



**BRIEF ANALYSIS**

No. 552

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Thursday, May 25, 2006

## Trade and Economic Growth, Part I

by **Arnold C. Harberger**

International trade — the essence of globalization — benefits the world economy as a whole. It allows people, regions and nations to specialize in the production of what they do best, to enjoy the economies of large-scale production and to buy more cheaply those things that others do best. Impediments to trade limit the benefits of trade.

Freer trade — from reduced tariffs, regulations and restrictions — permits an economy to make better use of its resources but does not automatically give a country a new and much higher growth rate. Its main benefit is its effect on the level of output rather than on the long-term rate of growth. Trade liberalization stimulates growth and efficiency by allowing producers to exploit areas in which they have a comparative advantage over foreign producers and by reducing their real costs.

**Comparative Advantage.** One way that trade contributes to an increase in economic output is through comparative advantage, which creates more value with the same resources.

For example, in 1983 almost all cars in China were versions of the 1942 Pontiac sedan, for which the dies and machinery had been shipped to China decades earlier. These cars weighed about two tons and had a voracious appetite for fuel. Sprinkled in among these behemoths, however, were a few contemporary Toyotas.

The Chinese realized that if they took the same value of resources used to make one of these big old cars, shifted those resources to produce textiles and shoes and then exported them, they could use the proceeds to buy two brand-new Toyotas for the same amount of resources it took to produce one gas guzzler.

**Trade Liberalization.** Countries can also become more efficient by reducing tariffs. For example, consider a hypothetical country with a 50 percent import tariff. Because of the tariff, a dollar's worth of import substitutes uses resources up to \$1.50, while it takes only a dollar's worth of resources (devoted to exports) to buy an equivalent imported product. Lowering the tariff to 10 percent

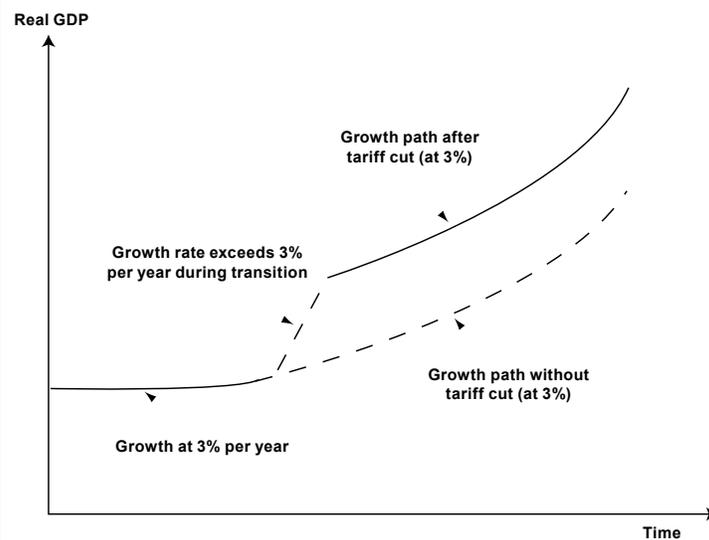
would reduce this inefficiency in resource use. The 40 cents of resources saved could be used to buy more imports or invested to produce more exports. With liberalization, the tariff-inclusive price of imports falls, and resources shift to export production.

The tariff reduction's net benefit is the gain to trade minus the cost. For the first incremental increase in trade (at the initial tariff rate), the benefit exceeds the cost by 50 percent. For the final incremental increase in trade (after the tariff reduction), the excess benefit is 10 percent. The "average" net benefit is thus 30 percent [(50 percent + 10 percent) ÷ 2].

Let us assume that as a result of the tariff reduction, there is a

spectacular increase in trade, with exports rising from 10 percent to 30 percent of gross domestic product (GDP). (Although this is a hypothetical case, such a large increase in trade is not unrealistic — see "Trade and Growth, Part II.") Applying the average net benefit (30 percent) to the

### Transition to a Higher Level of Gross Domestic Product Due to a Tariff Cut



Source: Arnold C. Harberger, *On the Process of Growth and Economic Policy in Developing Countries*, U.S. Agency for International Development, PPC Issue Paper No. 13, December 2005.

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incremental increase in exports (20 percent of GDP), we obtain 6 percent of GDP as the overall benefit of the liberalization (30 percent x 20 percent = 6 percent).

Many people are shocked that such generous assumptions from major trade liberalization produce so small a net increase in GDP; but this benefit will continue indefinitely into the future as long as the liberalized policies remain in place. Consider:

- If the economy is not growing, the present value of all future years' gains from the tariff reduction would be 120 percent of the first year's GDP at a 5 percent discount rate. (Present value = annual increase in GDP ÷ discount rate.)
- If GDP is growing at 3 percent a year, the 6 percent benefit from the tariff reduction is bigger; at a 5 percent discount rate it rises to 300 percent of the first year's GDP. [Present value = first year's increase in GDP ÷ (discount rate – rate of growth of GDP).]

So the benefits are not as small as they may appear at first glance.

The important message in this analysis is that the liberalization has an impact on the *level* of GDP, or economic welfare, not on the *rate* of growth. The example assumes an instantaneous jump of 6 percent in GDP once the liberalization is instituted. More likely there would be a protracted transition period where the 3 percent growth rate would move to, say, 4 percent for 6 years, then revert to the 3 percent growth rate. So the rate of growth is not totally unaffected, but it changes only as a result of the transition from one level to another. [See the figure.] Thus, liberalization produces a modest spurt of growth as the economy goes from a lower to higher level of efficiency.

**Real Cost Reduction via Free Trade.** One of the most important sources of economic growth is the reduction of firms' real costs through increases in the productivity of labor and capital used to produce goods. Real cost reduction is a constant, never-ending objective of business people. Examples of real cost reduction include mechanizing loading, computerizing payrolls, downsizing operations or outsourcing goods and services.

Free trade can be a major catalyst for real cost reduction. Consider, for example, American investment in a

manufacturing operation in China. Rather than further lowering China's already-low manufacturing costs, the investment allows the American firm to take advantage of those low costs. This represents a great cost saving for the American firm, compared to its alternative costs in the United States, and will be reflected partly in a high rate of return on the investment and partly in a significantly lower price for the product in the world market.

The increase in investment due to trade liberalization helps China's growth rate by contributing capital. The benefit for the American economy is more subtle. The deepest principle underlying the economics of international trade is that a country pays for its imports with its exports. So when production is shifted from the United States to China, the same U.S. consumption of the product can be obtained at a lower real cost to the economy. Instead of using \$10 million worth of resources to produce one million units at a \$10 cost per unit, the American economy can now obtain the same million units from China at \$5 per unit.

The impact on the growth rate in China comes from an incremental increase in its capital stock, which adds to China's GDP and keeps generating output in future years, but does not cause further GDP growth each year.

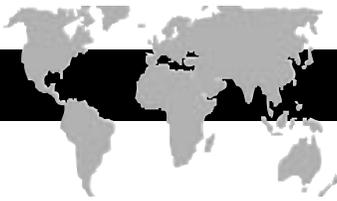
On the American side, the potential gain of \$5 million in GDP from releasing \$5 million in resources to produce other goods will likely continue year after year for some time but will not mean a jump of an additional \$5 million each year. Rather, the economy will gain year after year from what these \$5 million of resources are able to produce.

**Conclusion.** International trade raises the *level* of GDP in both the importing and exporting country but not the *rate* of GDP growth. Competition typically stimulates real cost reduction, and thus we can expect that in the more competitive situation that prevails after a trade liberalization, people in the affected industries will probably work harder to reduce real costs than they would have under the umbrella of protection.

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## Trade and Economic Growth, Part II

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The period between 1950 and 2000 was the greatest half-century in human history in terms of the improvement of economic conditions and the betterment of life for the great majority of people. The last quarter of the 20th century was probably the best 25 years of all time from a strictly economic point of view.

According to the *Human Development Report* of 2003, both developing countries and high-income Organization for Economic Cooperation and Development (OECD) countries experienced significant economic growth. The study shows that from 1975 to 2001:

- Per capita income in developing countries grew an average of 2.3 percent annually compared to 2.1 percent for OECD countries.
- In the 1990s, developing-country per capita income growth rose to 2.9 percent and high-income OECD growth fell slightly, to 1.7 percent.

This unprecedented world economic growth has been accompanied by an equally impressive growth of world trade. In fact, it is the exception, not the rule, to find a country or area where international trade has *not* grown faster than its gross domestic product (GDP) at one point or another during the last 50 years. Most of the “growth miracle” cases — Japan, Taiwan, Korea, Brazil, Spain, Portugal, Greece, Singapore, Hong Kong, Thailand, Malaysia,

Indonesia, China and now India — have experienced such episodes of export-led growth. The opening of these economies to freer international trade was an important factor in generating and supporting these growth miracles, as well as most successful growth episodes in other countries. For just about every class of country — whether classified by state of development, form of government, cultural or religious traits, economic structure or geographical region — the relative importance of international trade has been growing over the last five decades.

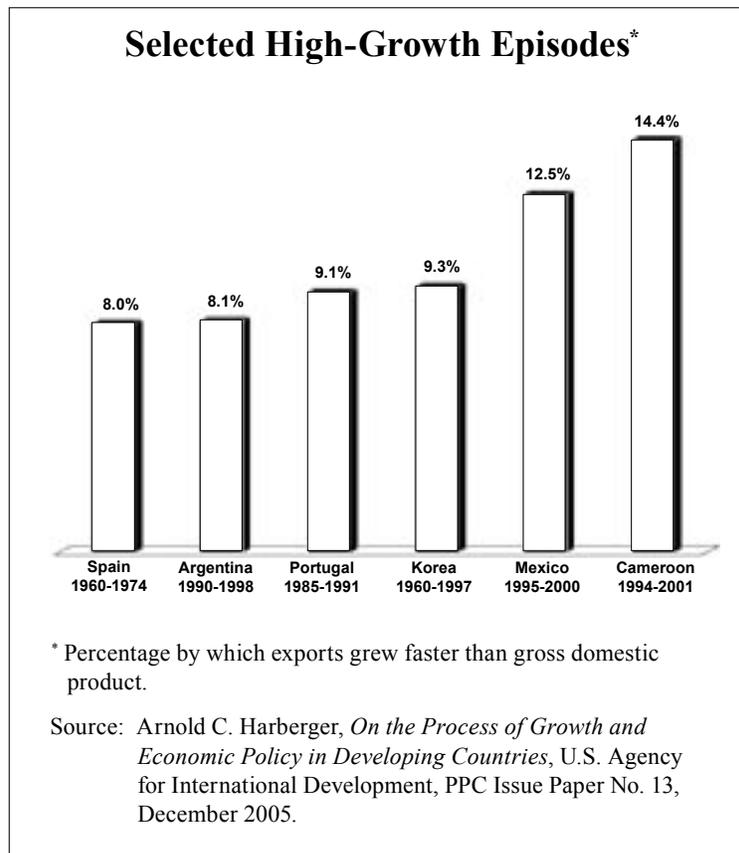
Therefore, it appears that market-friendly, liberalizing policies help facilitate growth. And, as the following will show, if any single measure signals that policies are moving in the right direction, it is the growth rate of a country’s exports.

### **Economic Growth.**

Successful growth episodes can be defined as periods of five or more years during which a country enjoys average economic growth of 4 percent or more, after adjusting for inflation. The observed average growth rate is composed of incremental increases in capital and labor, and real cost reduction — an increase in the productivity of the labor and capital used to produce goods. Any additional explanatory factor works

through one or more of these components. Such is the case for any stimulus coming from a country’s export performance.

**Export Growth.** Successful growth episodes are closely linked to the speed of export growth. Export growth is not a component of the GDP growth rate in



the same sense as the other three factors. But there are circumstances that produce export-led growth. These include trade-liberalizing policies, cost-reducing innovations by exporters and simply the good luck of real increases in world prices of those exports.

For example, consider a shift of a certain amount — say \$10 million — of resources from the production of home goods (nontradables) to exports. This means people would have \$10 million less of nontradable items, but could buy \$10 million more of imports. At this point, there is no contribution to growth, just a shift in the pattern of production.

The situation changes a bit if one posits real cost reduction as the stimulus to the resource shift. Real cost reduction occurs when the productivity of labor and capital increases. If production of the exports in question benefited from a 20 percent real cost reduction, the \$10 million of shifted resources could produce as much as \$12 million of the export item.

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### ***“Trade liberalization spurs economic growth.”***

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The connection between exports and growth comes from real cost reduction in export activities and is no different in kind from real cost reduction in other activities, such as residential construction or domestic transport, which are clearly nontradable goods and services.

Economic growth is also linked to export expansion due to trade liberalization. But even a huge liberalization will have only a transitory effect on the growth rate (see “Trade and Growth, Part I”). Thus, we would expect a modest connection between export expansion and the economic growth. But we see something quite different. In almost every successful growth episode, exports grow faster than GDP, and usually much faster, even after adjusting for price inflation. The figure shows some of the 59 high-growth episodes that occurred in 41 countries from 1960 to 2001. Overall:

- Exports grew over 2 percentage points faster in 37 cases and faster by over 4 percentage points in 21 of the 59 cases.

- Exports grew faster by 5 percentage points or more in 18 of the 59 cases.

This is a much stronger link than we would expect from trade liberalization and/or real cost reductions in the countries’ export industries. Mexico, for example, had a very high rate of export growth compared to GDP, with exports growing 12.5 percentage points faster from 1995 to 2000. Cameroon had the highest rate, with exports outpacing GDP by 14.4 percentage points between 1994 and 2001. [See the figure.]

**A Gold Rush Economy?** There is the possibility that an increase in exports mobilizes new resources. This is something like a “gold rush” economy. The gold rushes of the past brought a flood of miners to California, Alaska and other areas enjoying mineral booms. But they also brought storekeepers, construction workers, entertainers and so forth. If these people were simply shifted from another part of the same national economy, producing less there and more here, it would make little economic difference. But if they come from abroad, as many did in California and Alaska, and bring capital along with them, there is an incremental increase in labor and capital due to the expansion of an export industry.

The gold rush example shows how export expansion is often supported by capital investments from abroad. Such an expansion can also stimulate a derivative growth in demand for nontradable goods and services, which can be met in part by increases in the labor force and capital stock. Thus, export booms are linked to international capital movements, immigration and increases in labor force participation.

**Conclusion.** There is a strong correlation between successful growth episodes and the rate of export growth. The necessary circumstances for growth can be achieved by liberalizing trade and mobilizing resources through free markets. Government policies support various components of growth — by fostering the growth of human capital, facilitating the process by which firms make productive investments and, above all, creating a favorable environment for seeking and implementing real cost reductions. Government policies cannot create these forces, but government can and should open the door.

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