, higher petroleum export prices in the Russian Federation and in major consuming countries in the Middle East have historically supported demand, and we expect tea prices to begin a gradual recovery. By 2005, we project nominal tea prices to rise 10 percent from 2002 levels, which would leave nominal prices down 20 percent from 1997 levels.

Figure A2.3 Food prices
(index, 1990 = 100)

Source: World Bank.

Food

The index of food prices has not changed for several years after declining sharply during 1997–99 (figure A2.3). The index rose about 4 percent in 2002 and is expected to rise 7 percent in 2003 and 2 percent in 2004 because of higher grain and oilseed prices following this year's drought in major grain- and soybean-exporting countries. By 2015, real prices should decline about 2 percent from 2002 levels.

Fats and oils. Prices of fats and oils recovered 13 percent in 2002 after falling 40 percent from 1997 to 2001. The increase was greatest in vegetable oils such as palm oil (up 35 percent) and coconut oil (up 30 percent)

because of lower production. Meal prices remained weak, with soymeal down 3 percent because of weak demand for livestock and poultry feeds. Prices of most fats and oils are expected to increase during 2003–05, and the index of prices is expected to increase 13 percent in nominal terms from 2002 to 2005.

Global production of the major fats and oils is expected to increase about 2 percent in 2002–03, while consumption is expected to increase by 3.2 percent, causing stocks to decline and prices to continue increasing. Palm and soybean oil production is the largest among the vegetable oils. Together they represent 40 percent of total vegetable oil production. World soybean production is expected to remain constant in 2002 because of drought in the United States, after growing by 5.3 percent per year since 1990. This stoppage in growth has led to higher soybean prices and reduced stocks in 2002 and is expected to support higher prices in 2003. Other major producers (table A2.3) are expected to increase soybean production despite economic problems and uncertainties.

Palm oil production has more than doubled since 1990 (table A2.4), with the largest increases coming from Indonesia and Malaysia. However, production is expected to increase a more modest 2 percent in 2002–03.

Grains. World grain stocks, relative to use, are expected to fall significantly during the current crop year (table A2.5), and the declines are expected to keep grain prices rising through 2003. Prices should then decline as production increases in response to price increases. There is a risk that grain prices could continue to rise even more sharply than projected if the drought continues in the major exporting countries, or if other major grain producers have lower-than-expected production. Wheat prices are projected to rise an additional 19 percent in nominal terms by 2003 after increasing nearly 20 percent in 2002. Prices are then expected to decline 6 and 12 percent in 2004 and 2005, respectively, as production responds to the higher prices. Maize prices rose 12 percent in 2002 and are expected to rise an additional 25 percent by 2003 before declining in 2004 and 2005. Rice prices rose 11 percent in 2002 and are expected to rise an additional 22 percent by 2005.

Stocks in the major grain exporting countries—the United States, the European Union, Canada, Australia, and Argentina—are expected to fall to the lowest level in 2003–03, relative to total use, since 1997–98. The decline is mostly attributable to the droughts in the United States, Canada, and Australia, which are expected to reduce grain yields by 9,

Table A2.3 Soybean production
(million tons)

Year	Argentina	Brazil	United States	World
1990	11.5	15.8	52.4	104.1
1995	12.4	24.2	59.2	124.9
2000	27.8	39.0	75.1	175.1
2001	29.5	43.5	78.7	183.7
2002	30.0	48.0	71.5	183.3

Note: Argentina, Brazil, and the United States account for about 80 percent of global production.
Source: U.S. Department of Agriculture.

Table A2.4 Palm oil production
(million tons)

Year	Indonesia	Malaysia	World
1990–91	2.41	6.10	11.03
1995–96	4.22	7.81	15.22
2000–01	7.53	11.94	23.54
2001–02	8.20	11.65	23.98
2002–03	8.50	11.82	24.53

Source: Oil World.

Table A2.5 Global grain stocks-to-use
(percentages, excluding China)

Year	Maize	Rice	Wheat	Total grains
1997–98	10.1	8.8	17.0	13.1
1998–99	11.5	9.6	18.6	14.0
1999–2000	11.4	11.5	17.7	13.7
2000–01	11.5	12.9	19.0	14.3
2001–02	10.1	13.7	21.1	15.1
2002–03	6.0	10.9	19.9	12.7
1990s low	6.0	7.8	13.9	9.7

Source: U.S. Department of Agriculture.

7, and, 6 percent, respectively, in 2002–03 compared with yields in the previous year. An El Niño weather pattern has contributed to the unfavorable weather pattern in Australia and could further reduce production next year.[2] The lower yields in the United States, Canada, and Australia have been partially offset by record grain yields and production in the European Union. Economic problems in Argentina have contributed to lower production and exports from that country, but the largest effect of the economic turmoil is expected to be in the next crop year, because most of the planting and input-use decisions had already been made before the economic crisis fully emerged.

Grain production in developing countries is projected to be down 1.8 percent in 2002–03, with production generally strong in Asia, Latin America, and the Middle East, but lower in Eastern Europe and Russia. Production in China is expected to be up 2.3 percent, while production in India is expected to be down 4.9 percent because of a poor monsoon season.

There is considerable variation in the stock situation in individual grains, with the global stocks-to-use percentage for maize at the lowest levels of the 1990s, while rice and wheat percentages are above previous lows. However, grain prices are highly correlated, and price increases in one grain would normally be reflected in the prices of others. Higher grain prices would benefit developing-country net exporters such as Argentina (which is expected to export more than 22 million tons of grain in 2002–03) while harming net importers such as Mexico and the Arab Republic of Egypt, which are expected to import 13 million and 10 million tons of grain, respectively, in 2002–03.

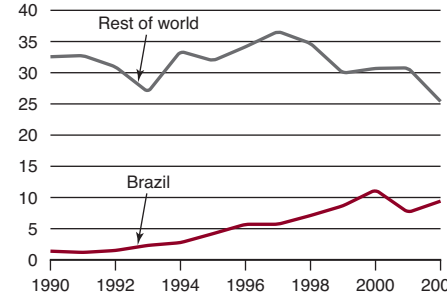
Sugar. Sugar prices fell to 15 cents per kilogram in 2002 (down 21 percent from 2001) to return to the lower end of the trading range of 10–30 cents per kilogram of the past 20 years. The decline follows an estimated 5 percent increase in world sugar production in the marketing year that just ended in August, and an increase in carryover stocks to nearly 50 percent of annual consumption. Brazil, the largest exporter, is expected to have a sugar cane crop that could exceed the previous year's crop by 8 or 9 percent. Imports are expected to be weak because of large production in importing countries. Hence, prices are unlikely to recover significantly in 2003.

Brazil has nearly 30 percent of the export share in recent years and has been the primary source of increased global exports, with production and exports growing rapidly in the past decade (figure A2.4). The other major exporters, Australia and Thailand, increased production by 50 and 70 percent, respectively, from 1990–91 to 1997–98, when sugar prices were attractive. However, they have cut production as prices have declined.

Sugar prices are expected to begin to recover in 2004 as low prices reduce global supplies. However, prices are expected to remain relatively weak for the next several years, with fluctuations depending on the year-to-year balance of production and consumption. By 2005, nominal sugar prices are expected to increase 17 percent over 2002 levels. In the long term, nominal prices are expected to return to the center of the trading range, and real prices are expected to average about 18 cents per kilogram (8.2 cents per pound).

Figure A2.4 Sugar exports

(million tons, raw equivalent)



Source: U.S. Department of Agriculture.

Table A2.6 Global balance for foods

	1970	1980	1990	1999	2000	2001	Annual growth rates (%) 1970–80	1980–90	1990–2000
Grains *(million tons)*									
Production	1,079	1,430	1,769	1,871	1,839	1,860	2.88	1.55	1.04
Consumption	1,114	1,451	1,717	1,869	1,868	1,890	2.58	1.78	1.02
Exports	119	212	206	245	233	231	6.35	0.13	0.94
Stocks	193	309	490	529	500	470	7.24	3.83	−0.56
Soybean *(thousand tons)*									
Production	42,133	62,173	104,093	159,904	175,098	183,724	6.84	1.87	5.08
Consumption	45,968	68,052	104,307	160,541	172,166	184,228	6.53	2.04	4.99
Exports	12,342	20,822	25,388	46,683	55,074	57,127	5.24	0.80	2.88
Stocks	3,394	10,266	20,569	27,908	30,803	30,218	13.83	−0.66	0.20
Sugar *(thousand tons [raw equivalent])*									
Production	70,919	84,742	109,403	138,094	143,220	136,111	2.80	1.59	3.26
Consumption	65,395	91,062	106,807	130,281	133,104	134,712	3.30	1.40	3.00
Exports	21,931	27,571	34,078	38,710	42,015	38,495	3.26	0.83	3.12
Stocks	19,614	19,494	19,299	31,702	35,939	35,474	3.96	−0.77	4.52
Fats and oils *(million tons)*									
Production	39.78	58.09	80.84	113.42	117.09	119.42	3.68	3.54	3.70
Consumption	39.82	56.80	80.87	111.98	116.94	120.74	3.55	3.69	3.64
Exports	8.83	17.76	26.89	35.55	38.10	39.57	7.05	4.19	3.39
Stocks	5.18	9.25	12.15	14.26	14.47	13.19	7.09	2.44	0.69

Note: Time references for grains, soybeans, and sugar are based on marketing years, shown under the year in which production begins, and they vary by country. For fats and oils, crop years begin in September.
Source: U.S. Department of Agriculture and Oil World.

The global balances for major foods are given in table A2.6. The balances show that the rate of growth of production and consumption of grains has slowed during the 1990s compared with previous decades, while growth rates have increased for soybeans and sugar. The growth rates for fats and oils were relatively constant during the 1980s and 1990s.

Agricultural raw materials

The index of agricultural raw materials prices (comprising prices of tropical hardwoods, cotton, and natural rubber) declined sharply during Asia's economic crisis and then stabilized before declining again as supplies of commodities continued to increase (figure A2.5). Prices reached a low in 2001 and have since recovered because of higher cotton and natural rubber prices. Nominal prices are projected to increase 16 percent by 2005 from 2002 levels, while real prices are projected to rise 18 percent by 2015 over 2002 levels.

Cotton. Cotton prices declined an additional 5 percent in 2002 after declining 19 percent in 2001 because of large production increases in the United States and China, the two largest producers (table A2.7). Prices in 2002 were less than half of their 1995 highs, and they reached 30-year nominal lows. The extreme price weakness was caused by a number of factors, such as slow growth in demand, large production, and competition from synthetic fibers. Subsidies to cotton producers in the United States and China have contributed to the production surplus. During the past three seasons, U.S. support to its cotton producers averaged almost $3 billion, and China's support averaged $2 billion.

Cotton production in the coming season is expected to be 19.2 million tons—10 percent

Table A2.7 Cotton production in selected countries
(thousand tons)

Country	1998–99	1999–2000	2000–01	2001–02	2002–03
China	4,501	3,830	4,350	5,320	4,420
Franc zone	897	928	700	1,034	921
India	2,710	2,650	2,350	2,686	2,500
Pakistan	1,480	1,800	1,750	1,853	1,731
United States	3,030	3,835	3,818	4,420	3,826
Uzbekistan	1,000	1,150	960	1,055	1,015
World	18,551	18,887	19,126	21,422	19,157

Source: International Cotton Advisory Committee.

Figure A2.5 Raw materials
(index, 1990 = 100)

Source: World Bank.

lower than in the previous season, with the United States and China accounting for most of the decline. In the United States, the drought has reduced production from the record 2001–02 season. Global consumption is expected to increase about 2.6 percent, according to the latest forecasts by the International Cotton Advisory Committee. Given lower production in combination with higher consumption, we forecast the A Index cotton price to increase 10 percent in 2003 and 16 percent in 2004. By 2015, real prices are projected to increase 30 percent relative to 2002 prices.

Natural rubber. After prolonged weakness following the Asian crisis, natural rubber prices gained momentum at the beginning of 2002, with average 2002 prices rising about 32 percent from 2001. The recovery is mainly a response to adverse weather conditions in Thailand and a slowdown in Malaysia's output growth as natural rubber plantations are being converted to more profitable palm oil plantations. Demand, however, remains weak as car tire manufacturing (the largest demand for natural rubber) in Organisation for Economic Co-operation and Development (OECD) countries is estimated to be down 2 percent in 2002.

The strength in natural rubber prices is likely to persist because supply controls by the Tripartite Rubber Corporation—a trilateral organization formed last year by Indonesia, Malaysia, and Thailand following the collapse of the International Natural Rubber Organization—may restrict exports. We expected natural rubber prices to remain firm, but not increase significantly, in 2003 from 2002 levels because of weak demand that accompanies the apparent slowing of growth in the global economy. By 2005, nominal prices are expected to increase 6 percent from 2002 levels. Over the longer term, real prices are projected to decline—down 3 percent from 2002 to 2015.

Tropical timber. The decline in Asian tropical timber prices since the mid-1990s appears to have ended, and prices have begun to recover from the lows reached at the end of 2001. Nominal timber prices increased about 9 percent in 2002 compared with 2001 prices

as a result of the improved demand from Japan, the weakening of the U.S. dollar relative to the yen, and the continued strong import demand from China. Prices are expected to continue to recover in 2003 and 2004, with annual average increases of 8 percent per year, resulting from improved economic growth in Asia. African sapelli log prices have declined less than Asian log prices, as demand has remained firm in Europe. Sapelli nominal log prices are expected to increase about 5 percent from 2002 to 2005.

Real tropical timber prices are expected to recover from lows, but they are not expected to reach new highs during the forecast period to 2015. By 2015, real meranti log prices are projected to rise 47 percent, while sapelli log prices are projected to rise by only 18 percent. The difference is due to the smaller decrease and, therefore, smaller rebound of African sapelli logs prices compared with Asian meranti log prices.

The global balances for raw materials are given in table A2.8. The data show that cotton production, consumption, and exports slowed dramatically during the 1990s compared with the 1980s. Exports of cotton grew only 0.2 percent during the 1990s, which contributed to the sharp price decline. Growth rates of natural rubber production, consumption, and exports remained nearly constant during the 1990s compared with the 1980s. Tropical timber log production slowed while production of sawnwood increased as timber-producing countries shifted to increased domestic processing. Sawnwood imports increased while plywood imports slowed during the 1990s compared with the 1980s.

Fertilizers

Fertilizer prices remained nearly constant in 2002 after several years of large adjustments (figure A2.6). Import demand remained weak because of low commodity prices and increased local production. However, fertilizer production in major exporters contracted in response to low fertilizer prices. Hence, a market balance was achieved with little pressure on prices. Acreage used for global grain

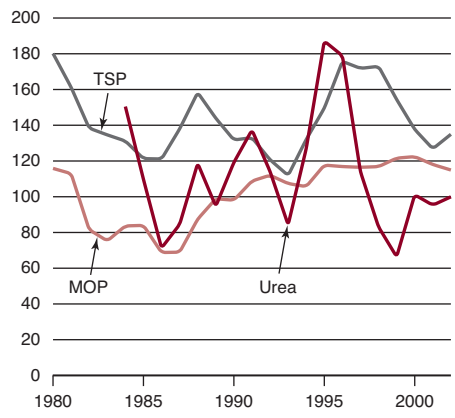
Table A2.8 Global balance for raw materials

							Annual growth rates (%)		
	1970	1980	1990	1999	2000	2001	1970–80	1980–90	1990–2000
Cotton *(thousand tons)*									
Production	11,740	13,832	18,970	19,126	19,408	21,422	1.2	3.1	0.8
Consumption	12,173	14,215	18,576	19,796	19,762	20,070	1.1	3.1	0.2
Exports	3,875	4,414	5,081	6,142	5,750	6,430	0.9	2.8	0.5
Stocks	4,605	4,895	6,645	9,559	9,274	10,630	1.7	2.8	1.4
Natural rubber *(thousand tons)*									
Production	3,140	3,820	5,080	6,810	6,740	7,170	1.8	3.2	3.1
Consumption	3,090	3,770	5,190	6,660	7,330	7,030	1.6	3.2	3.3
Net exports	2,820	3,280	3,950	4,670	4,940	5,160	1.3	2.1	1.8
Stocks	1,480	1,480	1,500	2,540	1,950	2,090	0.6	0.2	3.7
Tropical timber *(thousand cubic meters)*									
Logs, production	210	262	300	286	287	276	1.5	1.7	0.5
Logs, imports	36.1	42.2	25.1	18.3	21.1	21.0	0.2	5.1	5.4
Sawnwood, production	98.5	115.8	131.8	103.9	101.5	99.3	1.2	1.7	2.0
Sawnwood, imports	7.1	13.2	16.1	21.2	24.3	23.5	5.0	2.6	3.3
Plywood, production	33.4	39.4	48.2	52.6	55.4	54.9	1.2	2.0	0.5
Plywood, imports	4.9	6.0	14.9	18.9	19.8	20.3	0.7	9.1	3.6

Notes: Time reference for cotton is based on the crop year beginning in August. For natural rubber and tropical timber, time refers to the calendar year.
Sources: International Cotton Advisory Committee, International Study Rubber Group, FAO, and World Bank.

Figure A2.6 Fertilizer prices

(dollars per ton)



Note: TSP = triple super phosphate; MOP = muriate of potash.
Source: Fertilizer Week.

production, which accounts for more than half of total fertilizer use, declined for the sixth consecutive year in 2002, but it is expected to increase in 2003 and 2004 in response to recent and expected grain price increases. Production capacity remains substantially larger than demand for all major fertilizers, but it is most extreme in potash, where surplus capacity may be as high as 30 percent of demand, according to industry estimates.

Nitrogen fertilizer prices (as represented by urea prices) were down about 2 percent in 2002, as exports from major producers in Eastern Europe fell because of rising natural gas prices, currency changes that made exports less profitable, and increased local fertilizer demand. This fall was partially offset by reduced demand in major importing countries as a result of low commodity prices and increased local fertilizer production. Urea prices are expected to continue to increase because of higher grain prices and reduced exports from Eastern Europe. By 2005, nominal urea prices are projected to increase 36 percent from 2002, but then increases are expected to slow, and real prices should decline. By 2015, real urea prices are expected to remain 19 percent above 2002 levels, as the industry continues to rationalize and reduce surplus capacity.

Prices for potassium chloride (also known as muriate of potash, or MOP) declined 5 percent in 2002 from weak demand and large surplus capacity. Price declines could have been much larger without aggressive supply controls by major exporters. Increased domestic production in China is expected to weaken future import demand and, along with a large surplus in global production capacity, to keep price increases small, despite the increased use for grain production, which accompanies the recovery in grain prices. By 2005, nominal MOP prices are projected to increase 10 percent from 2002 levels, and real prices are projected to fall 6 percent by 2015 compared with 2002 prices.

Triple super phosphate (TSP) prices increased 5 percent in 2002 after falling 27 percent from 1998 to 2001. Production fell in 2001 in response to low prices, and imports declined slightly because of increased local production in China and India. Demand should increase along with increased grain prices and area planted. Surplus capacity is smaller than for other major fertilizers and is expected to decline over the next several years. This decline will cause nominal TSP prices to increase by an estimated 13 percent by 2005. Real prices are projected to decline by 5 percent by 2015 from 2002 levels.

The large surplus of global production capacity in the fertilizer industry is largely a result of the sharp declines in consumption in former Soviet bloc and Eastern European countries following the collapse of the former Soviet Union and the transition of those countries to market economies. Many countries (such as Russia and Ukraine) were left with large production capacities and reduced domestic demand—which led to export growth of nearly 4 percent per year since 1993 from the former Soviet Union. Those increased exports displaced traditional exports and depressed prices of nitrogen and phosphate fertilizers. Global fertilizer consumption fell about 17 percent from 1988 to 1993 and has only recently

Table A2.9 Global balance for fertilizers
(million tons)

	1970	1980	1990	1998	1999	2000	Annual growth rates (%) 1970–80	1980–90	1990–2000
Nitrogen									
Production	33.30	62.78	82.28	88.30	87.75	84.62	6.53	3.12	0.28
Consumption	31.76	60.78	77.18	82.77	84.95	81.62	6.86	2.60	0.56
Exports	6.77	13.15	19.59	23.00	23.94	24.70	7.23	5.10	2.34
Phosphate									
Production	22.04	34.51	39.18	33.09	32.51	31.70	3.72	1.70	−2.10
Consumption	21.12	31.70	35.90	33.35	33.46	32.65	3.85	1.39	−0.90
Exports	2.92	7.51	10.50	12.59	12.70	12.11	8.37	5.01	1.44
Potash									
Production	17.59	27.46	26.82	25.01	25.01	25.54	3.97	−0.03	−0.49
Consumption	16.43	24.24	24.68	22.04	22.12	22.16	3.93	0.05	−1.07
Exports	9.45	16.72	19.82	22.23	22.65	23.41	4.89	0.73	1.68

Note: All data are in marketing years.
Source: Food and Agriculture Organization.

recovered to near the 1988 peak. Table A2.9 gives the global balances for fertilizers.

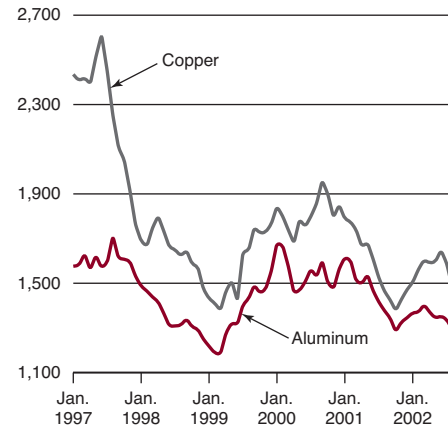
Metals and minerals

Prices for metals and minerals rallied from the October 2001 lows because of expectations of a robust economic recovery that would lead to a strong demand for metals. However, the price rally stalled in the second quarter of 2002, as it appeared the recovery would be more muted than anticipated. With weak demand and large inventories, most metal prices have receded to at or below end-2001 levels (see figure A2.7 for aluminum and copper). Even with the rally, the index of metals and minerals prices during the first nine months of 2002 averaged 5.6 percent lower than for the same period a year earlier.

Growth in demand has been very sluggish in 2002, with little indication of strong growth in the near term. Meanwhile, production continues to rise, despite efforts to shut capacity. As a result, the London Metal Exchange (LME) inventories of most metals have continued to rise to relatively high levels (see figure A2.8 for aluminum and copper). A number of production cutbacks, notably in copper and aluminum, have helped support prices, but more closures may be necessary to prevent further stock building and even lower prices.

The price recovery will likely be delayed until 2003, and the strength of the recovery will largely be determined by the timing and strength of the rebound in the global economy.

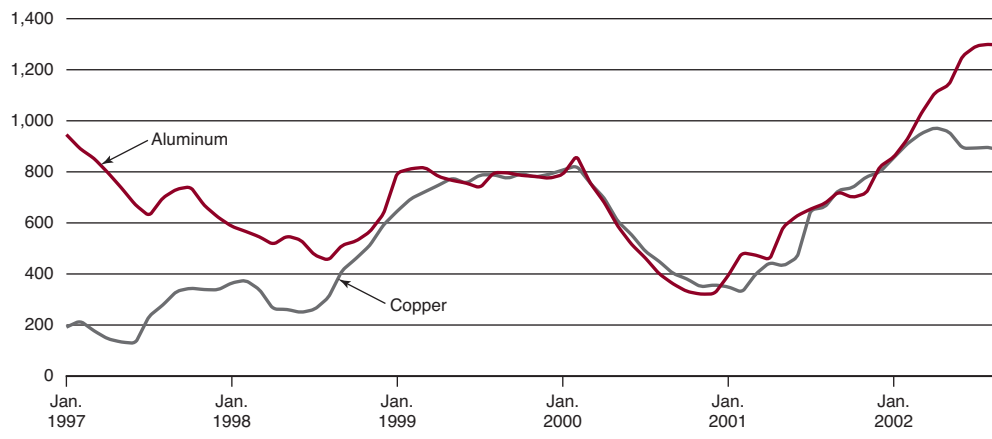
Figure A2.7 Aluminum and copper prices
(dollars per ton)



Source: Platt's Metals Week.

Figure A2.8 Aluminum and copper stocks

(thousand tons)



Source: London Metal Exchange.

There is a possibility that during the upturn of the next economic cycle metal prices could rise significantly, augmented by strong buying from investment funds. However, this rise would induce the development of new capacity and the restart of idle facilities, and prices would eventually decline. Real metals and minerals prices are expected to decline in the long term, as production costs continue to fall with the implementation of new technologies and of improved managerial practices.

Aluminum

Aluminum prices have fallen back near the lows of October 2001 because of relatively weak demand, rising production, and soaring stocks. Prices have been partly supported by reductions in capacity caused by high electricity prices and rationing in the Pacific Northwest and Brazil, but reactivations in Brazil and to a lesser extent in North America have contributed to the surplus. Production in China has grown significantly, and despite demand growth of more than 10 percent per year, the country became a net exporter this year, adding to the downward pressure on prices.

Growth in demand is expected to accelerate in 2003, but the market is expected to remain in surplus over the next two years, which should prevent any substantial increase in prices. Chinese exports are expected to continue rising over this period, contributing to the surplus. The market is not expected to move into deficit until 2005, but there are many risks in the near term, such as the strength of the economic recovery, the reactivation of idle capacity, and the amount of Chinese net exports.

Real prices for primary aluminum are expected to decline in the long term, as new low-cost capacity is developed to meet expected growth in demand. However, investment in new aluminum plants will continue to require low-cost power supplies. There is not expected to be any significant constraint on alumina supply in the medium term, because several new alumina capacity expansions are under way.

Copper

Copper prices led the rally in base metals during the past year following a series of production cuts, with prices rising 20 percent from October 2001 to June 2002. Prices have since receded because of prospects of weak demand in the near term. However, the market is expected to be in reasonable balance this year as world mine production declines about 2 percent because of

industry curtailments. LME inventories remain high, although they started to decline in May largely as a result of the strong growth of Chinese imports.

Demand is expected to strengthen next year, and supply is expected to almost keep pace, largely because of the recent commissioning of Chile's Escondida Phase IV project and the restart of idle capacity. The firm market balance should help support prices, but high stocks may prevent sharply higher gains next year. The market is expected to remain in modest deficit over the next few years, which should support rising prices during the forthcoming economic cycle. In the longer term, increases in new low-cost capacity are expected to result in the continued decline of real prices. A major uncertainty over the forecast period will be the volume of Chinese imports.

Nickel

Nickel has been one base metal to sustain price increases this year, with a 38 percent gain between October 2001 and September 2002. Relatively low stocks and Russian Norilsk's efforts to keep surplus supplies off the export market have supported prices that are significantly higher than would be expected at the bottom of the business cycle. Norilsk is using 60,000 tons of stock as collateral against a three-year loan from Western banks, which may keep the material off the market for the duration of the loan. Demand for nickel has been relatively strong in the stainless steel sector, largely because of the shortage of scrap supply.

The nickel market is expected to move into deficit in 2003 and over the next few years because production increases are expected to fall short of a strong growth in demand. No major new projects are being commissioned until 2005. Poor technical and financial performance with pressure-acid-leach technology in Australia has been a major reason for the current lack of investment, which could result in fairly strong prices over the next couple of years. Over the long term, large new developments are expected to come onstream, such as Inco's Goro project in New Caledonia (in 2005) and Voisey Bay in Labrador, Canada (in 2006). Supply will originate from other new projects, expansions, and Norilsk's stockpiled material. New technologies will lead to lower costs, and real prices are expected to decline.

Table A2.10 shows the production, consumption, and LME ending stocks for aluminum, copper, and nickel from 1970 through 2001.

Table A2.10 Global balance for metals and minerals

(thousand tons)

							Annual growth rates (%)		
	1970	1980	1990	1999	2000	2001	1970–80	1980–90	1990–2001
Aluminum									
Production	10,257	16,027	19,362	23,710	24,465	24,521	3.2	1.9	2.2
Consumption	9,996	14,771	19,244	23,358	24,871	23,525	3.2	1.8	1.8
LME ending stocks		68	311	775	322	821	n.a.	−0.3	9.2
Copper									
Production	7,583	9,242	10,809	14,463	14,831	15,571	1.9	1.1	3.4
Consumption	7,294	9,400	10,780	14,024	15,104	14,583	2.5	1.0	2.8
LME ending stocks	72	123	179	790	357	799	7.4	−5.6	14.6
Nickel									
Production	0	717	842	1,028	1,102	1,128	n.a.	1.6	2.7
Consumption	0	742	858	1,059	1,146	1,150	n.a.	1.5	2.7
LME ending stocks	2,130	4,554	4,344	47	10	19	n.a.	−0.5	15.2

Sources: World Bureau of Metal Statistics, London Metal Exchange, and World Bank.

Gold

Gold prices have averaged more than $300 per troy ounce (toz) since April 2002, which is the first time since 1997 that prices have been above $300 for more than a month. Much of the strength has been from buybacks of hedged positions by gold producers. In addition, increased investment demand—partly in reaction to declining U.S. equity markets and the declining dollar—has helped support prices.

However, the recent rally in gold prices is not expected to endure as producer buybacks end and central bank selling continues. At present, hedging by producers is unattractive because of low interest rates, but at some point producer hedging could again become attractive, which would push prices lower. Although the United Kingdom's central bank sales program ended in March 2002, other central banks (such as Switzerland's) are proceeding with their programs.

If prices remain above $300/toz, they will weaken the price-sensitive jewelry demand market and will stimulate investment in new supply. Even when prices fall below $300 per toz, mine production is expected to continue to increase moderately as new low-cost operations come onstream. An important determinant of medium-term prices will be the decision by central banks on whether official gold sales should be stemmed further when the Washington Agreement expires in 2004.[3]

Table A2.11 shows the demand for end supply of gold from 1991 through 2001.

Petroleum

Oil prices slumped after September 11, 2001, because the economic recession, mild weather, and reduced air travel weakened demand. Also, OPEC made no attempts to prop up falling prices (figure A2.9). However, as OPEC prices fell well below the organization's target range of $22 to $28 per barrel (OPEC basket $17.53 per barrel in December 2001), 10 OPEC countries, excluding Iraq, agreed to reduce production quotas 6.5 percent at the start of 2002. This reduction was the fourth cut in quotas in less than a year, totaling 5 million barrels per day or 19 percent (figure A2.10).

Prices started to rebound at the end of 2001 on expectations that markets would tighten because of a recovery in world oil demand, OPEC

Table A2.11 Global balance for gold

(tons)

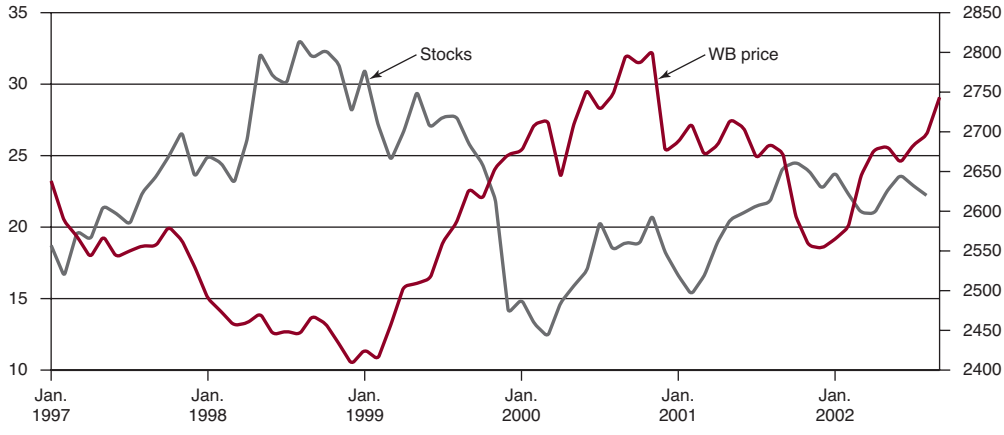
	1991	1995	1996	1997	1998	1999	2000	2001	Percent per year 1991–2001
Demand									
Jewelry	2,358	2,618	2,791	2,851	3,349	3,149	3,188	2,995	2.4
Other fabrication	518	457	503	484	560	595	564	487	−0.6
Bar hoarding	252	231	306	182	325	240	214	220	−1.3
Other	2,358	n.a.	6	n.a.	n.a.	170	n.a.	n.a.	n.a.
Total demand	3,128	3,305	3,606	3,518	4,234	4,154	3,982	3,804	2.0
Supply									
Mine production	2,159	2,279	2,274	2,361	2,479	2,568	2,580	2,595	1.9
Net official sales	111	81	173	279	626	464	471	468	15.5
Old gold scrap	482	617	625	640	628	616	608	695	3.7
Net hedging	66	163	535	142	504	506	n.a.	n.a.	n.a.
Other	310	173	n.a.	95	297	n.a.	322	46	n.a.
Total supply	3,128	3,305	3,606	3,946	4,154	4,154	3,982	3,804	2.0

n.a. = Not available.

Sources: Gold Field Minerals Service and World Bank.

Figure A2.9 Oil price and OECD stocks

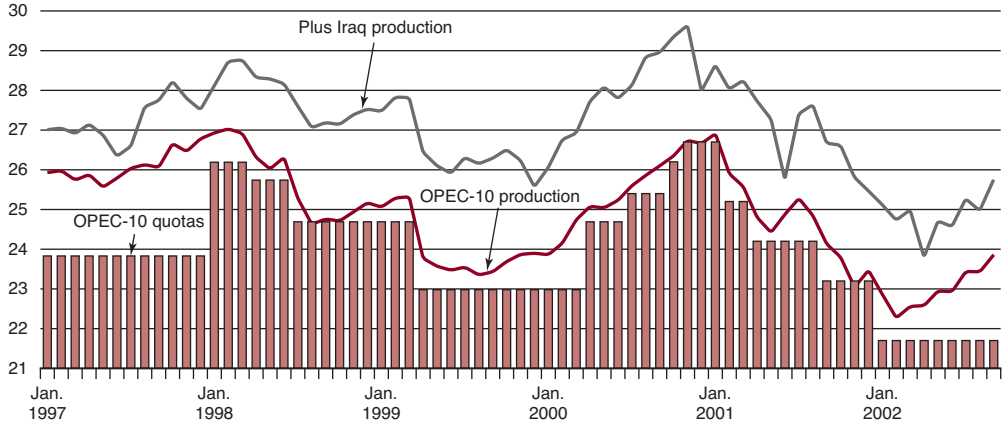
(dollars per barrel) *(million barrels)*



Source: World Bank and International Energy Agency.

Figure A2.10 OPEC-10 production and quotas

(million barrels per day)



Source: International Energy Agency and Organization of Petroleum Exporting Countries.

output restraint, and declining stocks. In addition, perceived threats of a supply disruption from a United States–led invasion of Iraq also helped push prices higher, and those anxieties deepened as the year progressed. The World Bank's average price rose above $20 per barrel in March and approached $30 per barrel in September as U.S. President George W. Bush took his case for war against Iraq to the United Nations (U.N.). Market fundamentals also started to tighten heading into the peak-demand winter season.

Table A2.12 Global balance for petroleum

(million barrels per day)

	1970	1980	1990	2001	2002	2003	Annual growth rates (%) 1970–80	1980–90	1990–2001
Consumption									
OECD	34.0	41.5	41.5	47.7	47.6	48.0	2.0	0.0	1.3
Former Soviet Union	5.0	8.9	8.4	3.7	3.8	3.9	6.0	−0.6	−7.2
Other non-OECD countries	6.8	12.3	16.1	25.1	25.3	25.7	6.1	2.7	4.1
Total	45.7	62.6	66.0	76.5	76.6	77.5	3.2	0.5	1.3
Production									
OPEC	23.5	27.2	24.5	30.2	28.5	28.7	1.5	−1.0	1.9
Former Soviet Union	7.1	12.1	11.5	8.6	9.3	9.9	5.4	−0.5	−2.6
Other non-OPEC countries	17.4	24.6	30.9	38.2	38.6	39.1	3.5	2.3	1.9
Total	48.0	63.9	66.9	76.9	76.4	77.7	2.9	0.5	1.3
Stock change, miscellaneous	**2.3**	**1.3**	**0.9**	**0.4**	**−0.2**	**0.3**			
Memo item: Iraq	**1.6**	**2.7**	**2.0**	**2.4**	**1.9**	**2.0**	**5.5**	**−2.7**	**1.5**

Sources: BP, International Energy Agency, and World Bank.

Fundamentally, the market was in reasonable balance for much of 2002, and inventories were at fairly typical levels, although stocks could fall to relatively low levels during the winter without higher OPEC production. World oil demand is likely to rise only marginally this year (table A2.12), similar to the gain in 2001. Meanwhile non-OPEC supplies continue to increase strongly, rising by an estimated 1.2 million barrels per day, with more than half of the gain expected to come from Russia.

It is only through significant production restraint that OPEC has kept prices within its target range—notwithstanding some overproduction by members of the group. In addition, Iraq's exports have been less than half of the country's potential for much of the year, because of disputes with the U.N. about Iraq's surcharges, which the U.N. sought to eliminate with a retroactive pricing scheme. However, buyers are exposed to large risks with this mechanism, and crude oil purchases from Iraq were curtailed.

Expectations of an attack on Iraq have led to a wide range of estimates of a "war premium" on prices this year. Estimates range from very little (prices reflect the market balance) to several dollars per barrel. It is very difficult to quantify such a premium, and no precise definition exists. Energy expert Philip K. Verleger Jr. defines the premium as the incremental amount a buyer is willing to pay for ensured prompt supply over deferred oil given the level of inventories. He argues according to that definition that no war premium existed at the end of September 2002.[4]

The near-term outlook for the oil market depends heavily on developments in Iraq and on OPEC's production decisions. While there is agreement between the United States and U.N. to allow weapons inspectors back into Iraq, there is likely to be less agreement on how to proceed if Iraq refuses U.N. demands. Should an attack occur in the coming months, prices could spike sharply higher, depending on the prevailing level of inventories, the response from OPEC producers, and the drawdown of strategic reserves. During the 1990 war in the Persian Gulf, more than 4 mb/d of oil from Kuwait and Iraq were removed from international markets, and prices exceeded $40/bbl. There was substantial surplus production within OPEC, and the organization raised output—but not immediately. Importantly, prices did not fall until the war commenced (and its success was quickly assured) and the strategic stocks were released.

Since Iraq is exporting only around 1 mb/d, much less oil is at risk, although it is conceivable that Iraq could launch scud missiles into Kuwait and Saudi Arabia and could temporarily disrupt supplies. There is more surplus capacity within OPEC than in 1990, and sufficient spare capacity within Saudi Arabia alone could easily replace lost oil from Iraq. However, OPEC desires prices of at least $25/bbl, and it is not clear how quickly its members will raise production to prevent a surge in prices. In such an environment, crude prices could be bid up sharply because of higher demand, speculation, and hoarding. Buyers might have to pay a substantial premium for prompt supplies, and prices could rise to 1990 levels.

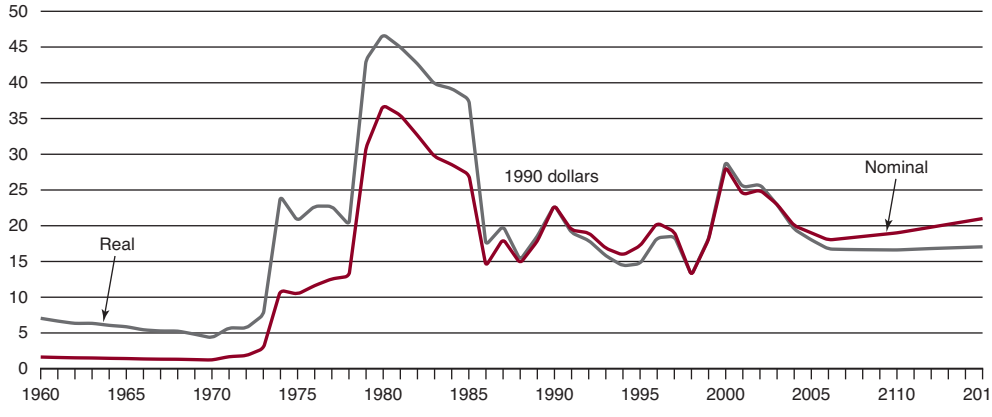
Once war ends, prices could fall precipitously as a result of a higher OPEC production, a draw from strategic stocks, and the return of Iraqi exports. Disputes within OPEC over market share could take prices well below $20/bbl.

In the absence of an attack, OPEC's production decisions will heavily influence prices. The group will likely attempt to keep prices at $25/bbl. Higher OPEC production will be required during the winter to keep prices below $30/bbl, but the organization may have to reduce output at winter's end to keep prices within its price target. The demand for OPEC oil is expected to rise only modestly in 2003. An increase in non-OPEC supply of 1 mb/d is expected to capture the bulk of the growth in world oil demand. Rising capacity within OPEC, requests for higher quotas (from Algeria and Nigeria), and a recovery of Iraq's exports could strain OPEC's efforts to support higher prices. But as long as the risk of a supply disruption hangs over the market, prices are likely to remain well within OPEC's target range.

Oil prices are expected to decline from $25 per barrel in 2002 to $23 per barrel in 2003 as a result of rising supply competition and below-trend growth in demand. By mid-decade, prices are expected to fall below $20 per barrel (figure A2.11). A risk to the forecast is that OPEC could maintain strong production discipline over the next few years to keep prices at or above $25 per barrel. If such efforts prove successful, they would add to the growing pressures on prices—by negatively affecting demand and by stimulating competing supplies—and prices would still be expected to fall below $20 per barrel by

Figure A2.11 Crude oil prices

(dollars per barrel)



Source: World Bank.

mid-decade. By 2005–06, significant new supplies from West Africa, the Caspian Sea, and elsewhere are expected to become available. Coupled with rising capacity within OPEC, those supplies will exert severe downward pressure on prices.

In the long term, growth in demand will be only moderate, as it has been for the past 20 years (table A2.12), but new technologies, environmental pressures, and government policies could further reduce this growth. Prices somewhat below $20 per barrel are sufficiently high to generate ample development of conventional and unconventional oil supplies, and there are no apparent resource constraints far into the future. In addition, new areas continue to be developed (for example, deep water offshore and the Caspian Sea), and development costs continue to fall from new technologies (shifting supply curves outward). In addition, OPEC members are increasing capacity and will add to the supply competition in the coming years. Consequently, real oil prices are expected to continue their long-term decline.

As mentioned at the beginning of this appendix, we will now present tables showing actual commodity prices for 1970 through 2001, plus price projections for 2002 through 2015. Table A2.13 gives the commodity prices and forecasts in current dollars, table A2.14 uses constant 1990 dollars, and table A2.15 displays weighted indices of commodity prices and inflation.

Table A2.13 Commodity prices and price projections in current dollars

Commodity	Unit[a]	Actual					Projections				
		1970	1980	1990	2000	2001	2002	2003	2005	2010	2015
Energy											
Coal, Australia	$/mt	n.a.	n.a.	39.67	26.25	32.31	26.50	26.00	27.00	29.50	32.00
Crude oil, average	$/bbl	1.21	36.87	22.88	28.23	24.35	25.00	23.00	19.00	19.00	21.00
Natural gas, Europe	$/mmbtu	n.a.	3.40	2.55	3.86	4.06	3.00	2.80	2.60	2.75	3.00
Natural gas, U.S.	$/mmbtu	0.17	1.55	1.70	4.31	3.96	3.25	3.20	3.00	3.00	3.25
Nonenergy commodities											
Agriculture											
Beverages											
Cocoa	c/kg	67.5	260.4	126.7	90.6	106.9	182.0	182.0	160.0	157.0	168.0
Coffee, other milds	c/kg	114.7	346.6	197.2	192.0	137.3	133.0	141.1	187.4	242.5	280.0
Coffee, robusta	c/kg	91.4	324.3	118.2	91.3	60.7	63.9	70.6	83.8	110.0	142.6
Tea, auctions (3) average	c/kg	83.5	165.9	205.8	187.6	159.8	150.0	155.0	165.0	175.0	180.0
Food											
Fats and oils											
Coconut oil	$/mt	397.2	673.8	336.5	450.3	318.1	415.0	450.0	600.0	645.0	670.0
Copra	$/mt	224.8	452.7	230.7	304.8	202.1	268.0	375.0	450.0	480.0	500.0
Groundnut oil	$/mt	378.6	858.8	963.7	713.7	680.3	680.0	750.0	820.0	850.0	875.0
Palm oil	$/mt	260.1	583.7	289.8	310.3	285.7	385.0	390.0	400.0	450.0	475.0
Soybean meal	$/mt	102.6	262.4	200.2	189.2	181.0	175.0	200.0	205.0	215.0	220.0
Soybean oil	$/mt	286.3	597.6	447.3	338.1	354.0	440.0	450.0	430.0	460.0	505.0
Soybeans	$/mt	116.9	296.2	246.8	211.8	195.8	210.0	230.0	235.0	240.0	250.0
Grains											
Maize	$/mt	58.4	125.3	109.3	88.5	89.6	100.0	125.0	115.0	120.0	130.0
Rice, Thailand, 5%	$/mt	126.3	410.7	270.9	202.4	172.8	192.0	210.0	235.0	260.0	265.0
Sorghum	$/mt	51.8	128.9	103.9	88.0	95.2	102.0	125.0	116.6	119.5	128.0
Wheat, U.S., HRW	$/mt	54.9	172.7	135.5	114.1	126.8	151.5	180.0	150.0	160.0	165.0
Other food											
Bananas, U.S.	$/mt	166.1	377.3	540.9	424.0	583.3	530.0	518.1	529.1	568.0	590.0
Beef, U.S.	c/kg	130.4	276.0	256.3	193.2	212.9	215.0	230.0	228.0	222.0	230.0
Oranges	$/mt	168.0	400.2	531.1	363.2	595.5	588.0	550.0	500.0	525.0	550.0
Shrimp, Mexico	c/kg	n.a.	1,152	1,069	1,513	1,517	1,040	1,150	1,650	1,700	1,720
Sugar, world	c/kg	8.2	63.16	27.67	18.04	19.04	15.00	15.00	17.60	21.00	22.00
Agricultural raw materials											
Timber											
Logs, Cameroon	$/cum	43.0	251.7	343.5	275.4	266.1	265.0	275.0	300.0	338.0	385.0
Logs, Malaysia	$/cum	43.1	195.5	177.2	190.0	159.1	163.0	170.0	215.0	260.0	295.0
Sawnwood, Malaysia	$/cum	175.0	396.0	533.0	594.7	481.4	528.0	560.0	625.0	720.0	820.0
Other raw materials											
Cotton	c/kg	67.6	206.2	181.9	130.2	105.8	100.0	110.2	127.9	149.9	160.0
Rubber, RSS1, Malaysia	c/kg	40.7	142.5	86.5	69.1	60.0	79.4	81.6	83.8	87.7	95.1
Tobacco	$/mt	1,076	2,276	3,392	2,976	3,005	2,770	3,000	3,250	3,275	3,300
Fertilizers											
DAP	$/mt	54.0	222.2	171.4	154.2	147.7	158.0	168.0	170.0	175.0	180.0
Phosphate rock	$/mt	11.00	46.71	40.50	43.75	41.77	40.80	41.00	43.00	45.00	46.00
Potassium chloride	$/mt	32.0	115.7	98.1	122.5	118.1	113.0	120.0	124.0	127.0	130.0
TSP	$/mt	43.0	180.3	131.8	137.7	126.9	133.0	140.0	150.0	150.0	155.0
Urea, East Europe, bagged	$/mt	n.a.	n.a.	119.3	101.1	95.3	93.0	108.6	126.7	131.3	135.8
Metals and minerals											
Aluminum	$/mt	556	1,456	1,639	1,549	1,444	1,340	1,400	1,500	1,600	1,700
Copper	$/mt	1,416	2,182	2,661	1,813	1,578	1,545	1,650	1,900	2,000	2,050
Gold	$/toz	35.9	607.9	383.5	279.0	271.0	310.0	300.0	275.0	300.0	300.0
Iron ore	c/dmtu	9.84	28.09	32.50	28.79	30.03	29.50	30.00	31.00	32.00	32.50
Lad	c/kg	30.3	90.6	81.1	45.4	47.6	45.0	48.0	55.0	60.0	62.5
Nickel	$/mt	2,846	6,519	8,864	8,638	5,945	6,700	7,500	7,500	6,700	6,800
Silver	c/toz	177.0	2,064	482.0	499.9	438.6	460.0	480.0	500.0	525.0	550.0
Tin	c/kg	367.3	1,677	608.5	543.6	448.4	405.0	450.0	525.0	540.0	550.0
Zinc	c/kg	29.6	76.1	151.4	112.8	88.6	77.0	84.0	100.0	105.0	110.0

n.a. = Not available.
a. $ = U.S. dollar, c = U.S. cent, bbl = barrel, cum = cubic meter, dmtu = dry metric ton unit, kg = kilogram, mmbtu = million British thermal unit, mt = metric ton, and toz = troy ounce.
Note: Projections as of November 12, 2002.
Source: World Bank, Development Prospects Group.

Table A2.14 Commodity prices and price projections in constant 1990 dollars

Commodity	Unit[a]	Actual					Projections				
		1970	1980	1990	2000	2001	2002	2003	2005	2010	2015
Energy											
Coal, Australia	$/mt	n.a.	n.a.	39.67	26.97	33.68	27.48	26.18	26.06	26.53	27.00
Crude oil, average	$/bbl	4.31	46.80	22.88	29.01	25.38	25.92	23.16	18.34	17.09	17.72
Natural gas, Europe	$/mmbtu	n.a.	4.32	2.55	3.96	4.23	3.11	2.82	2.51	2.47	2.53
Natural gas, U.S.	$/mmbtu	0.61	1.97	1.70	4.43	4.12	3.37	3.22	2.90	2.70	2.74
Nonenergy Commodities											
Agriculture											
Beverages											
Cocoa	c/kg	240.6	330.5	126.7	93.1	111.4	188.7	183.2	154.5	141.2	141.8
Coffee, other milds	c/kg	408.8	440.0	197.2	197.3	143.1	137.9	142.1	180.9	218.1	236.3
Coffee, robusta	c/kg	325.7	411.7	118.2	93.8	63.3	66.3	71.0	80.9	98.9	120.3
Tea, auctions (3) average	c/kg	297.7	210.6	205.8	192.8	166.6	155.5	156.1	159.3	157.4	151.9
Food											
Fats and oils											
Coconut oil	$/mt	1,416.0	855.3	336.5	462.7	331.5	430.3	453.0	579.2	580.1	565.4
Copra	$/mt	801.6	574.7	230.7	313.1	210.6	277.9	377.5	434.4	431.7	421.9
Groundnut oil	$/mt	1,349.5	1,090.1	963.7	733.3	709.0	705.0	755.1	791.6	764.5	738.3
Palm oil	$/mt	927.1	740.9	289.8	318.8	297.7	399.2	392.6	386.1	404.8	400.8
Soybean meal	$/mt	365.7	333.1	200.2	194.4	188.6	181.4	201.4	197.9	193.4	185.6
Soybean oil	$/mt	1,020.8	758.6	447.3	347.4	368.9	456.2	453.0	415.1	413.7	426.1
Soybeans	$/mt	416.8	376.0	246.8	217.7	204.1	217.7	231.6	226.9	215.9	211.0
Grains											
Maize	$/mt	208.2	159.0	109.3	91.0	93.4	103.7	125.8	111.0	107.9	109.7
Rice, Thailand, 5%	$/mt	450.3	521.4	270.9	208.0	180.1	199.1	211.4	226.9	233.9	223.6
Sorghum	$/mt	184.7	163.6	103.9	90.4	99.3	105.8	125.8	112.6	107.5	108.0
Wheat, U.S., HRW	$/mt	195.7	219.3	135.5	117.2	132.2	157.1	181.2	144.8	143.9	139.2
Other food											
Bananas, U.S.	$/mt	592.1	478.9	540.9	435.7	607.9	549.5	521.6	510.8	510.9	497.9
Beef, U.S.	c/kg	465.0	350.3	256.3	198.5	221.9	222.9	231.6	220.1	199.7	194.1
Oranges	$/mt	599.1	508.0	531.1	373.2	620.6	609.6	553.7	482.7	472.2	464.1
Shrimp, Mexico	c/kg	n.a.	1,462	1,069	1,554	1,581	1,078	1,158	1,593	1,529	1,451
Sugar, world	c/kg	29.32	80.17	27.67	18.5	19.8	15.6	15.1	17.0	18.9	18.6
Agricultural raw materials											
Timber											
Logs, Cameroon	$/cum	153.3	319.5	343.5	283.0	277.3	274.8	276.9	289.6	304.0	324.9
Logs, Malaysia	$/cum	153.8	248.2	177.2	195.2	165.8	169.0	171.2	207.6	233.9	248.9
Sawnwood, Malaysia	$/cum	623.9	502.7	533.0	611.1	501.7	547.4	563.8	603.3	647.6	691.9
Other raw materials											
Cotton	c/kg	241.1	261.7	181.9	133.8	110.3	103.7	111.0	123.4	134.8	135.0
Rubber, RSS1, Malaysia	c/kg	145.2	180.8	86.5	71.0	62.6	82.3	82.1	80.9	78.9	80.2
Tobacco	$/mt	3,836	2,889	3,392	3,058	3,131	2,872	3,020	3,137	2,946	2,785
Fertilizers											
DAP	$/mt	192.5	282.1	171.4	158.5	154.0	163.8	169.1	164.1	157.4	151.9
Phosphate rock	$/mt	39.2	59.3	40.5	45.0	43.5	42.3	41.3	41.5	40.5	38.8
Potassium chloride	$/mt	114.1	146.9	98.1	125.9	123.1	117.2	120.8	119.7	114.2	109.7
TSP	$/mt	153.3	228.8	131.8	141.5	132.2	137.9	140.9	144.8	134.9	130.8
Urea, East Europe, bulk	$/mt	n.a.	n.a.	119.3	103.9	99.3	96.4	109.4	122.3	118.1	114.6
Metals and minerals											
Aluminum	$/mt	1,982	1,848	1,639	1,592	1,505	1,389	1,409	1,448	1,439	1,434
Copper	$/mt	5,047	2,770	2,661	1,863	1,645	1,602	1,661	1,834	1,799	1,730
Gold	$/toz	128.1	771.6	383.5	286.7	282.4	321.4	302.0	265.5	269.8	253.1
Iron ore	c/dmtu	35.1	35.7	32.5	29.6	31.3	30.6	30.2	29.9	28.8	27.4
Lead	c/kg	108.0	115.0	81.1	46.6	49.6	46.7	48.3	53.1	54.0	52.7
Nickel	$/mt	10,147	8,275	8,864	8,876	6,196	6,947	7,551	7,240	6,026	5,738
Silver	c/toz	631.0	2,619.4	482.0	513.7	457.1	476.9	483.2	482.7	472.2	464.1
Tin	c/kg	1,309.6	2,129.3	608.5	558.5	467.4	419.9	453.0	506.8	485.7	464.1
Zinc	c/kg	105.5	96.6	151.4	115.9	92.3	79.8	84.6	96.5	94.4	92.8

n.a. = Not available.
a. $ = U.S. dollar, c = U.S. cent, bbl = barrel, cum = cubic meter, dmtu = dry metric ton unit, kg = kilogram, mmbtu = million British thermal unit, mt = metric ton, and toz = troy ounce.
Note: Projections as of November 12, 2002.
Source: World Bank, Development Prospects Group.

Table A2.15 Weighted indices of commodity prices and inflation (1990 = 100)

	Actual					Projections[a]				
Index	1970	1980	1990	2000	2001	2002	2003	2005	2010	2015
Current dollars										
Petroleum	5.3	161.2	100.0	123.4	106.4	109.3	100.5	83.0	83.0	91.8
Nonenergy commodities[b]	43.8	125.5	100.0	86.9	79.0	82.9	87.7	94.2	102.7	109.9
Agriculture	45.8	138.1	100.0	87.7	79.7	86.5	91.7	98.0	108.9	118.0
Beverages	56.9	181.4	100.0	88.4	72.1	84.4	87.5	97.8	115.1	130.6
Food	46.7	139.3	100.0	84.5	86.0	89.8	96.3	97.8	104.3	108.2
Fats and oils	64.4	148.7	100.0	96.2	89.0	100.2	108.2	113.1	120.9	126.1
Grains	46.7	134.3	100.0	79.5	78.2	89.0	104.5	99.4	106.6	111.1
Other food	32.2	134.3	100.0	77.7	87.9	81.9	81.9	84.4	89.4	92.0
Raw materials	36.4	104.6	100.0	91.4	77.4	83.6	88.8	98.4	110.2	121.2
Timber	31.8	79.0	100.0	111.0	90.2	98.1	103.9	117.8	136.6	155.5
Other raw materials	39.6	122.0	100.0	78.0	68.6	73.7	78.5	85.2	92.2	97.8
Fertilizers	30.4	128.9	100.0	105.8	98.8	102.0	104.4	111.0	112.8	116.1
Metals and minerals	40.4	94.2	100.0	83.0	75.1	72.4	76.5	83.2	86.4	89.5
Constant 1990 dollars[c]										
Petroleum	18.9	204.6	100.0	126.8	110.9	113.3	101.2	80.2	74.7	77.5
Nonenergy commodities	156.3	159.3	100.0	89.3	82.3	86.0	88.3	90.9	92.4	92.7
Agriculture	163.3	175.3	100.0	90.1	83.1	89.6	92.3	94.6	97.9	99.5
Beverages	202.8	230.3	100.0	90.8	75.1	87.5	88.1	94.4	103.5	110.2
Food	166.5	176.8	100.0	86.8	89.6	93.1	96.9	94.5	93.8	91.3
Fats and oils	229.5	188.7	100.0	98.9	92.8	103.8	109.0	109.2	108.8	106.4
Grains	166.6	170.5	100.0	81.7	81.5	92.3	105.2	96.0	95.9	93.8
Other food	114.9	170.5	100.0	79.9	91.6	84.9	82.4	81.5	80.4	77.6
Raw materials	129.8	132.7	100.0	93.9	80.6	86.7	89.4	95.0	99.1	102.3
Timber	113.3	100.3	100.0	114.1	94.0	101.7	104.6	113.7	122.9	131.2
Other raw materials	141.1	154.9	100.0	80.1	71.5	76.5	79.0	82.2	82.9	82.5
Fertilizers	108.3	163.6	100.0	108.7	102.9	105.7	105.1	107.2	101.5	98.0
Metals and minerals	143.9	119.6	100.0	85.3	78.3	75.1	77.0	80.3	77.7	75.5
Inflation indices[d]										
MUV index[e]	28.05	78.78	100.00	97.32	95.95	96.45	99.33	103.59	111.18	118.51
Percentage change per annum		10.88	2.41	−0.27	−1.40	0.53	2.98	2.12	1.42	1.29
US GDP deflator	33.59	65.93	100.00	123.73	126.42	127.69	129.73	136.03	153.01	172.27
Percentage change per annum		6.98	4.25	2.15	2.18	1.00	1.60	2.40	2.38	2.40

a. Commodity price projections as of November 12, 2002.
b. The World Bank primary commodity price indices are computed from 1987–89 export values in U.S. dollars for low- and middle-income economies, rebased to 1990. Weights for the subgroup indices expressed as ratios to the nonenergy index are as follows: agriculture—69.1 percent, fertilizers—2.7 percent, and metals and minerals—28.2 percent; beverages—16.9 percent, food—29.4 percent, and raw materials—22.8 percent; fats and oils—10.1 percent, grains—6.9 percent, and other food—12.4 percent; timber—9.3 percent and other raw materials—13.6 percent.
c. Computed from unrounded data and deflated by the manufactures unit value (MUV) index.
d. Inflation indices for 2002–15 are projections as of November 8, 2002. MUV for 2001 is an estimate. Growth rates for 1980, 1990, 2000, 2005, 2010, and 2015 refer to compound annual rate of change between adjacent endpoint years; all others are annual growth rates from the previous year.
e. Unit value index in U.S. dollar terms of manufactures exported from the G-5 countries (France, Germany, Japan, the United Kingdom, and the United States) weighted proportionally to the countries' exports to developing countries.
Source: World Bank, Development Prospects Group. U.S. Department of Commerce for historical U.S. GDP deflator.

Notes

1. As measured relative to the manufactures unit value (MUV) index, which is the unit value index in U.S. dollar terms (1990 = 100) of manufactures exported from the G-5 countries (France, Germany, Japan, the United Kingdom, and the United States) weighted by the country's exports to developing countries.

2. An El Niño occurs when the Pacific Ocean warms, as occurred this year. But this year's El Niño is significantly weaker than the last one, which occurred in 1997. The Pacific is about 1 degree Centigrade warmer than usual this year compared with 3 degrees Centigrade warmer in 1997. Thus the effects of this year's El Niño are expected to be smaller than in 1997, when drought in Southeast Asia led to wildfires and poor crop harvests.

3. The European Central Bank and 14 European central banks agreed in September 1999 to limit sales to only 400 tons of gold per year, and not more than 2,000 tons in total, over the subsequent five years.

4. Verleger, Philip K. Jr. *The Petroleum Economics Monthly.* August 2002, p. 11, and September 2002, p. 1.

Appendix 3
Global Economic Indicators

Table A3.1 Growth of real GDP, 1971–2015

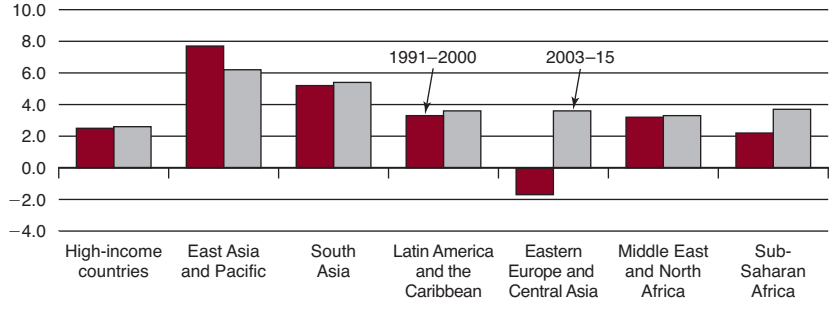
GDP in 1995 prices and exchange rates, average annual growth (percent)

	GDP in 2001 (current billions of dollars)	Growth percent					
		1971–80	1981–90	1991–2000	2001	Estimate 2002	Forecast 2003–15
World	**30,790**	**3.7**	**3.0**	**2.6**	**1.1**	**1.7**	**3.1**
High-income economies	**24,852**	**3.5**	**3.1**	**2.5**	**0.7**	**1.5**	**2.6**
Industrial countries	24,088	3.4	3.1	2.4	0.8	1.4	2.5
G-7 countries	20,632	3.4	3.1	2.3	0.5	1.3	2.5
United States	10,082	3.3	3.2	3.2	0.3	2.3	3.1
Japan	4,166	4.5	4.1	1.3	−0.3	0.0	1.6
G-4 Europe	5,678	2.9	2.4	1.8	1.4	0.7	2.2
Germany[a]	1,856	2.7	2.2	1.7	0.7	0.4	1.9
Euro area	6,090	3.2	2.3	2.0	1.5	0.8	2.3
Non-G-7 industrial	3,456	3.2	2.9	3.0	2.0	2.2	3.0
Other high income	764	7.7	5.1	5.1	−0.7	2.3	4.3
Asian NIEs	531	9.5	7.4	6.1	−1.4	2.6	4.7
Low- and middle-income economies	**5,938**	**4.8**	**2.6**	**3.2**	**2.9**	**2.8**	**4.6**
Excluding CE.Eur / CIS	5,101	5.5	3.0	4.7	3.0	2.7	4.7
Asia	2,205	5.2	6.8	7.0	5.2	5.8	6.0
East Asia and Pacific	1,573	6.6	7.3	7.7	5.5	6.3	6.2
China	1,150	6.2	9.3	10.1	7.3	7.8	…
Indonesia	145	7.9	6.4	4.2	3.3	3.2	…
South Asia	632	3.1	5.7	5.2	4.4	4.6	5.4
India	495	3.0	5.8	5.6	4.5	4.8	…
Latin America and the Caribbean	1,882	5.9	1.1	3.3	0.4	−1.1	3.6
Brazil	503	8.5	1.5	2.7	1.5	0.7	…
Mexico	618	6.7	1.8	3.5	−0.3	1.3	…
Argentina	269	3.0	−1.5	4.5	−4.4	−11.9	…
Europe and Central Asia	977	3.5	1.7	−1.7	2.3	3.6	3.6
Russian Federation[b]	310	3.7	1.5	−4.0	5.0	4.3	…
Turkey	148	4.1	5.2	3.5	−7.4	4.1	…
Poland	176	5.1	−1.7	3.7	1.0	1.0	…
Middle East and North Africa	568	6.5	2.5	3.2	3.2	2.5	3.3
Saudi Arabia	188	10.3	0.4	2.2	1.2	1.1	…
Iran, Islamic Rep. of	114	1.8	2.7	4.1	4.8	4.5	…
Egypt, Arab Rep. of	96	6.6	5.5	4.4	2.9	1.0	…
Sub-Saharan Africa	306	3.3	1.7	2.2	2.9	2.5	3.7
South Africa	113	3.5	1.3	1.7	2.2	2.2	…
Nigeria	41	4.7	1.1	2.6	4.0	−0.6	…

a. Data prior to 1991 covers West Germany.
b. Data prior to 1992 covers former Soviet Union.
Note: Growth rates over intervals are computed using compound average methods.
Source: World Bank data and staff estimates.

Figure A3.1 Real GDP growth

(percent)



Source: World Bank data and staff estimates.

Table A3.2 Growth of real per capita GDP, 1971–2015

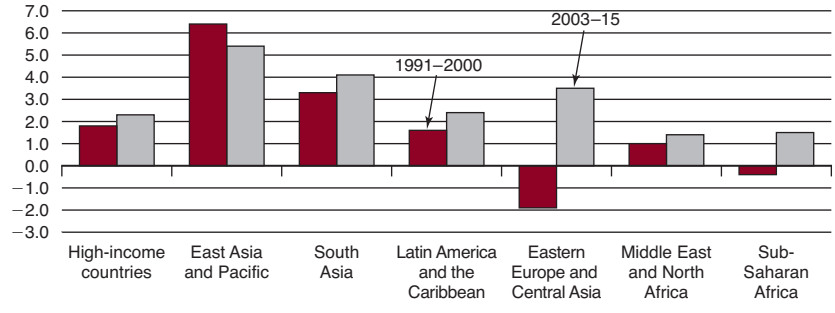
GDP in 1995 prices and exchange rates, average annual growth (percent)

	GDP per capita 2001 *(current dollars)*	Growth percent					
		1971–80	1981–90	1991–2000	2001	Estimate 2002	Forecast 2003–2015
World	**5,260**	**1.8**	**1.3**	**1.2**	**−0.1**	**0.5**	**2.0**
High-income economies[a]	**26,375**	**2.6**	**2.5**	**1.8**	**0.3**	**1.1**	**2.3**
Industrial countries	26,926	2.6	2.5	1.8	0.4	1.1	2.3
G-7 countries	29,736	2.7	2.5	1.7	0.1	0.9	2.2
United States	36,332	2.2	2.2	2.2	−0.5	1.6	2.4
Japan	32,858	3.3	3.5	1.1	−0.4	−0.1	1.8
G-4 Europe	21,984	2.6	2.1	1.5	1.4	0.7	2.3
Germany[b]	22,629	2.6	2.0	1.4	0.8	0.5	2.2
Euro area	20,114	2.7	2.1	1.7	1.4	0.8	2.4
Non-G-7 industrial	17,214	2.2	2.2	2.4	1.6	1.9	2.8
Other high income	16,019	5.1	3.3	3.6	−2.0	1.0	3.3
Asian NIEs	16,195	7.2	5.9	4.7	−2.4	1.6	3.9
Low- and middle-income economies	**1,204**	**2.6**	**0.7**	**1.6**	**1.4**	**1.5**	**3.4**
Excluding CE.Eur / CIS	1,112	3.1	0.9	2.9	1.4	1.2	3.5
Asia	737	3.0	4.8	5.4	3.9	4.5	5.0
East Asia and Pacific	956	4.6	5.6	6.4	4.5	5.4	5.4
China	912	4.3	7.7	9.0	6.5	7.0	…
Indonesia	679	5.4	4.4	2.5	2.0	1.9	…
South Asia	468	0.7	3.4	3.3	2.6	2.9	4.1
India	480	0.7	3.6	3.7	2.9	3.2	…
Latin America and the Caribbean	3,678	3.3	−0.9	1.6	−1.2	−2.6	2.4
Brazil	2,917	5.9	−0.4	1.2	0.4	−0.5	…
Mexico	6,122	3.6	−0.3	1.7	−2.2	−0.5	…
Argentina	7,165	1.3	−2.9	3.2	−5.7	−12.9	…
Europe and Central Asia	2,101	2.5	0.7	−1.9	2.2	3.5	3.5
Russian Federation[c]	2,127	3.1	0.8	−3.9	5.3	4.6	…
Turkey	2,110	1.7	2.8	1.9	−8.7	2.7	…
Poland	4,235	4.2	−2.4	3.5	1.0	0.9	…
Middle East and North Africa	2,099	3.6	−0.6	1.0	1.3	0.6	1.4
Saudi Arabia	8,229	5.1	−4.8	−1.2	−1.8	−1.9	…
Iran, Islamic Rep. of	1,595	−1.4	−0.7	2.4	3.1	2.8	…
Egypt, Arab Rep. of	1,444	4.4	2.9	2.4	1.6	−0.6	…
Sub-Saharan Africa	454	0.5	−1.2	−0.4	0.5	0.1	1.5
South Africa	2,543	1.2	−1.2	−0.3	0.7	1.0	…
Nigeria	316	1.7	−1.9	−0.2	1.2	−3.3	…

a. Regional aggregates computed as sum(GDP_i)/sum(POP_i), where "*i*" indicates country in the region, and are unweighted by population or other measures.
b. Data prior to 1991 covers West Germany.
c. Data prior to 1992 covers former Soviet Union.
Note: Growth rates over intervals are computed using compound annual methods.
Source: World Bank data and staff estimates.

Figure A3.2 Real per capita GDP growth

(percent)



Source: World Bank data and staff estimates.

Table A3.3 Inflation: GDP deflators, 1971–2015

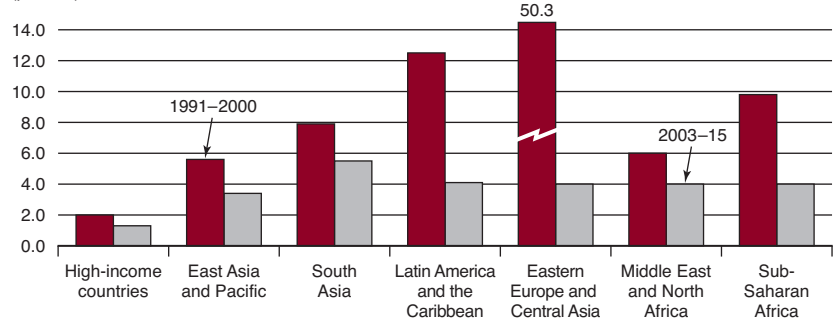
Deflators in local currency units; 1995=100; percentage change[a]

	Growth percent					
	1971–80	1981–90	1991–00	2001	Estimate 2002	Forecast 2003–15
World	**9.0**	**5.8**	**3.7**	**2.3**	**1.7**	**1.9**
High-income economies	**8.8**	**5.3**	**2.0**	**1.5**	**1.0**	**1.3**
Industrial countries	8.7	4.6	2.0	1.5	1.1	1.3
G-7 countries	8.3	4.2	1.7	1.2	0.9	1.1
United States	7.0	4.3	2.1	2.4	1.1	1.4
Japan	7.8	2.0	0.1	−1.2	−0.9	0.0
G-4 Europe	9.9	5.7	2.6	1.8	1.9	1.7
Germany[b]	5.3	2.6	2.6	1.4	1.4	1.2
Euro area	9.6	6.1	2.8	2.3	2.1	1.6
Non-G-7 industrial	11.1	7.1	3.3	2.9	2.1	1.9
Other high income	19.3	33.1	3.8	0.4	−0.4	1.9
Asian NIEs	9.5	4.7	2.4	−0.4	−1.0	1.5
Low- and middle-income economies	**9.6**	**8.3**	**11.7**	**5.8**	**4.4**	**4.2**
Excluding CE.Eur / CIS	11.4	10.0	9.2	5.7	4.3	4.1
Asia	10.5	7.2	6.9	6.3	3.4	4.5
East Asia and Pacific	9.6	5.5	5.6	6.6	2.5	3.4
China	0.9	5.4	6.3	0.0	0.4	…
Indonesia	20.6	8.8	15.0	11.4	11.4	…
South Asia	11.9	9.0	7.9	6.1	5.0	5.5
India	8.9	8.5	8.1	4.0	2.8	…
Latin America and the Caribbean	14.6	19.3	12.5	6.9	5.0	4.1
Brazil	39.7	330.8	206.1	7.3	7.9	…
Mexico	18.1	63.7	18.1	5.4	3.3	…
Argentina	117.7	439.5	10.2	−1.1	36.5	…
Europe and Central Asia	0.3	2.4	50.3	5.9	4.7	4.0
Russian Federation[c]	0.3	2.3	104.5	18.0	5.8	…
Turkey	32.8	46.6	71.7	47.2	27.9	…
Poland	4.4	72.1	24.1	1.7	3.8	…
Middle East and North Africa	11.7	8.7	6.0	4.2	4.1	4.0
Saudi Arabia	23.8	−3.1	2.9	7.0	4.8	…
Iran, Islamic Rep. of	20.2	15.6	25.6	8.6	5.1	…
Egypt, Arab Rep. of	11.0	13.1	8.6	4.5	4.1	…
Sub-Saharan Africa	10.4	9.4	9.8	5.4	4.3	4.0
South Africa	13.3	15.1	9.8	7.1	12.0	…
Nigeria	13.4	16.6	28.6	5.9	4.5	…

a. High-income group inflation rates are GDP-weighted averages of local currency inflation; LMIC groups are medians; world is GDP-weighted average of the two groups.
b. Data prior to 1991 covers West Germany.
c. Data prior to 1992 covers former Soviet Union.
Note: Growth rates over intervals are computed using compound annual methods.
Source: World Bank data and staff estimates.

Figure A3.3 GDP inflation

(percent)



Source: World Bank data and staff estimates.

Table A3.4 Current account balances, 1971–2015

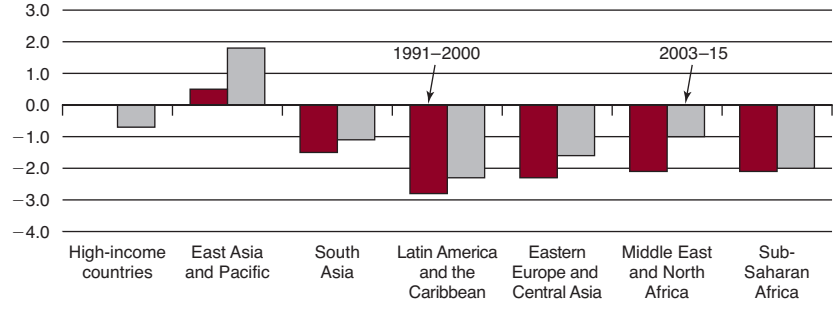
Expressed as shares of GDP (percent)

	Current Acct 2001 *(billions of dollars)*	Shares percent					
		1971–80	1981–90	1991–2000	2001	Estimate 2002	Forecast 2003–15
World[a]	**−187**	**−0.1**	**−0.5**	**−0.4**	**−0.6**	**−0.7**	**−0.6**
High-income economies	**−190**	**−0.1**	**−0.2**	**0.0**	**−0.8**	**−0.9**	**−0.7**
Industrial countries	−247	−0.3	−0.5	−0.1	−1.0	−1.1	−0.9
G-7 countries	−289	−0.1	−0.4	−0.3	−1.4	−1.6	−1.3
United States	−393	0.0	−1.9	−1.8	−3.9	−4.8	−3.3
Japan	89	0.3	2.3	2.5	2.1	2.8	2.3
G-4 Europe	−4	0.1	0.3	−0.1	−0.1	0.6	0.4
Germany[b]	2	0.5	2.4	−0.7	0.1	1.7	0.4
Euro area	10	−0.1	0.4	0.3	0.2	0.8	1.0
Non-G-7 industrial	42	−1.5	−0.6	0.8	1.2	1.3	1.3
Other high income	57	12.3	10.3	4.0	7.7	6.6	3.0
Asian NIEs	50	1.8	6.9	5.4	9.5	10.3	4.2
Low- and middle-income economies	**4**	**0.0**	**−1.7**	**−1.6**	**0.1**	**0.4**	**−0.3**
Excluding CE.Eur / FSU	11	0.2	−1.9	−1.6	0.2	0.6	−0.1
Asia	42	−0.7	−1.6	−0.1	1.9	1.9	1.6
East Asia and Pacific	42	−0.8	−1.4	0.5	2.7	2.7	1.8
China	17	0.1	0.2	1.6	1.5	1.6	…
Indonesia	7	−2.3	−3.1	−0.4	4.8	2.6	
South Asia	0	−0.5	−2.0	−1.5	0.0	−0.1	−1.1
India	1	0.2	−1.7	−1.2	0.2	0.2	…
Latin America and the Caribbean	−54	−2.8	−1.8	−2.8	−2.9	−1.5	−2.3
Brazil	−23	−4.4	−1.6	−2.2	−4.6	−2.8	…
Mexico	−18	−3.9	−0.8	−3.7	−2.9	−2.7	…
Argentina	−4	−0.4	−2.2	−3.2	−1.7	9.4	…
Europe and Central Asia	−7	−0.8	−0.5	−2.3	−2.0	−2.4	−1.6
Russian Federation[c]	36	2.1	3.5	4.7	11.7	8.0	…
Turkey	3	−2.1	−1.3	−1.1	2.5	−0.6	…
Poland	−7	−0.9	−1.4	−3.6	−4.4	−3.7	…
Middle East and North Africa	29	9.5	−1.7	−2.1	5.2	3.3	−1.0
Saudi Arabia	13	22.0	−7.2	−6.6	6.9	5.5	…
Iran, Islamic Rep. of	7	11.8	−0.4	1.9	7.1	4.3	…
Egypt, Arab Rep. of	0	−3.4	−3.4	1.5	−0.4	−0.2	…
Sub-Saharan Africa	−7	−1.8	−2.7	−2.1	−2.2	−3.0	−2.0
South Africa	0	−1.3	0.4	−0.2	−0.2	0.3	…
Nigeria	0	1.5	−0.7	−0.4	0.4	−4.8	…

a. Current account as defined in Balance of Payments (BOP) version 5.0, world represents statistical discrepancy; shares over intervals are period averages.
b. Data prior to 1991 covers West Germany.
c. Data prior to 1992 covers former Soviet Union.
Source: World Bank data and staff estimates.

Figure A3.4 Current account balance-to-GDP ratio

(percent of GDP)



Source: World Bank data and staff estimates.

Table A3.5 Exports of goods, 2001

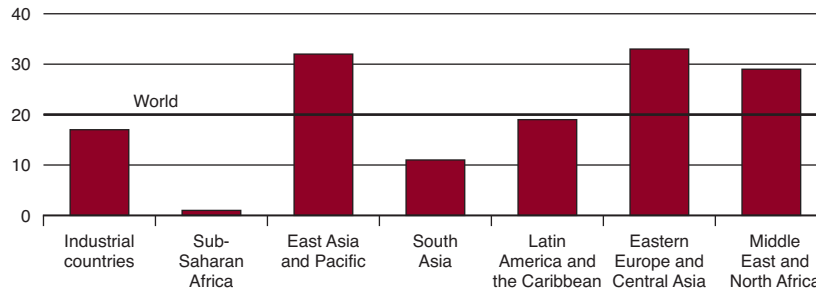
Merchandise exports (FOB), millions of dollars; average annual growth rate 1992–2001 (percent); effective market growth (EMG) 1992–2001 (percent)

	Exports	Growth	EMG[b]
World	**6,056,976**	**7.0**	**10.6**
All developing countries	**1,509,357**	**8.2**	**9.4**
Asia	**574,958**	**11.3**	**8.8**
East Asia	**509,540**	**11.7**	**8.5**
China	266,322	16.0	8.3
Fiji	483	4.3	6.1
Indonesia	56,321	8.2	8.5
Malaysia	87,980	8.7	8.6
Myanmar	...	...	...
Papua New Guinea	1,813	3.7	6.5
Philippines	31,242	12.3	7.9
Thailand	65,379	8.1	8.8
Vietnam	15,470	19.2	8.1
South Asia	**65,418**	**8.5**	**11.3**
Bangladesh	5,790	13.1	11.2
India	43,268	9.6	11.3
Nepal	698	8.1	8.9
Pakistan	9,665	3.0	10.1
Sri Lanka	5,998	8.5	13.4
Latin America	**351,608**	**8.2**	**9.7**
Argentina	26,670	7.1	9.0
Bolivia	1,196	7.1	12.5
Brazil	58,223	5.3	11.9
Chile	18,505	6.7	10.2
Colombia	13,281	2.3	11.0
Costa Rica	5,709	10.3	14.7
Dominican Republic	5,594	19.9	11.8
Ecuador	4,923	4.6	10.3
El Salvador	3,367	13.7	13.6
Guatemala	2,975	5.6	10.0
Jamaica	1,520	1.0	6.8
Mexico	158,449	13.2	8.3
Panama	5,919	2.8	8.9
Paraguay	2,251	−3.2	10.3
Peru	7,518	3.3	10.4
Trinidad and Tobago	3,153	6.9	7.4
Uruguay	2,081	0.3	10.1
Venezuela, R. B. de	25,928	5.4	8.3
Europe and Central Asia	**325,981**	**8.3**	**10.1**
Armenia	327	−8.2	30.1
Azerbaijan	2,110	0.5	9.7
Europe and Central Asia (continued)			
Belarus	7,421	9.6	10.4
Bulgaria	4,872	2.2	9.6
Czech Republic	33,690	8.7	9.0
Estonia	3,347	35.1	8.6
Georgia	505	15.0	8.0
Hungary	28,244	8.7	9.1
Kazakstan	10,569	44.8	9.8
Kyrgyz Republic	548	10.4	19.5
Latvia	2,091	13.6	9.6
Lithuania	4,706	22.1	9.5
Poland	42,674	10.8	9.4
Romania	11,385	10.3	9.8
Russian Federation	104,501	4.3	10.9
Slovak Republic	12,534	10.4	10.4
Tajikistan	858	48.6	16.2
Turkmenistan	1,619	44.4	8.3
Turkey	28,121	9.3	9.1
Ukraine	17,319	10.1	9.7
Uzbekistan	3,428	48.0	15.0
Middle East and N. Africa	**164,753**	**2.2**	**9.0**
Algeria	19,567	0.8	10.5
Egypt, Arab Rep. of	6,830	3.6	10.2
Iran, Islamic Rep. of	24,517	2.1	10.1
Jordan	2,192	8.6	6.9
Morocco	7,139	1.7	9.5
Oman	10,563	6.0	8.1
Saudi Arabia	78,342	1.5	8.1
Syrian Arab Rep.	5,151	2.3	5.7
Tunisia	6,684	2.9	12.7
Yemen, Rep. of	3,769	9.9	8.5
Sub-Saharan Africa	**92,057**	**3.3**	**12.5**
Angola	7,944	6.7	12.3
Botswana	...	...	...
Côte d'Ivoire	3,741	6.4	9.0
Cameroon	2,262	1.9	9.0
Ethiopia	396	13.9	6.9
Gabon	2,540	−1.1	7.9
Ghana	2,021	9.5	11.3
Kenya	1,712	4.9	7.7
Madagascar	796	9.6	11.5
Nigeria	16,443	0.7	7.3
Senegal	1,024	3.6	6.5
South Africa	30,198	2.8	6.1
Sub-Saharan Africa (continued)			
Sudan	1,797	14.4	7.3
Zambia	789	−0.5	13.1
Zimbabwe	2,063	7.8	9.2
High-income countries	**4,547,619**	**6.7**	**10.9**
Industrial countries	**4,010,686**	**6.7**	**11.1**
G-7 countries	**2,793,252**	**5.7**	**11.3**
Canada	267,706	7.9	8.3
France	323,886	6.5	16.1
Germany	543,416	6.3	13.6
Italy	264,390	4.9	9.9
Japan	384,482	2.7	9.1
United Kingdom	276,076	5.8	12.5
United States	733,297	6.6	9.8
Other industrial	**1,217,435**	**6.7**	**7.8**
Australia	63,759	6.7	7.8
Austria	63,459	7.7	8.5
Belgium[a]	178,698	40.4	6.1
Denmark	50,912	1.9	8.2
Finland	43,006	7.1	10.0
Greece	10,615	4.3	8.1
Iceland	2,035	0.9	7.8
Ireland	83,242	12.3	10.9
Korea, Rep. of	150,494	13.6	8.3
Netherlands	193,239	7.0	20.3
New Zealand	13,918	3.5	7.9
Norway	59,701	4.2	9.4
Portugal	114,427	8.8	9.6
Spain	114,427	8.8	9.6
Sweden	77,635	7.4	10.8
Switzerland	86,497	3.8	9.0
Other high-income	**536,932**	**7.0**	**9.1**
Bahrain	6,260	5.0	7.4
Brunei	3,156	−1.1	6.5
Hong Kong, China	189,842	7.2	9.9
Israel	31,275	9.0	13.3
Kuwait	17,968	29.0	7.5
Singapore	121,747	7.4	8.4
Taiwan, China	122,495	5.7	8.3
United Arab Emirates	37,638	2.7	6.4

FOB is free on board.
a. Includes Luxembourg.
b. Effective market growth (EMG) is a weighted average of import volume growth in the country's export markets.
Source: See Technical Notes.

Figure A3.5a Merchandise exports as share of GDP, 2001

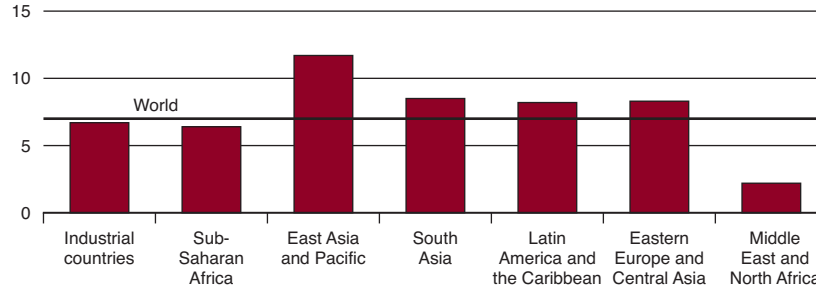
(percent)



Source: World Bank data.

Figure A3.5b Annual growth rate of export volumes, 1992–2001

(percent)



Source: World Bank data.

Table A3.6 Imports of goods, 2001

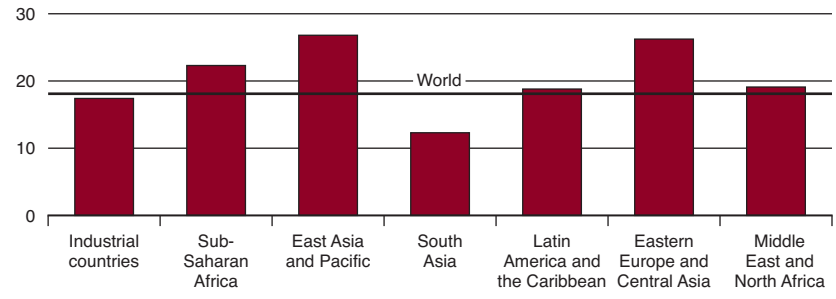
Merchandise imports (CIF), millions of dollars; average annual growth rate 1992–2001 (percent); merchandise imports share of GDP (percent)

	Imports	Growth	Share
World	**6,079,466**	**6.2**	**18.1**
All developing countries	**1,375,828**	**6.2**	**19.7**
Asia	**502,434**	**9.2**	**22.7**
East Asia	**424,657**	**9.7**	**26.8**
China	232,322	15.8	20.1
Fiji	503	−1.8	29.9
Indonesia	30,962	4.9	21.4
Malaysia	69,595	6.8	79.0
Myanmar	…	…	…
Papua New Guinea	932	−3.2	31.5
Philippines	28,496	8.7	39.9
Thailand	61,847	3.0	53.9
Vietnam	15,059	17.0	45.8
South Asia	**77,776**	**6.7**	**12.3**
Bangladesh	8,601	9.9	17.1
India	51,624	8.0	10.4
Nepal	1,047	7.1	20.8
Pakistan	10,484	0.6	16.7
Sri Lanka	6,020	7.2	33.2
Latin America	**352,347**	**10.2**	**18.8**
Argentina	19,100	9.7	7.1
Bolivia	1,600	6.2	19.9
Brazil	55,573	9.6	11.1
Chile	16,412	7.6	24.7
Colombia	11,826	9.8	13.9
Costa Rica	5,995	12.9	37.3
Dominican Republic	8,963	17.4	43.9
Ecuador	4,674	6.7	34.3
El Salvador	5,055	13.8	36.2
Guatemala	4,672	10.0	23.9
Jamaica	2,906	5.9	37.3
Mexico	168,440	12.6	27.3
Panama	6,890	3.4	67.6
Paraguay	2,793	3.4	36.4
Peru	7,408	6.9	14.5
Trinidad and Tobago	3,216	9.5	38.2
Uruguay	2,971	6.0	15.0
Venezuela, R. B. de	16,677	4.4	14.1
Europe and Central Asia	**265,272**	**2.5**	**30.6**
Armenia	841	−6.7	40.3
Azerbaijan	1,976	2.2	31.9
Belarus	8,149	6.0	26.0
Bulgaria	5,771	3.3	46.1
Europe and Central Asia (continued)			
Czech Republic	36,746	14.1	67.0
Estonia	4,255	22.3	83.0
Georgia	1,047	30.3	37.0
Hungary	30,759	11.9	63.7
Kazakstan	9,322	25.2	46.9
Kyrgyz Republic	552	−1.2	37.5
Latvia	3,351	14.7	46.9
Lithuania	5,740	25.2	49.7
Moldova	…	…	…
Poland	53,874	13.1	32.8
Romania	14,124	10.1	35.6
Russian Federation	65,387	4.1	21.1
Slovak Republic	13,978	10.6	65.8
Tajikistan	1,290	1.0	22.0
TFYR Macedonia	…	…	…
Turkmenistan	2,073	35.4	34.8
Turkey	41,460	6.4	29.7
Ukraine	15,959	5.0	42.2
Uzbekistan	3,331	25.2	33.8
Middle East and N. Africa	**106,531**	**1.3**	**19.2**
Algeria	11,775	5.2	20.4
Egypt, Arab Rep. of	15,016	3.4	16.1
Iran, Islamic Rep. of	16,665	−5.0	16.1
Iraq	…	…	…
Jordan	4,061	5.5	46.9
Morocco	10,273	3.9	28.3
Oman	4,735	3.8	24.6
Saudi Arabia	28,427	0.8	15.1
Syrian Arab Rep.	3,757	4.8	21.2
Tunisia	9,349	6.0	44.4
Yemen, Rep. of	2,473	1.9	26.6
Sub-Saharan Africa	**76,253**	**4.8**	**22.3**
Angola	2,477	9.2	27.1
Botswana	2,258	3.6	34.1
Côte d'Ivoire	2,741	−0.2	28.3
Cameroon	1,359	−3.6	13.5
Ethiopia	1,019	−0.8	15.7
Gabon	1,034	3.5	18.8
Ghana	2,326	9.2	30.6
Kenya	3,279	0.3	27.9
Madagascar	954	7.6	20.9
Nigeria	10,598	2.7	25.7
Senegal	1,351	1.5	29.2
Sub-Saharan Africa (continued)			
South Africa	27,873	5.5	25.3
Sudan	1,439	2.4	11.5
Zambia	1,018	2.8	27.9
Zimbabwe	920	−5.9	10.2
High-income countries	**4,703,638**	**6.9**	**18.9**
Industrial countries	**4,188,176**	**6.9**	**17.4**
G-7 countries	**3,037,774**	**6.7**	**14.7**
Canada	226,372	6.7	32.1
France	307,429	5.5	23.5
Germany	457,102	5.1	24.6
Italy	243,055	3.9	22.3
Japan	312,894	5.2	7.5
United Kingdom	324,362	6.9	22.8
United States	1,166,561	9.3	11.6
Other industrial	**1,150,401**	**7.3**	**33.3**
Australia	61,856	7.0	17.2
Austria	64,325	6.1	34.2
Belgium[a]	168,485	38.4	73.3
Denmark	43,956	3.3	27.2
Finland	30,341	3.8	24.9
Greece	29,684	6.0	25.5
Iceland	2,066	3.4	27.4
Ireland	51,300	9.7	49.7
Korea, Rep. of	141,096	7.1	33.4
Netherlands	174,344	6.9	45.8
New Zealand	12,447	5.3	25.8
Norway	33,682	2.4	20.0
Portugal	…	…	…
Spain	146,449	7.5	25.1
Sweden	62,331	5.4	29.7
Switzerland	89,251	3.2	36.3
Other high-income	**515,462**	**7.4**	**67.6**
Bahrain	4,929	1.8	83.3
Brunei	1,427	1.9	48.4
Hong Kong, China	198,588	7.8	21.1
Israel	35,111	7.1	30.3
Kuwait	6,764	3.0	19.8
Qatar	…	…	…
Singapore	109,852	7.0	28.3
Taiwan, China	107,298	6.8	38.1
United Arab Emirates	39,769	11.1	82.6

CIF is cost insurance and freight.
a. Includes Luxembourg
Source: See Technical Notes.

Figure A3.6a Merchandise imports as share of GDP, 2001

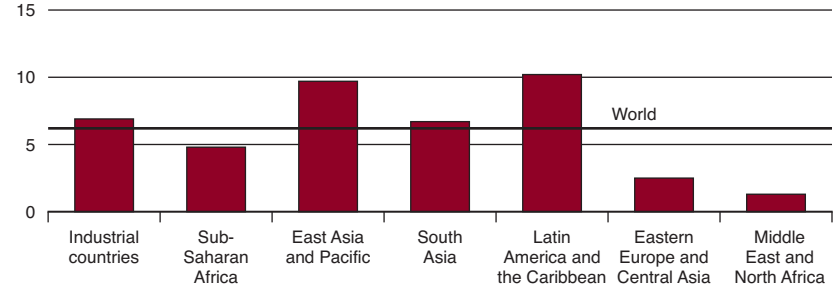
(percent)



Source: World Bank data.

Figure A3.6b Annual growth rate of import volumes, 1992–2001

(percent)



Source: World Bank data.

Table A3.7 Direction of merchandise trade, 2001

(percentage of world trade)

Source of exports	High-income importers							Low- and middle-income importers							World
	United States	EU-15	Japan	Other industrial	All industrial	Other high-income	All high-income	Sub Saharan Africa	East Asia and Pacific	South Asia	Europe and Central Asia	Middle East and North Africa	Latin America and the Caribbean	All low- and middle-income	
High-income economies	**12.8**	**27.8**	**3.3**	**6.6**	**52.1**	**5.7**	**57.8**	**0.9**	**6.1**	**0.8**	**3.4**	**1.5**	**4.5**	**17.1**	**74.9**
Industrial	11.0	26.4	2.4	6.3	47.3	4.4	51.8	0.8	3.7	0.5	3.3	1.4	4.3	13.9	65.7
United States	…	2.6	1.0	3.4	7.4	1.1	8.5	0.1	0.8	0.1	0.2	0.2	2.8	4.2	12.8
EU-15	3.7	20.4	0.7	2.2	27.2	1.4	28.6	0.5	0.9	0.2	2.9	0.8	0.9	6.2	34.8
Japan	2.2	1.1	…	0.3	4.1	1.2	5.3	0.1	1.2	0.1	0.1	0.1	0.3	1.8	7.1
Other industrial	4.5	2.0	0.4	0.3	7.3	0.3	7.6	0.0	0.3	0.1	0.1	0.1	0.1	0.8	8.4
Other high-income	1.9	1.4	0.9	0.3	4.8	1.2	6.0	0.1	2.4	0.3	0.1	0.1	0.2	3.2	9.2
Low- and middle-income economies	**6.7**	**6.1**	**2.1**	**0.7**	**16.4**	**2.8**	**19.2**	**0.5**	**1.4**	**0.4**	**1.8**	**0.5**	**1.3**	**5.9**	**25.1**
Sub-Saharan Africa	0.3	0.5	0.0	0.0	0.9	0.1	1.0	0.2	0.1	0.0	0.0	0.0	0.1	0.4	1.4
East Asia and Pacific	1.9	1.3	1.5	0.3	5.5	2.0	7.5	0.1	0.7	0.2	0.2	0.1	0.2	1.6	9.1
South Asia	0.3	0.3	0.0	0.0	0.7	0.1	0.8	0.0	0.1	0.1	0.0	0.0	0.0	0.3	1.1
Europe and Central Asia	0.3	0.8	0.3	0.0	1.7	0.3	2.0	0.1	0.3	0.1	0.1	0.1	0.0	0.6	2.6
Middle East and North Africa	0.3	0.8	0.3	0.0	1.7	0.3	2.0	0.1	0.3	0.1	0.1	0.1	0.0	0.6	2.6
Latin America and the Caribbean	3.6	0.7	0.1	0.2	4.6	0.1	4.7	0.0	0.1	0.0	0.1	0.1	0.9	1.2	5.9
World	**19.5**	**33.9**	**5.5**	**7.3**	**68.5**	**8.5**	**77.0**	**1.4**	**7.5**	**1.2**	**5.2**	**2.0**	**5.8**	**23.0**	**100.0**

EU is European Union.
a. Expressed as a share (percent) of total world exports. World merchandise exports in 2001 amounted to some $6,000 billion.
b. Other high-income group includes the Asian newly industrializing economies, several oil exporters in the Gulf region, and Israel.
Source: International Monetary Fund, *Direction of Trade Statistics*.

Table A3.8 Growth of current dollar merchandise trade, by direction 1992–2001

(average annual percentage growth)

Source of exports	High-income importers							Low- and middle-income importers							World
	United States	EU-15	Japan	Other industrial	All industrial	Other high-income	All high-income	Sub Saharan Africa	East Asia and Pacific	South Asia	Europe and Central Asia	Middle East and North Africa	Latin America and the Caribbean	All low- and middle-income	
High-income economies	**6.7**	**1.7**	**2.7**	**4.3**	**3.2**	**5.5**	**3.4**	**1.7**	**9.1**	**5.2**	**8.2**	**0.4**	**8.7**	**7.0**	**4.1**
Industrial	6.9	1.6	1.9	4.3	3.0	4.9	3.1	1.6	8.6	2.4	8.1	0.3	8.7	6.6	3.8
United States	…	3.0	1.8	6.4	4.2	5.2	4.3	3.8	9.4	4.0	3.0	0.4	9.9	8.2	5.5
EU-15	8.0	1.4	2.6	2.6	2.2	6.6	2.4	1.6	7.6	1.1	9.3	0.1	7.4	5.9	2.9
Japan	2.9	−0.7	…	−0.5	1.5	2.8	1.8	−2.6	7.2	−1.0	−1.9	−2.5	3.2	4.3	2.3
Other industrial	8.8	2.8	0.3	3.8	5.9	3.2	5.8	2.7	6.0	5.8	1.4	3.4	6.1	4.6	5.7
Other high-income	5.5	4.8	5.1	3.7	5.4	7.7	5.8	2.6	10.0	12.1	11.5	1.6	8.0	9.4	6.9
Low- and middle-income economies	**12.2**	**6.9**	**6.9**	**9.0**	**9.0**	**7.7**	**8.8**	**12.8**	**15.6**	**11.0**	**9.5**	**5.5**	**11.2**	**11.0**	**9.3**
Sub-Saharan Africa	9.1	4.9	9.1	7.5	6.9	24.0	7.5	12.4	22.1	17.9	9.0	8.9	16.8	14.6	9.1
East Asia and Pacific	15.5	11.5	9.8	13.1	12.3	7.4	10.7	16.4	16.4	14.6	12.2	8.2	22.0	15.1	11.4
South Asia	12.5	5.8	0.5	7.5	7.8	9.8	8.1	11.7	15.6	11.6	−2.3	4.8	24.3	8.4	8.2
Europe and Central Asia	1.3	2.4	3.8	0.4	3.1	5.9	3.5	16.0	18.5	7.8	−2.7	3.4	0.0	7.5	4.3
Middle East and North Africa	1.3	2.4	3.8	0.4	3.1	5.9	3.5	16.0	18.5	7.8	−2.7	3.4	0.0	7.5	4.3
Latin America and the Caribbean	12.6	2.5	−0.9	9.0	9.6	2.1	9.5	7.7	13.1	10.0	8.3	5.7	10.3	10.0	9.6
World	**8.2**	**2.4**	**4.1**	**4.7**	**4.3**	**6.2**	**4.5**	**4.3**	**10.1**	**7.0**	**8.6**	**1.4**	**9.2**	**7.9**	**5.2**

EU is European Union.
Note: Growth rates are compound averages.
Source: International Monetary Fund, *Direction of Trade Statistics*.

Table A3.9 Structure of long-term debt, 2000

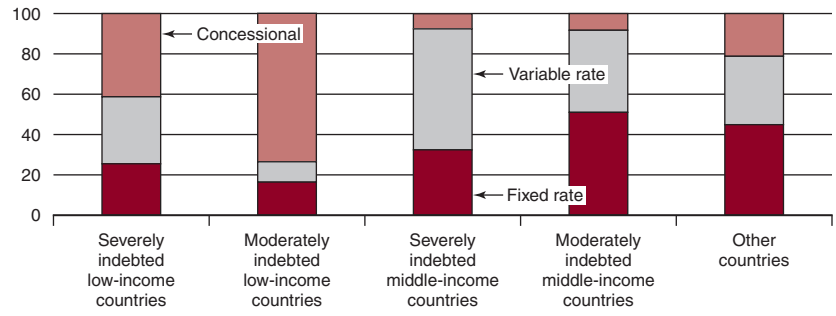
Share of long-term debt (percent): concessional debt; nonconcessional debt at variable interest rates; nonconcessional debt at fixed interest rates

	Concessional	Nonconcessional	
		Variable	Fixed
All developing countries	**18.7**	**40.3**	**41.0**
Asia	**28.5**	**38.3**	**33.2**
East Asia	**20.1**	**44.9**	**35.0**
China	20.9	26.4	52.7
Indonesia	27.9	61.8	10.4
Korea, Rep. of	1.8	53.8	44.4
Malaysia	6.1	60.7	33.2
Myanmar	79.6	10.4	10.0
Papua New Guinea	36.1	12.3	51.6
Philippines	29.6	33.0	37.4
Thailand	14.9	52.0	33.1
Vietnam	68.2	16.6	15.3
South Asia	**55.5**	**17.4**	**27.0**
Bangladesh	97.9	0.0	2.1
India	39.4	20.2	40.4
Nepal	99.8	0.0	0.2
Pakistan	60.7	27.3	12.1
Sri Lanka	85.7	5.8	8.5
Latin America	**4.7**	**56.1**	**39.2**
Argentina	1.5	45.5	53.0
Bolivia	60.3	27.0	12.7
Brazil	1.1	76.1	22.8
Chile	1.0	55.2	43.7
Colombia	3.1	60.8	36.1
Costa Rica	16.7	24.1	59.2
Dominican Republic	42.7	33.7	23.6
Ecuador	16.7	29.9	53.4
El Salvador	38.9	34.4	26.7
Guatemala	40.3	30.1	29.6
Jamaica	25.9	24.4	49.7
Mexico	0.8	44.5	54.7
Nicaragua	53.6	22.2	24.2
Panama	5.6	45.1	49.3
Paraguay	34.4	44.0	21.7
Peru	16.3	58.4	25.3
Trinidad and Tobago	0.6	39.2	60.3
Uruguay	3.5	51.0	45.5
Venezuela, R. B. de	0.2	60.3	39.5
Europe and Central Asia	**5.9**	**34.8**	**59.3**
Armenia	71.7	18.0	10.3
Azerbaijan	50.4	23.4	26.3
Belarus	12.0	59.6	28.3
Europe and Central Asia (continued)			
Bulgaria	4.3	75.9	19.7
Czech Republic	1.8	27.4	70.9
Estonia	1.6	23.6	74.8
Georgia	61.0	8.8	30.1
Hungary	1.2	17.7	81.0
Kazakhstan	3.6	16.8	79.6
Kyrgyz Republic	58.3	15.6	26.1
Latvia	5.5	60.4	34.1
Lithuania	3.2	21.0	75.8
Moldova	19.3	45.0	35.6
Poland	12.1	56.0	31.9
Romania	3.4	41.9	54.7
Russian Federation	0.3	19.7	80.0
Slovak Republic	3.9	22.6	73.6
Tajikistan	76.6	7.7	15.8
Turkmenistan	…	…	…
Turkey	5.9	45.3	48.7
Ukraine	23.3	35.0	41.6
Uzbekistan	22.3	58.2	19.5
Middle East and N. Africa	**36.9**	**28.8**	**34.3**
Algeria	13.3	49.8	36.9
Egypt, Arab Rep. of	84.5	6.2	9.3
Jordan	56.1	30.2	13.7
Morocco	31.5	32.4	36.1
Oman	16.7	30.6	52.7
Syrian Arab Rep. of	93.0	0.0	7.0
Tunisia	26.8	20.8	52.4
Yemen, Rep. of	95.9	1.8	2.3
Sub-Saharan Africa	**47.5**	**11.2**	**41.4**
Angola	22.4	9.9	67.6
Botswana	64.2	10.2	25.6
Côte d'Ivoire	39.1	46.6	14.3
Cameroon	54.6	11.0	34.4
Ethiopia	90.3	0.2	9.5
Gabon	39.6	9.5	50.9
Ghana	82.2	4.6	13.2
Kenya	76.4	5.9	17.7
Madagascar	66.9	5.0	28.1
Nigeria	4.4	6.0	89.6
Senegal	86.8	9.5	3.7
South Africa	0.0	20.2	79.8
Sudan	50.0	17.9	32.2
Zambia	79.3	6.1	14.7
Zimbabwe	46.5	21.2	32.4

Note: Nonconcessional debt data are available only for countries which report to the World Bank's Debtor Reporting System. For aggregate figures, missing values are assumed to have the same average value as the available data.
Source: World Bank data; see Technical Notes.

Figure A3.9a Structure of long-term debt, by group, 2000

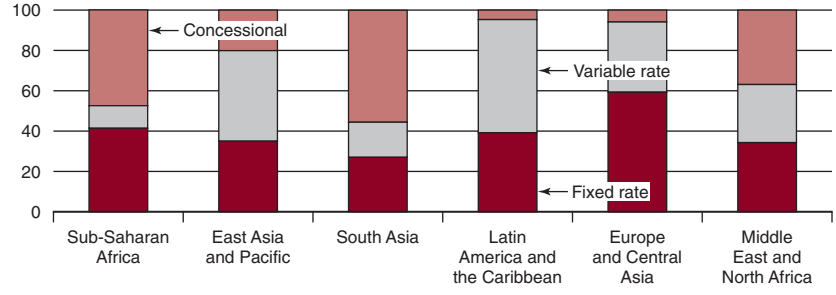
(percent)



Source: World Bank data.

Figure A3.9b Structure of long-term debt, by region, 2000

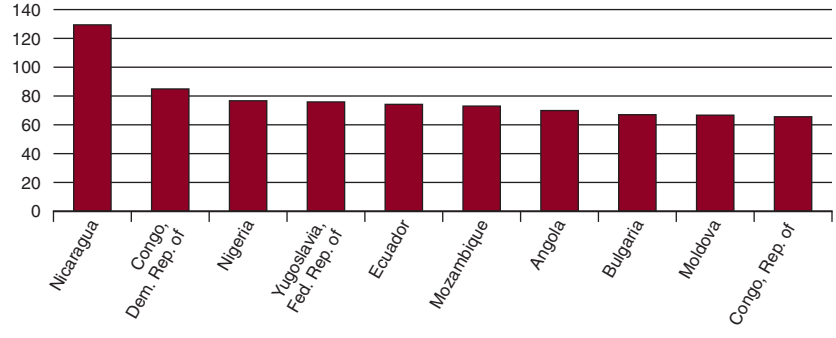
(percent)



Source: World Bank data.

Figure A3.9c Top ten ratios of nonconcessional debt to GDP, 2000

(percent)



Source: World Bank data.

Table A3.10 Long-term net resource flows to developing countries, 2000

(millions of dollars)

	Total *millions $*	Percent GDP	Private				Official		
			Total	Debt flows (net)	FDI	Portfolio	Total	ODA	Other
All developing countries	**261,133**	**4.3**	**225,846**	**8,288**	**166,691**	**50,867**	**35,287**	**38,088**	**−2,801**
Asia	**87,822**	**4.0**	**74,947**	**−14,686**	**55,223**	**34,411**	**12,874**	**10,918**	**1,956**
East Asia	**74,556**	**4.7**	**65,693**	**−18,721**	**52,130**	**32,285**	**8,863**	**6,649**	**2,214**
China	60,525	5.6	58,295	−2,302	38,399	22,198	2,230	992	1,238
Indonesia	−9,156	−6.0	−11,210	−7,039	−4,550	379	2,053	1,173	881
Korea, Rep. of	13,875	3.0	13,215	−3,852	9,283	7,784	660	−73	733
Malaysia	3,411	3.8	3,229	1,027	1,660	542	182	52	131
Myanmar	244	...	188	−66	255	0	55	55	0
Papua New Guinea	335	9.6	128	−50	130	48	207	118	90
Philippines	2,401	3.2	2,459	140	2,029	290	−57	528	−585
Thailand	−525	−0.4	−1,383	−5,793	3,366	1,044	858	1,129	−271
Vietnam	1,790	5.7	581	−717	1,298	0	1,209	1,195	14
South Asia	**13,265**	**2.2**	**9,254**	**4,035**	**3,093**	**2,126**	**4,011**	**4,269**	**−258**
Bangladesh	1,207	2.6	269	−14	280	3	938	931	7
India	9,928	2.2	8,771	4,340	2,315	2,117	1,157	1,463	−306
Nepal	237	4.3	−4	−8	4	0	240	240	0
Pakistan	526	0.9	−53	−361	308	0	578	580	−1
Sri Lanka	530	3.3	262	83	173	6	268	239	28
Latin America	**99,315**	**4.9**	**97,304**	**12,839**	**75,088**	**9,378**	**2,010**	**3,245**	**−1,235**
Argentina	16,719	5.9	16,620	4,504	11,665	450	100	−222	321
Bolivia	1,230	14.8	923	190	733	0	307	341	−34
Brazil	43,934	7.4	45,672	7,877	32,779	5,016	−1,738	340	−2,078
Chile	4,733	6.7	4,834	1,141	3,675	18	−101	0	−101
Colombia	3,312	4.0	3,130	728	2,376	26	182	119	63
Costa Rica	573	3.6	610	201	409	0	−36	−31	−6
Dominican Republic	1,103	5.6	1,142	115	953	74	−40	−22	−17
Ecuador	1,172	8.6	904	194	710	0	268	98	170
El Salvador	467	3.5	338	153	185	0	129	56	73
Guatemala	415	2.2	178	−52	230	0	238	173	65
Jamaica	972	12.6	898	442	456	0	74	−8	81
Mexico	11,035	1.9	11,536	−5,267	13,286	3,517	−502	−80	−422
Nicaragua	797	38.5	395	141	254	0	401	429	−28
Panama	946	9.4	947	344	603	0	−1	−15	14
Paraguay	99	1.3	−16	−98	82	0	115	12	103
Peru	2,291	4.3	1,553	668	680	205	738	613	125
Trinidad and Tobago	633	8.2	673	23	650	0	−40	0	−39
Uruguay	719	3.6	574	276	298	0	145	−8	152
Venezuela, R. B. de	5,708	4.7	5,454	919	4,464	71	254	57	197
Europe and Central Asia	**54,000**	**5.8**	**45,446**	**11,560**	**28,495**	**5,391**	**8,553**	**8,138**	**416**
Armenia	270	14.1	159	19	140	0	111	119	−8
Azerbaijan	305	5.8	175	45	130	0	130	168	−38
Belarus	125	1.2	122	32	90	0	3	26	−23
Bulgaria	1,363	11.4	1,114	107	1,002	5	249	337	−87
Czech Republic	3,441	6.8	3,299	−1,901	4,583	617	142	154	−12
Estonia	514	10.3	485	126	387	−29	29	48	−19
Georgia	207	6.8	155	24	131	0	52	64	−12
Hungary	1,643	3.6	1,721	29	1,692	0	−78	11	−89
Kazakhstan	1,979	10.8	1,900	650	1,250	0	80	111	−31
Kyrgyz Republic	112	8.2	−65	−62	−2	0	177	178	−1
Latvia	669	9.4	583	176	407	0	86	50	36
Lithuania	910	8.0	799	269	379	151	111	63	48
Moldova	269	20.9	209	81	128	0	60	62	−2
Poland	13,413	8.5	13,195	2,982	9,342	871	218	470	−251
Romania	2,606	7.1	1,900	875	1,025	0	706	177	529
Russian Federation	2,508	1.0	2,200	−1,589	2,714	1,075	308	661	−354
Slovak Republic	2,234	11.7	2,185	133	2,052	0	49	51	−3
Tajikistan	134	13.5	64	40	24	0	70	70	0
Turkmenistan	...	...	...	...	...	...	...	...	...
Turkey	12,217	6.1	11,416	7,733	982	2,701	801	37	763
Ukraine	169	0.5	927	332	595	0	−759	−785	26
Uzbekistan	303	2.2	18	−82	100	0	284	261	24
Middle East and N. Africa	**1,470**	**0.2**	**1,074**	**−931**	**1,209**	**795**	**396**	**3,223**	**−2,827**
Algeria	−1,678	−3.1	−1,212	−1,226	10	4	−465	−81	−384
Egypt, Arab Rep. of	2,312	2.3	1,967	114	1,235	619	345	541	−196
Iran, Islamic Rep. of	−2,253	−2.2	−610	−649	39	0	−1,643	−11	−1,632
Jordan	807	9.6	455	−115	558	12	352	369	−17
Morocco	−460	−1.4	−293	−449	10	147	−167	96	−263
Oman	69	0.5	57	23	23	11	12	21	−9
Syrian Arab Rep.	68	2.1	107	−4	111	0	−40	−14	−26
Tunisia	1,009	5.2	966	214	752	0	44	190	−146
Yemen, Rep. of	−12	−0.1	−201	0	−201	0	189	210	−21

Table A3.10 Long-term net resource flows to developing countries, 2000 (continued)

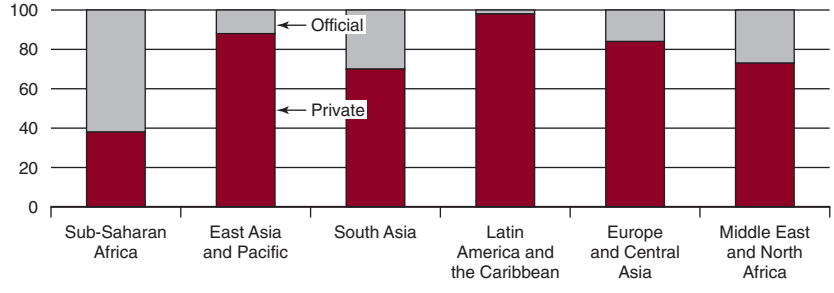
(millions of dollars)

	Total *Millions $*	Percent GDP	Private				Official		
			Total	Debt flows (net)	FDI	Portfolio	Total	ODA	Other
Sub-Saharan Africa	**18,527**	**5.7**	**7,074**	**−494**	**6,676**	**893**	**11,453**	**12,563**	**−1,110**
Angola	1,407	15.9	1,206	−492	1,698	0	201	230	−29
Botswana	11	0.2	27	−3	30	0	−16	10	−26
Côte d'Ivoire	56	0.5	−47	−159	106	6	103	237	−134
Cameroon	185	2.1	−21	−52	31	0	205	292	−87
Ethiopia	587	9.2	42	−8	50	0	545	565	−20
Gabon	−24	−0.5	142	−8	150	0	−166	9	−175
Ghana	483	9.7	71	−57	110	17	412	442	−29
Kenya	374	3.6	53	−61	111	4	321	403	−82
Madagascar	298	7.7	83	0	83	0	215	219	−3
Nigeria	706	1.7	907	−177	1,082	2	−201	113	−314
Senegal	349	8.0	106	−2	107	0	243	276	−33
South Africa	2,957	2.3	2,736	911	961	864	221	219	3
Sudan	563	5.0	392	0	392	0	171	173	−2
Zambia	778	24.0	191	−9	200	0	587	620	−33
Zimbabwe	108	1.5	29	−50	79	1	79	145	−66

FDI is foreign direct investment; ODA is official development assistance.
Source: World Bank data; see Technical Notes.

Figure A3.10a Distribution of long-term net resource flows, 2000

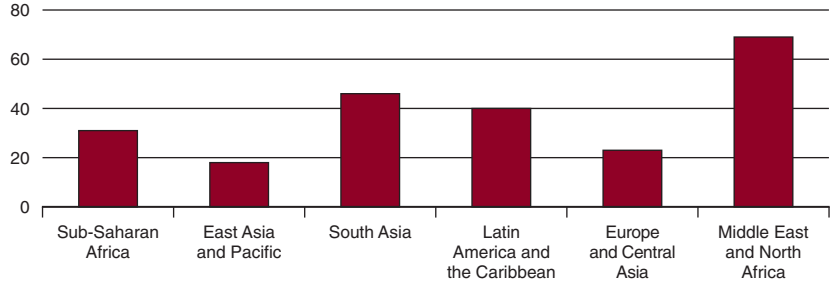
(percent)



Source: World Bank data.

Figure A3.10b Change in share of private long-term flows, 1990–2000

(percent)



Source: World Bank data.

Technical Notes

The principal sources for the data in this appendix are the World Bank's central databases and several International Monetary Fund databases, combined with data sourced from the OECD and from Oxford Economics Inc. (OEF), covering the industrial and other high-income economies. The cut-off date for data updates was November 15, 2002. Data revisions and new releases since that time have not been incorporated in the tables. Regional aggregates are based on the classification of economies by income group and by region, following the Bank's standard definitions (see country classification tables that follow).

Debt and finance data (appendix tables A3.9 and A3.10) cover the 137 countries that report to the World Bank's Debtor Reporting System (DRS), supplemented by data for non-DRS countries, for which commercial market information has been utilized. Small countries have generally been omitted from the tables, but are included in the regional totals. Current price data are reported in U.S. dollars.

Notes on tables

Tables A3.1 through A3.4. Historic data sourced from the databases noted above, while projections are consistent with those highlighted in chapter 1 and appendix 1.

Tables A3.5 and A3.6. Merchandise trade data is sourced from combined IMF, World Bank, OECD, and OEF sources. Merchandise exports and imports exclude trade in services. Imports are reported on a cost-insurance-and-freight basis. Trade values are expressed in millions of current U.S. dollars, while growth rates are based on constant price data, which are derived from current values deflated by relevant price indices or unit value measures. Effective market growth (EMG) in table A.3.5 is the export-weighted growth of each country's trading partner imports.

Tables A3.7 and A3.8. The IMF's Direction of Trade database serves as the underlying source for the bilateral trade share- and growth information highlighted in these tables. Growth rates are compound annual averages, and are computed from current U.S. dollar measures of trade flows.

Table A3.9. Long-term debt covers public and publicly guaranteed debt but excludes IMF credits. Concessional debt is that with an original grant element of 25 percent or more. Nonconcessional variable interest-rate debt includes all public and publicly guaranteed long-term debt with an original grant element of less-than 25 percent, whose terms depend on movements in a key market interest rate. This item conveys information about the borrower's exposure to changes in international interest rates.

Table A3.10. Long-term net resource flows are the sum of net resource flows on long-term debt (excluding IMF) plus non-debt-creating flows. Foreign direct investment refers to net *inflows* of investment from abroad. Portfolio equity flows are the sum of country funds, depository receipts and direct purchases of shares by foreign investors.

Classification of Economies

Classification of economies by income and region, July 2002

		Sub-Saharan Africa		Asia		Europe and Central Asia		Middle East and North Africa		Americas
Income group	Subgroup	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 countries		Angola Burundi Comoros Congo, Dem. Rep. of Eritrea Ethiopia Kenya Lesotho Madagascar Malawi Mozambique Rwanda Somalia Sudan Tanzania Uganda Zambia Zimbabwe	Benin Burkina Faso Cameroon Central African Republic Chad Congo, Rep. of Côte d'Ivoire Equatorial Guinea Gambia, The Ghana Guinea Guinea-Bissau Liberia Mali Mauritania Niger Nigeria São Tomé and Principe Senegal Sierra Leone Togo	Cambodia Indonesia Korea, Dem. Rep. Lao PDR Mongolia Myanmar Papua New Guinea Solomon Islands Timor-Leste Vietnam	Afghanistan Bangladesh Bhutan India Nepal Pakistan	Armenia Azerbaijan Georgia Kyrgyz Republic Moldova Tajikistan Ukraine Uzbekistan		Yemen, Rep. of		Haiti Nicaragua
Middle-income countries	*Lower*	Namibia South Africa Swaziland	Cape Verde	China Fiji Kiribati Marshall Islands Micronesia, Fed. Sts. of Philippines Samoa Thailand Tonga Vanuatu	Maldives Sri Lanka	Albania Belarus Bosnia and Herzegovina Bulgaria Kazakhstan Macedonia, FYR[a] Romania Russian Federation Turkmenistan Yugoslavia, Fed. Rep. of	Turkey	Iran, Islamic Rep. of Iraq Jordan Syrian Arab Republic West Bank and Gaza	Algeria Djibouti Egypt, Arab Rep. of Morocco Tunisia	Belize Bolivia Colombia Cuba Dominican Republic Ecuador El Salvador Guatemala Guyana Honduras Jamaica Paraguay Peru St. Vincent and the Grenadines Suriname
	Upper	Botswana Mauritius Mayotte Seychelles	Gabon	American Samoa Malaysia Palau		Croatia Czech Republic Estonia Hungary Latvia Lithuania Poland Slovak Republic	Isle of Man	Lebanon Oman Saudi Arabia	Libya Malta	Antigua and Barbuda Argentina Barbados Brazil Chile Costa Rica Dominica Grenada Mexico Panama Puerto Rico St. Kitts and Nevis St. Lucia Trinidad and Tobago Uruguay Venezuela, R. B. de
Subtotal	156	25	23	23	8	26	2	9	7	33

Classification of economies by income and region, July 2002 (continued)

		Sub-Saharan Africa		Asia		Europe and Central Asia		Middle East and North Africa		Americas
Income group	Subgroup	East and Southern Africa	West Africa	East Asia and Pacific	South Asia	Eastern Europe and Central Asia	Rest of Europe	Middle East	North Africa	
High-income countries	*OECD*			Australia Japan Korea, Rep. of New Zealand			Austria Belgium Denmark Finland France[b] Germany Greece Iceland Ireland Italy Luxembourg Netherlands Norway Portugal Spain Sweden Switzerland United Kingdom			Canada United States
	Non-OECD			Brunei French Polynesia Guam Hong Kong, China[c] Macao, China[d] New Caledonia N. Mariana Islands Singapore Taiwan, China		Slovenia	Andorra Channel Islands Cyprus Faeroe Islands Greenland Liechtenstein Monaco San Marino	Bahrain Israel Kuwait Qatar United Arab Emirates		Aruba Bahamas, The Bermuda Cayman Islands Netherlands Antilles Virgin Islands (U.S.)
Total	209	25	23	36	8	27	28	14	7	41

a. Former Yugoslav Republic of Macedonia.
b. The French overseas departments French Guiana, Guadeloupe, Martinique, and Réunion are included in France.
c. On 1 July 1997 China resumed its exercise of sovereignty over Hong Kong.
d. On 20 December 1999 China resumed its exercise of sovereignty over Macao.
Source: World Bank data.

Definition of groups

For operational and analytical purposes, the World Bank's main criterion for classifying economies is gross national income (GNI) per capita. Every economy is classified as low income, middle income (subdivided into lower middle and upper middle), or high income. Other analytical groups, based on geographic regions and levels of external debt, are also used.

Low-income and middle-income economies are sometimes referred to as developing economies. The use of the term is convenient; it is not intended to imply that all economies in the group are experiencing similar development or that other economies have reached a preferred or final stage of development. Classification by income does not necessarily reflect development status.

This table classifies all World Bank member economies, and all other economies with populations of more than 30,000. Economies are divided among income groups according to 2001 GNI per capita, calculated using the World Bank Atlas method. The groups are: low income, $745 or less; lower middle income, $746–$2,975; upper middle income, $2,976–$9,205; and high income, $9,206 or more.

Classification of economies by income and indebtedness, July 2002

Income group	Sub-group	Severely indebted	Moderately indebted	Less indebted	Not classified by indebtedness
Low-income countries		Afghanistan Angola Benin Burundi Cameroon Central African Republic Chad Comoros Congo, Dem. Rep. of Congo, Rep. of Côte d'Ivoire Ethiopia Guinea Guinea-Bissau Indonesia Kyrgyz Republic Lao PDR Liberia Madagascar Malawi Mauritania Myanmar Nicaragua Niger Nigeria Pakistan Rwanda São Tomé and Principe Sierra Leone Somalia Sudan Tajikistan Tanzania Zambia	Burkina Faso Cambodia Gambia, The Ghana Haiti Kenya Mali Moldova Mongolia Mozambique Papua New Guinea Senegal Togo Uganda Uzbekistan Yemen, Rep. of Zimbabwe	Armenia Azerbaijan Bangladesh Bhutan Equatorial Guinea Eritrea Georgia India Korea, Dem. Rep. of Lesotho Nepal Solomon Islands Ukraine Vietnam	Timor-Leste
Middle-income countries	*Lower*	Cuba Ecuador Guyana Iraq Jordan Peru Syrian Arab Republic	Algeria Belize Bolivia Bosnia and Herzegovina Bulgaria Colombia Honduras Jamaica Philippines Russian Federation Samoa St. Vincent and the Grenadines Thailand Tunisia Turkey Turkmenistan	Albania Belarus Cape Verde China Djibouti Dominican Republic Egypt, Arab Rep. of El Salvador Fiji Guatemala Iran, Islamic Rep. of Kazakhstan Kiribati Macedonia, FYR[a] Maldives Morocco Namibia Paraguay Romania South Africa Sri Lanka Suriname Swaziland Tonga Vanuatu Yugoslavia, Fed. Rep. of	Marshall Islands Micronesia, Fed. Sts. West Bank and Gaza
	Upper	Argentina Brazil Gabon	Chile Croatia Estonia Hungary Lebanon Malaysia Mauritius Panama Uruguay Venezuela, R. B. de	Antigua and Barbuda Barbados Botswana Costa Rica Czech Republic Dominica Grenada Latvia Libya Lithuania Malta Mexico Oman Poland Saudi Arabia Seychelles Slovak Republic St. Kitts and Nevis St. Lucia Trinidad and Tobago	American Samoa Isle of Man Mayotte Palau Puerto Rico

Classification of economies by income and indebtedness, July 2002 (continued)

Income group	Sub-group	Severely indebted	Moderately indebted	Less indebted	Not classified by indebtedness
High-income countries	*OECD*				Australia, Austria, Belgium, Canada, Denmark, Finland, France[b], Germany, Greece, Iceland, Ireland, Italy, Japan, Korea, Rep. of, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States
	Non-OECD				Andorra, Aruba, Bahamas, The, Bahrain, Bermuda, Brunei, Cayman Islands, Channel Islands, Cyprus, Faeroe Islands, French Polynesia, Greenland, Guam, Hong Kong, China[d], Israel, Kuwait, Liechtenstein, Macao, China[c], Monaco, Netherlands Antilles, New Caledonia, N. Mariana Islands, Qatar, San Marino, Singapore, Slovenia, Taiwan, China, United Arab Emirates, Virgin Islands (U.S.)
Total	209	44	43	60	62

a. Former Yugoslav Republic of Macedonia.
b. The French overseas departments French Guiana, Guadeloupe, Martinique, and Réunion are included in France.
c. On 20 December 1999 China resumed its exercise of sovereignty over Macao.
d. On 1 July 1997 China resumed its exercise of sovereignty over Hong Kong.
Source: World Bank data.

Definitions of groups
This table classifies all World Bank member economies, and all other economies with populations of more than 30,000. Economies are divided among income groups according to 2001 GNI per capita, calculated using the World Bank Atlas method. The groups are: low income, $745 or less; lower middle income, $746–$2,975; upper middle income, $2,976–$9,205; and high income, $9,206 or more.

Standard World Bank definitions of severe and moderate indebtedness are used to classify economies in this table. *Severely indebted* means either: present value of debt service to GNI exceeds 80 percent or present value of debt service to exports exceeds 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 (DRS), 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 1998–2000) are above critical levels: debt to GNI (50 percent); debt to exports (275 percent); debt service to exports (30 percent); and interest to exports (20 percent). *Moderately indebted* means three of the 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*.