## Gaining With Trade?

Among the nation's elite, the merit of liberalized trade is a virtual article of faith. In fact, sometimes it is literally an article of faith, as when a *New York Times* article began: "Free trade means growth. Free trade means growth. Free trade means growth. Just say it 50 more times and all doubts will melt away" ("How Free Trade Prompts Growth: A Primer"; 12-15-93, A1).

This strong belief in the gains from trade has led economists, politicians, and reporters to countenance even the most outlandish claims made in support of recent trade agreements. For example, when it was promoting NAFTA in 1993, the Clinton Administration repeatedly referred to a study done by the Institute for International Economics (Hufbauer and Schott ,1992), which showed that NAFTA would increase the United States trade surplus with Mexico and thereby create 200,000 new jobs. In 1994, the President's Council of Economic Advisors assured the public that the Uruguay Round of GATT would led to an increase in annual GDP of $100 to $200 billion by 2004 [0.9 to 1.7 percent of projected GDP](Economic Report of the President, 1994, p 234).

Of course, in the years since NAFTA's passage, the United States trade surplus with Mexico turned into a deficit, with the direct effect being a large loss of jobs. Given this turn of events, even proponents of NAFTA readily acknowledge that the earlier claims about job creation were absurd. The post-NAFTA assessments acknowledge that trade, according to economic theory, is primarily about increasing economic efficiency, and has only a minimal impact on job creation.

Most economists still claim that the Uruguay Round of GATT led to gains in GDP, but the gains are not of quite the same magnitude as the numbers touted to justify passage of the treaty. Even the President's Council of Economic Advisors (CEA) now uses considerably smaller numbers in its efforts to promote future trade deals. In a recent paper it estimated the gains from the Uruguay Round at between 0.4-0.6 percent of GDP, less than half the benefits projected by the CEA five years earlier (Council of Economic Advisors, 1999, p 22). To put this change in perspective, if the current numbers from the CEA are correct (they are probably still greatly exaggerated), then someone claiming that the Uruguay round would *lower* annual GDP in the U.S. by $30 billion would be as accurate the 1994 estimate from the Council of Economic Advisors. In short, the proponents of liberalized trade have used numbers rather creatively to advance their cause.

In fact, standard economic theory does provide a basis for claiming that liberalized trade will increase GDP and employment. However, the magnitude of this effect is considerably more limited than proponents of trade liberalization are anxious to acknowledge. The reluctance to accurately convey the results of economic research may stem from the belief that trade provides benefits in ways that economists can't fully recognize and measure (Rodrick, 1997) or it may simply be an effort to manipulate the political process. Regardless of motivations, the public needs to understand the nature and magnitude of the effects that standard economic theory predicts from liberalized trade.

Before directly discussing the ways in which trade liberalization can lead to economic benefits, it is worth briefly digressing to correct a common misperception about the definition of trade liberalization.

In conjunction with efforts to reduce or eliminate tariffs, quotas, and other barriers to trade, the United States has also pushed hard to strengthen international conventions for protecting copyrights, patents, and other claims to intellectual property. The effort to increase protection for these claims to intellectual property cannot be considered trade liberalization. In fact, it is precisely the opposite. Patents, copyrights, and other forms of intellectual property are barriers to trade. In a free market, anyone could produce any drug they chose and sell it for whatever price the market would bear. Similarly, as a result of advances in technology, music, videos, and software could be reproduced and circulated at near zero cost.

Patents and copyrights obstruct the working of the free market by assigning a government enforced monopoly to patent and copyright holders. Anyone who attempts to produce a drug subject to patent protection without the permission of the patent holder or to distribute music subject to copyright protection without permission of the copyright holder is subject to arrest, fines, and even imprisonment. This is not a free market.

There is an obvious rationale for patent and copyright protections: they provide an incentive to innovate and carry through research in the case of patent protection, or to undertake creative and artistic work in the case of copyright protection. But, the fact that patents and copyrights have an economic rationale doesn't mean that they're not forms of protectionism. In fact, they are tremendously costly forms of protectionism. It is unusual for current day tariffs or quotas to raise the price of products by more than 15-20 percent. By contrast, patents or copyrights can raise the price of products by several hundred or even several thousand percent. Many drugs subject to patent protection would sell for one or two dollars per prescription in a free market; their patent protected price can run into hundreds of dollars per prescription. Similarly, music or videos that could be costlessly transferred via the Internet in a free market can instead sell for $10-30 if they are subject to copyright protection.

The high cost associated with patent and copyright protection may be justifiable if the patent and copyright system provide the most efficient means to promote research, innovation, and creativity. However, there are two points worth noting here. First, it is important to recognize that there are other ways to support research and creative work. At present, more of this work is supported by the government, and private foundations, charities, and universities than by patents and copyrights. Second, the economic merits of patents and copyrights cannot change their status as forms of protection. The fact that advocates of trade liberalization insist on treating these forms of protectionism as an integral part of their agenda points to the lack of honesty and intellectual rigor in the public debate over this agenda.

## The Basic Arithmetic of Gains From Trade

The basic arithmetic of trade is fairly simple. By lowering tariffs, quotas, or other barriers, consumers are able to buy products more cheaply than would otherwise be the case. Understanding this logic makes it possible to appreciate the magnitude of the potential gains involved.

Suppose that steel sells on international markets for $200 per ton including shipping costs. Suppose that in the United States there is a 10 percent tariff on all steel imports. This would mean the cost of buying a ton of imported steel in the United States is $220 ($200 for the steel, plus $20 to cover the tariff). As a result of raising the price on imported steel by $20 per ton, the tariff also raises the price of steel produced in the United States by approximately the same amount. If steel consumers must pay $220 to buy a ton of imported steel, then they would be willing to pay approximately the same to buy a ton of steel made in the United States. Alternatively, if they could buy imported steel for $200 per ton, then they would only be willing to pay $200 a ton to buy a ton of steel produced in the United States. In this way, a tariff raises the price of both foreign and domestically produced steel.

To calculate the potential gains from eliminating the tariff, imagine that the United States uses 100 million tons of steel each year, with 80 million tons produced domestically and 20 million tons imported. If the tariff were eliminated, this would save steel consumers $2 billion per year on the steel they were buying ($20 per ton on 100 million tons). However, this is not the size of the gain to the nation as whole. The fall in the price of domestically produced steel is a gain to consumers, but a loss to the workers and corporations that had been producing this steel. Every dollar saved by consumers is coming directly out of the pockets of steel producers. The net gain to the nation from this price decline is zero.

The decline in the price of the imported steel is also not a net gain to the nation. Steel consumers had been purchasing 20 million tons per year, and they will now save $20 on each ton for a total savings of $400 million. But, this $400 million was tariff revenue collected by the government. When the tariff is eliminated, it means that the government has lost $400 million that it must make up through other taxes. There is no net gain to the nation from this price decline either.

The actual gains to the nation, according to trade theory, stem from increased purchases of steel, which may result from lower prices. At $220 per ton, steel consumers wanted to buy 100 million tons per year. At a lower price of $200 per ton, steel consumers may opt to buy 120 million tons of steel. At the lower price, they may use steel in place of other materials, since it is now cheaper.

It is easy to get a rough estimate of the size of these gains. Consumers have decided to purchase an additional 20 million tons of steel because its price has fallen by $20 per ton. In no case is the gain to consumers more than $20 per ton, because then they already would have been purchasing the steel. In some cases, the gain might be almost zero. At the new lower price, some consumers might decide that steel is a tiny bit better than aluminum or other alternatives, but if the price of steel were to rise by even a few cents, they would switch to some other material. Since the biggest gain to any of these new steel buyers is $20 per ton, and in some cases the gain is almost zero, then the average gain is presumably close to $10 per ton. Multiplying this by the 20 million ton increase in the demand for steel yields a total gain of $200 million.

This basic logic can be applied to the removal of any tariff or other trade barriers more generally. As the price of imports falls, people will gain from having the chance to buy goods at lower prices. For the most part, the gains are offset by losses to domestic producers or by the loss of tariff

revenue to the government, but insofar as the lower price leads to more of the goods being purchased, then there will be gains to consumers.

The same arithmetic used in this example can be applied to the economy as a whole to get an idea of the potential gains from removing barriers to trade. Much of the economy consists of services, such as medical care, education or rent on housing for which trade is not directly relevant. There also are many types of goods where transportation costs make imports prohibitively expensive, such as concrete or coal. As a rough guess, the total value of goods that are subject to import competition is probably in the neighborhood of $4.0 trillion a year, or a bit less than 40 percent of the economy.[1]

The average tariff on imports to the United States is currently less than 5 percent. If this tariff fell to zero, then consumers would save $200 billion annually on the goods they currently buy which either are imports or compete with imports. The same amount, $200 billion, would be lost either to domestic producers or to the government as a result of the lower tariffs. However, consumers would gain from the opportunity to buy goods at a lower price. The 5 percent reduction in the price of these goods might reasonably be expected to lead consumers to purchase approximately 5.0 percent more, or an additional $200 billion worth. The average gain to consumers on these purchases would be approximately half the size of the reduction in the tariffs, or 2.5 percent. This gain is equal to approximately $5 billion per year (2.5 percent of $200 billion).

It is possible to construct a similar story of gains from trade on the export side. For simplicity, the gains can just be doubled to include the benefits on the export side. This would bring the total gains to the United States from removing all trade barriers to approximately $10 billion per year. While this number may appear large, it is important to remember that the U.S. economy produces more than $10trillion annually in output. A gain of $10 billion is slightly less than 0.1 percent. If this gain is distributed equally to everyone, it would add about $45 per year to a typical family's annual income, less than $1 per week.

In fairness to advocates of more open trade, this is a very crude way of modeling the gains from trade. There are some reasons for believing that gains could be larger.[2] There also are reasons for believing that the gains could be lower. For example, if the workers in an industry that loses jobs to import competition never find new employment, then this will offset some of the gains from having access to lower cost imports. But this simple calculation should give the approximate order of magnitude of the potential gains from trade liberalization in the United States.

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[1] This estimate is almost certainly a significant overstatement of the share of GDP that potentially competes with imports. Manufacturing is only equal to 16.1 percent of GDP, and even this includes some goods, such as concrete, that are effectively protected from import competition. While many services are subject to import competition, most are not.

[2] The gains would be larger insofar as some tariffs are brought down more than others. Average tariffs are approximately 5.0 percent, but tariffs on some goods are considerably higher while tariffs on other goods are already at or near zero. There are also non-tariff barriers, such as import quotas, that can have the equivalent impact of a very high tariff.

In some economic models, the relatively small gains suggested by this arithmetic are inflated to be several times as large (e.g. Stoeckel, Pearce, and Banks 1990). This is usually done by mixing in other effects that are not necessarily related to trade policy. For example, a cut in tariffs is also a tax cut. In a standard Keynesian model, a cut in taxes (or an increase in government spending) will stimulate demand in the economy, and lead to more output and growth. In this way, trade liberalization can be made to appear to be a more powerful instrument to promote growth, when what is really modeled is simply a tax cut. In such models, a cut in taxes for low income wage earners would have approximately the same effect on growth as a cut in tariffs of the same magnitude.

Another way to show larger gains from trade is to assume that the efficiency gains led to large increases in savings and investment. This is the same assumption that motivates supply-side tax cuts. Most evidence shows that savings and investment are very unresponsive to the small additional incentives that would be implied by liberalized trading arrangements. Nonetheless, if substantial increases can be slipped into models, then it will be possible to show large gains from trade. Similarly, in some models, labor supply is assumed to be very responsive to small increases in the real wage. With such an assumption, modest gains from trade can be considerably magnified. For example, if a 1.0 percent increase in the real wage is assumed to lead to a 0.5 percent increase in labor supply, then the gains in GDP calculated in a model can be increased by 50 percent. Of course, treating this higher GDP as the size of the gains from trade is rather dubious, since it requires that people work more hours.

Economists have worked hard to find ways to make the extremely modest gains suggested by the standard trade model appear considerably larger. For the most part, these efforts require assumptions that they would reject in other contexts. The basic story is that economists can show that trade will lead to gains in GDP, but these gains would appear quite small by almost any measure.

## The Cost of the Gains from Trade

To fully understand the logic of the standard economic theory of trade, it is necessary to more closely examine the source of gains in this model. In the steel example, the price of all steel fell by 10 percent due to the elimination of the tariff. In the case of imported steel, the price decline was directly attributable to the elimination of the tariff. In the case of domestically produced steel, the price was forced down by the availability of low cost imports. As was noted before, this price decline comes directly out of the pockets of domestic producers of steel. It lowers the profits of steel manufacturers and reduces the wages of steel workers. It will also lead to the loss of jobs in the steel industry, as imported steel will to some extent displace domestically produced steel. For steel producers, the liberalization of trade is unambiguously bad news.

This will be the case for the workers in any industry that is a net loser of jobs as a result of the liberalization of trade. According to standard trade theory, since the United States is a nation that has a relatively well trained and educated workforce, the less educated portion of the workforce will be the losers as the result of liberalized trade. Disproportionately, these workers will be the ones that lose their

jobs as a result of the removal of trade barriers. When they look for new jobs, these less educated workers are likely to earn lower wages, since so many of them have been displaced as a result of trade.

As a practical matter, it appears that "less-skilled" in this context applies to anyone without a college degree, including many workers with some college or technical training beyond high school, approximately 70 percent of the workforce. These are the workers that have seen their wages fall relative to the rest of the population over the last two decades, as the United States has experienced a sharp increase in wage inequality. As a result of this rise in inequality, the wage of a typical worker has been virtually stagnant over the last two decades, as most of the gains from growth have gone to those at the top end of the income distribution.

It is important to recognize that growing inequality is not an accidental outcome of trade. In fact, according to standard trade theory, it is the basis for there being any gains at all. The basis for the gains from trade is the change in relative prices. The price of goods like steel and textiles, which require relatively large amounts of less-skilled labor, fall relative to the price of goods that are more skill intensive. When the price of these goods fall, the wages of the workers in the industry fall. If trade did not push down the wages of less skilled workers, then there would be no gains from trade.

## Other Sources of Gains From Trade

Proponents of trade, especially non-economists, often cite other ways in which expanded trade provide gains for the economy. For example, it is often argued that trade is advantageous because it allows greater economies of scale. Trade can be a way of increasing competition in an industry that is dominated by a small number of firms. It also can be a mechanism of technology transfer where new and better techniques and products can be brought into the country. All of these claims have some truth, but their impact should not be exaggerated -- particularly in a large industrialized country like the United States.

In the case of economies of scale, the United States already has a vast internal market. It also has well developed trade relations with the other major industrialized countries. The extent to which it can achieve further economies of scale by removing barriers to trade with developing nations, or reducing further the barriers with Europe and Japan is minimal.

Of course, developing nations with relatively small internal markets may experience considerable economies of scale from having access to a larger market, but there are many different ways in which to expand the size of the market. For example, several nations in Latin America are constructing "Mercosur" a free trade zone within the region. This sort of trading zone allows the nations of the region to have a broader market on which to sell their goods without surrendering as much control over their economy to the extent that is usually required in trade agreements with industrialized nations. The United States has explicitly promoted the extension of NAFTA to the rest of Latin America as a way of undermining the growth of Mercosur.

Trade can promote competitiveness under some circumstances, but so can effective anti-trust policies. It is almost certainly the case that a surge of Japanese imports forced the United States auto manufacturers to begin producing better cars in the eighties. This was clearly a positive effect of trade. On the other hand, the fact that the domestic industry had been allowed to consolidate to the point that three firms were responsible for virtually all domestic production can be seen as a failure of anti-trust policy. Trade is at best only a temporary substitute for real anti-trust policy. If the current wave of mergers leads to a consolidation on the international level comparable to what the United States previously saw domestically, then the economy will again be deprived of the benefits of vigorous competition between firms.

The last frequently touted source of gains from trade is technology transfers between nations. These transfers are mostly from the industrialized nations, where most research on new technology takes place, to the developing nations. While this transfer of knowledge is often very valuable for developing nations, this has not always been the case. For example, many corporations have freely sold pesticides and fertilizers in developing nations which were already known to be harmful, and were therefore banned in industrialized nations. In addition, multinational corporations have often introduced export crops to developing nations which have displaced traditional food crops. In some cases, the agricultural techniques used to produce these crops are not sustainable, and quickly destroy farm land. Efforts to use bio-engineered crops, which may pose environmental dangers, in developing nations, are another example of a technology transfer that may prove harmful in the long-run.

Even where there are clear benefits to developing countries from technology transfers, it is not clear that the current round of trade agreements help this process. In previous decades, developing nations have often made "performance requirements" a condition on foreign investment by multinational corporations. This usually meant that corporations were forced to train domestic workers to fill a certain portion of the technical and managerial jobs in the local operation. These requirements also often stipulated that an increasing portion of the parts used as inputs would be produced domestically, giving a boost to local industry. The conditions set in agreements such as NAFTA sharply curtail the extent to which nations can use performance requirements to encourage technology transfer and promote development.

The application of U.S. type patent and copyright protections to developing nations will also impede the transfer of technology. Several developing nations, such as India, Brazil, and Argentina, had fairly well developed pharmaceutical industries. In many cases, their industries relied on producing drugs that are still subject to patent protection in the United States. Requiring these nations to enforce drug patents filed by the U.S. pharmaceutical industry will not only lead to a large hike in drug prices to consumers, it may also significantly set back the progress of the domestic pharmaceutical industry. Similarly, the enforcement of U.S. copyrights will impose an enormous burden on businesses in developing nations. According to the U.S. software industry group, 95 percent of the software sold in China is not licensed. This means that full enforcement of copyright protection on software would lead to a 2000 percent increase in the amount that China pays for software. This will be a huge expense for any significant user of computer software.

In short, trade can be a mechanism for transferring technology from industrialized nations to developing nations. However, it is not at all clear that the current round of trade agreements are likely to facilitate, rather than impede, this process.

## Scoring the Gains From Trade

While the basic arithmetic of trade theory suggests that the gains from trade to the economy as a whole may be too small even to be measured accurately -- even the higher measures now being touted by proponents of new trade agreements do not appear particularly large compared with other costs in the economy. For the example, the midpoint of the revised estimates from the President's Council of Economic Advisors places the gains to the U.S. economy from the Uruguay round of GATT (a very large trade agreement) at 0.5 percent of GDP, or approximately $47 billion a year. By contrast, if the pay of doctors in the United States could be brought down to the average for other industrialized nations, it would save consumers more than $70 billion a year. The gains would several times as large if the pay of other professionals were made competitive with comparable workers in other nations.

Similarly the explosion in the size of financial markets has been a huge drain of resources from the rest of the economy. In 1977, the nation was able to accomplish the task of transferring savings from individuals to firms wanting to invest using just 0.4 percent of GDP. By 1997, the cost of running these markets had risen to 1.1 percent of GDP, an increase equal to 0.7 percent of GDP or $70 billion a year at present. If the country implemented policies to reduce this drain, such as a modest tax on financial transactions, the potential dividend is larger than CEA's most recent estimate of the gains from the Uruguay round of GATT.

To take one more example, the potential distortions from allowing Internet commerce to remain tax free, while other goods are subject to a sales tax, are comparable, if not larger than any distortions resulting from current trade restrictions. The preferential treatment of Internet sales is logically equivalent to slapping a 5 percent tariff (the average retail sales tax in the United States) on all goods sold in traditional brick and mortar retail outlets. As noted before, the average tariff on imports to the United States is presently less than half this size, so the distortions created by trade barriers would be small in comparison.

It is striking that mainstream economists devote so much effort to arguing against trade barriers, when other measures that seem to lead to comparable or larger distortions largely escape their attention. It is also worth noting that they frequently feel the need to resort to ad hominem arguments in this debate. Given the potential magnitudes of the gains that can be expected from trade liberalization, it seems that the behavior of many economists in this debate may be motivated by something other than conclusions derived from economic theory or the results of empirical research.

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