Reverse Linkages:
The Growing Importance of Developing Countries

SWATI R. GHOSH

As trade between developing and industrial countries grows and cross-border capital mobility increases, the developing countries will have a greater impact on the global economy. Although public debate has focused on possible adverse effects on the industrial economies, analysis suggests that the latter will benefit from growing integration.

THE DEVELOPING countries' economic prospects have long been heavily dependent on the industrial economies. But the share of world output, trade, and capital flows that can be attributed to developing countries has been increasing over the past two decades. As a result, "reverse linkages"—the impacts of developing countries on industrial countries—are becoming more significant.

Growth of the developing countries' output and trade—and of their share of world output and trade—has accelerated over the past five years (Charts 1 and 2). If this trend continues, over the next 10–15 years, developing countries can be expected to play a much greater role in the world economy—and have a much larger impact on industrial countries. Although the rising importance of developing countries in the international economy has so far been due to a relatively small number of countries, the recent acceleration of growth in the developing world has been broadly based, and this trend is expected to continue.

To date, the debate on reverse linkages has focused almost exclusively on one aspect—the potentially adverse consequences of growing trade between developing and industrial countries on employment and wages in the latter. However, comprehensive analysis of the three factors responsible for the growing impact of developing countries—expanding trade between industrial and developing countries, increasing financial integration, and relatively rapid growth in developing countries—suggests that if the process of integration is properly managed, benefits will outweigh costs to industrial countries.

Trade integration

In 1994, developing countries accounted for 24 percent of world imports; this share could rise to 30 percent by 2010 (Chart 3). Over the same period, their share of world exports of manufactures could increase from 17 to 22 percent. Developing countries currently buy roughly one-fourth of the industrial countries' exports; on present trends, that share could rise to more than one-third by 2010. The main factors driving this increase in trade are the reduction of trade barriers through trade liberalization and other reforms, lower transport and communication costs, and relatively high GDP growth in developing countries.

Swati R. Ghosh,
an Indian national, is an Economist in the International Finance Division of the World Bank's International Economics Department.

The role of developing countries in the world economy is growing

Chart 1
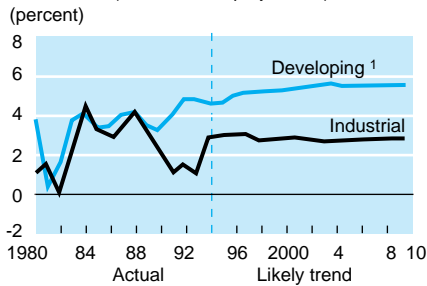**GDP growth in industrial and developing countries**
(1980–94 and projections)

(percent)

Chart 2
Developing countries' share of global GDP
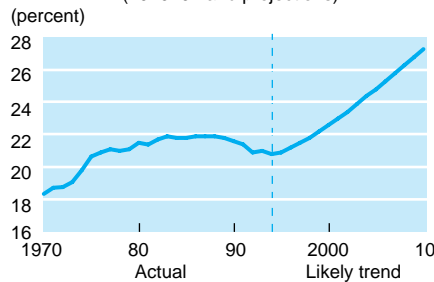(1970–94 and projections)

(percent)

Chart 3
Developing countries' share of world imports
(1986–94 and projections)
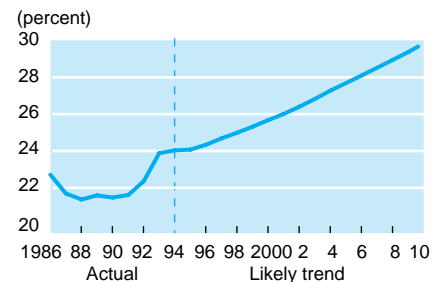
(percent)

Chart 4
Share of FDI flows to developing and industrial countries
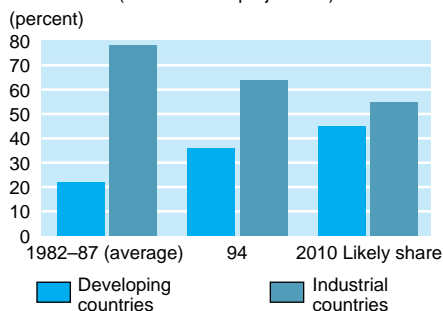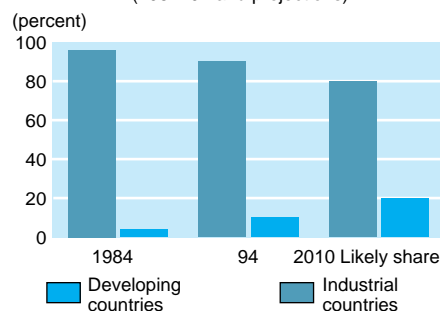(1982–94 and projections)

(percent)

Chart 5
Developing and industrial countries' share of world stock market capitalization
(1984–94 and projections)

(percent)

■ Developing countries   ■ Industrial countries

Source: World Bank data and staff estimates.

[1] Excludes the Baltic countries, Russia, and the other countries of the former Soviet Union, and Central and Eastern Europe.

Closer trade links between developing and industrial countries will generate gains for industrial countries at two levels. First, there will be specialization and efficiency gains from the exploitation of the traditional comparative advantages of trading partners, gains from the availability of a greater variety of goods, and, possibly, efficiency gains from economies of scale and increased competition. Second, first-round gains in efficiency and output will provide a second-round boost to output over the medium term. Increased efficiency in the first round will raise the return to capital, thereby leading to increased investment. Savings will also rise, either because of higher returns to savings or because part of the initial increase in output is saved—or both. A study by Levine and Renelt (see references) provides empirical evidence of increased openness leading to higher levels of investment. The second-round effect could take the form of a permanent increase in the growth rate of output if there are sufficient spillovers or economies of scale.

In theory, such "endogenous growth" could happen in several ways. For example, trade integration could allow firms to spread the costs of research and development over a larger market, thus reducing unit costs and encouraging greater innovation and technical progress. This can, in turn, generate positive spillovers as successful innovations are applied more broadly. Innovation could also be spurred by increased competition. Furthermore, innovation, by adding to the stock of public knowledge, can stimulate further innovation. Integration can also boost productivity growth by allowing increased specialization.

How large are the potential gains from trade integration likely to be? Price differences between countries for similar products provide a broad indication—the larger the differences, the greater the gains from specialization. Data compiled under the UN International Comparison Program indicate that these differences tend to be much larger between the industrial and the developing countries than between industrial countries.

Estimating the actual gains from growing trade integration is very difficult, however, because increased trade integration occurs in different ways with a variety of different effects. The gains from the one-off multilateral trade liberalization under the Uruguay Round

agreement provide one measure of possible gains. It is estimated that the Uruguay Round will lead to gains for industrial countries ranging from 0.3 percent of industrial country GDP under constant returns to scale to 0.4 percent under monopolistic competition and internal increasing returns to scale (when a doubling of inputs more than doubles output), and 0.75 percent under increasing external or industry-wide returns to scale, which can come into play as trade increases market size. Although these estimates may be seen as overstating benefits from trade integration with developing countries because they are, to a large extent, based on the liberalization of markets in industrial countries, they may actually understate gains because they do not include the effects of the substantial liberalization that developing countries had already undertaken as well as the efficiency gains from increased competition, foreign direct investment (FDI) flows that reinforce these gains, or potential benefits from trade in services.

The magnitude of the second-round boost to output will depend on the share of accumulable capital in production and on the externalities or spillovers associated with this capital.

If both physical and human capital can be accumulated and are stimulated by the increased returns to their accumulation, the induced second-round effect could amount to 0.8 percent of GDP (following an initial increase of 0.4 percent). If, however, there are also sufficient positive externalities associated with this capital that prevent the returns to it from diminishing over time, the second-round effect could take the form of an increase in the growth rate, as opposed to just an increase in the level of output. Although empirical testing of the significance of endogenous growth is at an early stage, there appears to be some preliminary support for this outcome. Studies have found a positive correlation between trade openness and total factor productivity (Wolff 1995), which could stem from some of the potential spillovers or externalities mentioned above. A study by Backus and others (1991) provides some sectoral evidence of one of the potential externalities: the dynamic economies of scale associated with learning-by-doing and specialization.

Positive spillovers would lead to substantial benefits for industrial countries. To illustrate, if the externalities associated with physical and human capital were large enough to prevent the returns to capital from diminishing—that is, to ensure endogenous growth —the initial increase in output and income resulting from the Uruguay Round trade liberalization would lead to an increase of 0.1 percentage point in the growth rate of industrial countries in the second round. Expressed as discounted income, this could amount to a second-round increase in output of about 3.2 percent of industrial country GDP. The gains from overall growth in trade integration with developing countries—not just those resulting from a one-off round of trade liberalization—would be much higher.

Financial integration

In 1992–94, developing countries received about 40 percent of global FDI inflows, compared with 23 percent in the mid-1980s, and the share of FDI flows going to the developing world is likely to keep going up as more developing countries open their markets and improve their growth prospects (Chart 4). In addition to the gains from FDI associated with trade and the globalization of production, investors enjoy high rates of return. Over the past three years, according to the US Department of Commerce's *Survey of Current Business*, the rate of return on FDI flows from the United States to the other Group of Seven nations averaged about 8 percent annually;

returns on FDI flows to the eight largest recipients among developing countries averaged about 21 percent annually. To some extent, of course, the higher returns reflect the greater risk in developing countries but, even adjusted for risk, rates of return are likely to be substantially higher in developing countries.

Investors from industrial countries also can diversify risk by investing in stock markets in developing countries because of the relatively low correlation between returns in emerging markets and those in industrial

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countries. The typical pension fund in the United States invests only 1–2 percent of its portfolio in emerging markets. Yet calculations for 1989–94 (Ghosh 1995) suggest that, if this share were increased to about 20 percent, the annual return on the entire portfolio would rise by almost 2 percentage points without increased risk. Although it may be difficult for developing countries to absorb such large magnitudes of investment at present, increases in market capitalization (Chart 5) will increase opportunities for portfolio diversification.

Rapid growth

The faster growth of the GDP of developing countries can lead to greater trade integration, generating first- and second-round gains for industrial countries. Indeed, over time, growth could be more important than trade liberalization as a source of gains from trade integration. Besides generating gains from trade integration, the rapid outward-oriented growth of developing countries will benefit industrial countries in other ways.

First, it stimulates demand for industrial country output. Growth in investment in developing countries boosts demand for imports of capital goods and services. The growing shift to the private sector and the prospective expansion of infrastructure investment in developing economies offer new opportunities for exports from industrial countries. In addition, income growth in developing countries will increase demand for more, increasingly sophisticated consumer goods, boosting imports from industrial countries. By 2010, there could be more than one billion consumers in developing countries (more than the current total population of all the industrial

countries) with per capita incomes exceeding those of Spain or Greece today. If developing countries continue to run current account deficits over the medium term, and if there is unemployed capacity in industrial countries, developing countries' increased demand for imports will lead to higher output in industrial countries. Based on current structure, a 1 percentage point increase in GDP growth in the developing countries could lead to an increase of 0.2 percentage points of GDP growth in industrial countries.

Second, the relatively faster growth of developing countries could improve the industrial countries' terms of trade. Terms of trade gains will depend on the relative growth of exportables and importables in the two groups of countries and income and price elasticities. Since developing countries tend to grow faster than industrial countries, supply of their exportables will tend to grow faster, other things being equal, than supply of industrial countries' exportables. The demand for exportables from industrial countries will also tend to rise more than the demand for exportables from developing countries because industrial countries tend to produce goods with greater income elasticity.

Third, to the extent that developing countries grow more rapidly than in the past, they will offer investors even higher rates of return, both on FDI and portfolio flows.

Adjustment costs

In the public debate about the benefits and costs to industrial countries of increased trade and financial integration with developing countries, the benefits generally fail to be recognized, in part because they are diffuse, often indirect, and accrue over time. The costs are likely to receive much more attention because they are concentrated in specific sectors and tend to be much more immediate in their impact; moreover, the surge in developing countries' trade with industrial countries over the past few years has coincided with adverse labor market conditions in the latter. The debate has focused on a number of issues: the effect of exports from developing countries on manufacturing output and employment in the industrial countries; the relationship between trade with developing countries and deindustrialization in some industrial countries; the effect of trade on widening wage inequality between skilled and low-skill workers in industrial countries, and on unemployment, especially of low-skill labor; and "decapitalization"—the possible decline in industries and jobs as a result of the increased flow of capital to developing countries.

Imports by countries belonging to the Organization for Economic Cooperation and Development (OECD) of manufactured goods from developing countries increased, as a share of the value of OECD manufacturing output, from 3 percent in 1970 to 12 percent in 1992. Over the same period, manufacturing in the industrial countries, as a share of GDP and source of jobs, suffered a decline. Empirical analysis suggests, however, that, while trade with developing countries has certainly affected the structure of manufacturing in the industrial economies—the contraction of some activities and the expansion of others are the very means by which gains from trade are realized—it is not the principal cause of the manufacturing sector's decline, which can be attributed to higher productivity growth, compared with the expanding services sector.

The surge in trade with developing countries has also coincided with a widening wage gap between skilled and low-skill workers, especially in the United Kingdom and the United States, and with increasing unemployment in Europe, especially of low-skill labor. However, evidence from the United States suggests that the effects of trade on the labor market have not been significant. More important has been the impact of labor-saving technological change. Europe's relatively high unemployment rates seem to be due mainly to rigidities in labor and product markets. Finally, fears of decapitalization and the hollowing-out of industries do not appear well founded. Over the past 25 years, cumulative net flows to developing countries have accounted for only 2 percent of the industrial countries' capital stock.

In the future, as trade between the developing and the industrial countries continues to increase, some industries will shrink while others expand, and the structure of the world economy will change. Labor-intensive and low-skill industries in the industrial economies will no doubt be affected. At the same time, those industries and services in which industrial countries retain a comparative advantage will expand. It is also important to note that the increases in output and incomes in industrial countries from trade and financial integration with developing countries will increase demand for services that have high income elasticities in the industrial countries. Part of this increase will be for low-skill intensive services. For industrial countries, the challenge is to minimize the social costs of adjustment while reallocating resources to industries that will benefit from integration. Flexibility in labor markets is crucial. To keep unemployment down, these markets need to function smoothly. F&D

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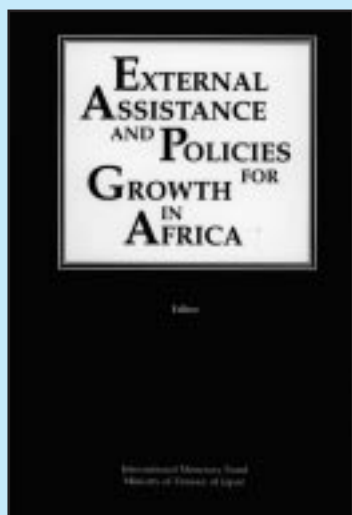
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