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By Warren Coats[1]

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The flame of protectionism is burning again. The task of educating the public to the benefits of free trade, which has contributed so much to our standard of living, is still with us. If you think that out-sourcing telephone help desks (or anything else) to cheaper workers in India or China costs American jobs, please set aside a few minutes to read the following.

All of us can easily accept that a family that specializes in what it produces and trades for the rest will be dramatically better off than one that must produce every thing it consumes itself. Globalization is simply the widest possible extension of these benefits of specialization and trade. It makes no fundamental difference whether the self sufficient family is allowed to trade with its near neighbors (fellow town folks) or more distant ones (its state, or nation, or the whole world). The difference is in the extent to which everyone's standard of living is raised by the widest possible exploitation of the benefits of trade.

Each family's standard of living is determined by what it can produce, thus the same is true for a city or a nation. By specializing in what it does best and trading at the best prices for what it wants to consume, it raise the value of what it produces and thus raises its standard of living. This is pretty obvious really, so why do some people think that out sourcing some production (broadening the scope of trade) costs jobs in America? Aside from those who spread such views out of demagoguery, the answer may lie in two aspects of trade that are not as obvious as the above specialization story. The first of these is what economists call "comparative advantage." The second has to do with the necessary dynamics of continually reallocating resources (workers and capital) to their most productive uses as those uses change because of changes in technology and tastes.

Comparative Advantage

If we look at the world today, or at any time in recorded history, we see an enormous amount of trading between families. Almost no one is self sufficient. This trade clearly works to raise the standard of living of everyone. As we pondered the implications of Richard Nixon's diplomatic recognition of mainland China and the prospects of trade, I remember well a question by someone who clearly did not understand the meaning of comparative advantage. "What could they possibly make that we would want," he asked? Another way this misguided question is sometimes put is, "If we are better at producing everything than they are, why should we trade with them?" On other occasions the same

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confused soul asserted the contradictory view that “they have such cheap labor, how can we possible compete with them?”

Trade is trade. Someone exchanges what they have for what someone else has. That is how they are each able to specialize is something more productive and raise both of their standards of living. Economists love to illustrate this phenomenon with numbers.

Assume that Family Smith consumes only two goods, A (food) and B (clothing), and can produce 20 units of A per day or 10 units of B. It chooses to consume twice as many units of food as clothing. If it must be self sufficient it would divide its time equally between the production of food and clothing and would produce 60 units of food and 30 units of clothing per week (resting on the seventh day). Family Ahmed can produce 12 units of food or 9 of clothing per day. If it cannot trade, it would choose to produce and consume 48 units of food and 18 units of clothing. Between them total production would be 108 units of food and 48 units of clothing.

Family Smith can produce more food and more clothing per day than Family Ahmed so why should it trade? The answer is because Family Smith must give up the production of only half a unit of clothing to produce one more unit of food, while the Family Ahmed must give up three fourths of a unit of clothing to produce one more unit of food. If they could trade, they would both be better off if Family Smith specialized in producing food and bought its clothing from Family Ahmed, which would specialize in producing clothing.

Family Smith could produce 120 units of food per week while Family Ahmed could produce 54 units of clothing per week. By exchanging food for clothing at the (somewhat arbitrary) price of 1.5 units of food per unit of clothing Family Smith could consume 69 units of food out of the 120 they would produce and trade the other 51 units for 34 units of clothing from Family Ahmed. Thus Family Smith would consume 4 more units of clothing per weeks than before and consume 69 rather than 60 units of food.

Family Ahmed, who is on the other side of the deal, would trade 34 units of clothing (out of its production of 54 units) for 51 units of food per week and is thus able to consume 51 units of food and 20 units of clothing per week rather than the 48 and 18 units it could consume when it was self sufficient. World production of food and clothing would be higher at 200 units of food and 54 units of clothing per week, compared with 108 and 48 units respectively when the families did not specialize and trade. Both are better off even though Family Smith has an absolute advantage (is more productive) at every thing. This is the powerful truth behind the case for free trade. I have not heard any one ask what China could make that we would want for a long time. The people who had asked that question at least understood that China could not buy anything from us without earning the money with which to do so by sell us something.

We can add one small complication to this simple example and appreciate another element of real world trade. Let Family Smith be the United States and Family Ahmed be Pakistan. Let the price of one unit of food be one dollar and of one unit of clothing be

$1.50. If the US initially produces everything itself (both food and clothing) it can make $60 worth of food (60 units) per week and $45 worth of cloths (30 units). It would have an income of $105 per week. If it chooses to buy it's clothes from Pakistan (out sourcing the production of clothing), it might start by buying $45 worth, the amount it was making for its self. The workers who were making clothes in the US would loose their jobs producing clothes to Pakistani workers. But how can Pakistani workers product the extra clothing Americans want to buy? They must shift workers from producing food to producing more clothing. They are only willing to do that if they can buy the food they need from the US.

But we already know from above how the story goes. The workers in the US who lost their jobs producing clothing are reemployed to make the food that Pakistan now needs to buy from the US. Similarly the workers needed in Pakistan to produce the extra clothing being sold to the US are attracted from the food factories where they are no longer needed. By specializing in this way, the US can buy the same 30 units of clothing it consumed before and still have even more food to consume. Thus it will probably choose to increase its consumption of clothing above the 30 unit level at the expense of a somewhat smaller increase in food consumption. Without trade US income was $105 per week and Pakistani income was $25.50 per weeks. With trade their incomes are $120 and $81 respectively. Both produce and consume more with trade than they did without it and every one is fully employed with or with out trade. Trade is trade (exchange of goods and services) and does not cause unemployment. However, everyone's income is higher with it than without it.

Adjustment costs

Obviously trade's bad press does not come from the miracle described above. No one could be against making everyone better off. Its bad press comes from what it takes to get to and stay at economically efficient trade arrangements. The bad press comes from unemployment and the fear of unemployment that might result from changes in production as a result of opening up to trade. It also comes from incorrectly attributing to trade the unemployment that results in market economies from the economic ups and downs all economies experience (booms and recessions).

As we saw above, trade does not create unemployment. It causes a reallocation of workers from producing goods that are imported to those that are exported. However, economies rarely adjust instantly with new export jobs opening at exactly the pace jobs are lost to imports (or outsourcing). Unemployment can result temporarily as economies adjust to changes in technology and consumer preferences. Business cycle fluctuations in employment often occur along side adjustments in the allocation of workers because of changing trading patterns. Thus unemployment is the temporary result of coordination lags as the economy adjusts to changing conditions. It really has nothing to do with trade per se.

There is an interesting and insightful parallel with the "bad press" from the "loss of jobs to cheap labor abroad, and the bad press generated by the unemployment the US

experienced in 2003 and 2004 during the economic recovery from the recession of 2001 and 2002. Because of significant increases in worker productivity in the US in the last few years, employment rose much more slowly than output itself during this period as the economy rebounded from recession.

What is good and what is bad in this development? The increase in productivity is surely a good thing. It means that it takes fewer workers to produce the same output, just as opening the world to freer trade reduces the number of workers it take to produce a given output (because of the increased productivity from specialization). But the more meaningful way of characterizing the consequence of increased productivity is that it increases the output that can be produced by the same number of workers. In fact, as should be obvious, the only way that the material standard of living can be increased for a given population is by increasing productivity or the number of people working from the given population (e.g., more women working) or the number of hours worked per week. Increased productivity is clearly a good thing and does not produce unemployment. However, the economy's adjustment to the increased productivity, because it may be slow, may result in a temporary increase in unemployment while demand for the increased potential output grows enough to absorb the available, willing workers. The negative aspect of this development is that economic adjustments take time and thus can produce temporary unemployment (or prolong unemployment longer than might have been the case).

Increased productivity generally comes from improvements in technology of some sort. To take advantage of better technology, workers need to change what they are doing or how they are doing it. Even within the hypothetical self sufficient family, the introduction of better technology will require reallocating the tasks of family members. If the family can trade with other families the benefits of new technology can be exploited more fully and can thus raise the standard of living to a larger extent.

Clearly our standard of living reflects, in part, the technology available and how well we use it. A rising standard of living will require continuously reallocating workers in new ways. Temporary unemployment is one of the costs of such dynamism. A successful firm must buy its inputs at the cheapest price possible for the quality it requires. If it fails to get the best prices, it will fail to give its customers the best price and may go out of business. It makes no difference at all to the firm in fulfilling this goal whether the best price for an input (whether labor or other goods) is found next door or across the world. Some have promoted Buy American as a patriotic act. But if a particular product produced in American is more expensive than the same product produced abroad, the insistence to Buy American only lowers the standard of living here and abroad by making the world economy less efficient.

The economy will adjust to changes and temporary imbalances that produce temporary unemployment. But the length and pain of these adjustments are different depending on the nature of the shocks. If firms are pushed to find workers abroad (or by immigration) to perform needed functions because American workers are being absorbed into new jobs, the adjustment will look different than if firms lay off American workers and shift

to cheaper foreign products and labor. It is the difference between pushing and pulling. Clearly an American economy that encourages (and I do not mean subsidizing—which would distort economic efficiency and reduce our standard of living) investment, innovation and growth will be creating labor shortages that will be increasingly filled abroad, with little or no temporary unemployment in the process.

We could probably reduce job uncertainty and periods of higher than necessary unemployment by closing the door to international trade (we simply couldn't survive without trade within the U.S, which is itself a very large market) and freezing out the implementation of technical improvements. If we had implemented such a policy a century ago we would be the poor country the Soviet Union became. We pay a price of reduced individual job security for a more rapidly rising standard of living from continuously reallocating our productive resources to their ever changing best uses.

Under President Clinton both the Democratic and Republican parties recognized and accepted the desirability of freer trade. The more legitimate political debate is over the extent to which the government should mitigate the costs of the temporary unemployment that can sometimes result with insurance and retraining and what policies best encourage entrepreneurship and efficient job creation.

Factor price equalization

In an efficient economy the same good would have the same price everywhere (adjusted for any differences in transportation costs). The same phenomenon applies to capital and labor (the "factors of production"). The shift of manufacturing from the U.S. to China to "exploit" low wages there, or of Mexican workers to Atlanta to exploit high wages there help bring about the same cost of capital and labor everywhere. But does the "equalization" of wages raise them in Mexico and China or lower them in the U.S.?

It is clear that increased trade and increased mobility of capital and labor raise average wages and the standard of living world wide. But it might still be the case that the higher average wage is the result of some increase in Mexico and some decrease in the U.S. German workers, for example, have recently expressed concerns about the impact on their wages of the admission of central European countries into the European Union and the freer movement of labor that it will permit. This possibility cannot be fully dismissed, but there are some additional factors to consider.

To some extent higher paid American workers remain competitive with cheaper Mexican labor because they are better trained and work with better capital (tools and equipment). To that extent the free flow of goods, capital and labor will not equalize wages. On the other hand, U.S. auto workers in earlier decades earned high wages in excess of their productivity as the result of strong unions, which kept their wages well above competitive levels. Freer trade in cars forced the unions to accept lower wages in the U.S. rather than loose jobs. Today wages in the auto industry in the U.S. are comparable to wages for labor with comparable education and skills in other industries, which is indeed lower than they were earlier.

Another example of the impact of the economic incentive toward factor price equalization is provided by the mobility of capital and labor (and the freedom of trade) within the United Stated. For many decades following the American civil war living standards in the southern states were much lower than in the northern and western states. The wages of workers in the more agrarian south were much lower than those of workers in the more industrial north. As post war animosities gradually diminished, southern workers began to migrate north to take advantage of higher wages, while northern manufacturing (and other) firms began to move south to take advantage of cheaper labor. This was only economically viable because of the free trade within the U.S. The pace of the interregional flow of capital and labor was sufficiently slow that it raised wages and living standards in the south without lowering them in the north. Living standards across regions in the U.S. are vastly more equal (and higher) in the U.S. today than they were fifty or a hundred (or even thirty) years ago.

Cross border aspects

There are two other aspects of this story that come into play when trade extends beyond national boarders. These aspects complicate the story without fundamentally changing its core truth. The first is that in modern economies trade takes place through the intermediary of money rather than what is some times called barter trade (the direct exchange of goods). The second complication is that each country generally has its own money, thus exchange rates enter the picture.

The simplest case is where the exchange rate between two currencies is firmly fixed. Under such circumstances we might as well assume that there is only one currency. About sixty Pakistani Rupees exchange for one US dollar. Let's assume that that exchange rate is firmly fixed. Then we can convert all Pakistani prices into dollar prices by dividing them by 60 and discuss trade in terms of dollars.

If trade were always barter (the direct exchange of goods for goods), it is obvious that trade would be balanced. We would necessarily import as much as we exported. However, the introduction of money introduces the possibility that trade might not be balanced. If we buy services from Pakistan, the sellers of those services could hold the dollars for a while before spending them on American goods (the other half of the exchange). Therefore we need to understand the economic forces that operate in monetary economies to bring about balance.

If technology (the Internet) and computer software development skills available in Pakistan, combined with relatively low wages for programmers in Pakistan, attract American firms to buy their programming services in Pakistan (what has been called out-sourcing or offshoring), several interesting things happen. One is that the demand for programmers in the US falls and their wages tend to fall. The rapid increase in the demand for such skills over the past ten to fifteen years has inflated wages for people with such skills relative to other skills. This bubble is now being reversed. The increased demand for Pakistani programmers also increases their wages and their standard of

living. The lower cost of programming services in the US (whether from American programmers with lower wages or from Pakistani programmers) benefits many other industries, which will be able to produce more for less. Consumers of software can buy it for less.

But this is only the beginning of the adjustment process. The dollars earned in Pakistan can only be spent in the US. The Pakistani workers are paid in rupees that their employers buy in the foreign exchange market with the dollars paid to them by the American firms buying their services. Those dollars are purchased with rupees by people and firms wanting to buy American goods or services or to invest in the US. Those dollars will buy the same value of American goods for export to Pakistan. To produce those goods, additional American workers will need to be hired, creating new jobs to replace the lost jobs of some programmers. I hope that it is obvious that there is nothing important about the bilateral trade balance between Pakistan and the US. I am taking Pakistan to represent the rest of the world.

But what if the Pakistani demand for dollars and American goods doesn't match America's increased demand for Pakistani programmers? What is the adjustment mechanism? I will just skim the surface of the answer. If exchange rates are fixed, the Federal Reserve (the American central bank) or the State Bank of Pakistan (the central bank of Pakistan) will need to buy up the dollars being sold by Pakistanis that no one else wants to buy. This is necessary to keep the exchange rate in the market unchanged. Either way, the quantity of dollars in the United States goes down and the quantity of Rupees in Pakistan goes up. The US will have some deflation and Pakistan some inflation. Instead of a Pakistani programmer costing $1.20 per hour in the US, they will cost $1.30. And an American financial consultant will cost $48 per hour instead of $50. These price adjustments in the US and Pakistan reduce the attractiveness of Pakistani goods (including the services of programmers) in the US and increase the attractiveness of American goods in Pakistan. These price adjustments will continue until there is a balance in trade between the two (i.e., between the US and the rest of the world).

If the exchange rate is not fixed, the central banks will not intervene in the foreign exchange market to protect the exchange rate. The exchange rate itself will do the adjusting. The excess supply of dollars to the foreign exchange market will reduce the price of dollars in exchange for rupees. The dollar would depreciate against the rupee. But a depreciation of the dollar's exchange rate has the same effect on the cost of American goods in Pakistan as the deflation of US prices with a fixed exchange rate. So one way or the other American goods and services will become cheaper for Pakistanis and Pakistani goods and services will be come more expensive in America until trade balances.

In this overly simplified example, I assumed that there is no net flow of capital (investment) between these two countries. If we take account of the fact that some Americans invest in Pakistan and some Pakistanis invest in the US, we need to take account of the any net flow one way or the other when we talk about balanced trade. We should really talk about the equilibrium trade balance plus net capital flow.

The Facts

The American constitution insures that we can enjoy free trade within the US as it prohibits states from interfering with trade with other states. The size of the US market is so large that we are insured many of the benefits of free trade even without trading with the rest of the world. But why limit the benefits of a good thing? Trade improves efficiency and thus increases everyone's standard of living. It usually causes a change in the composition of employment but not in the level (other than temporarily). A simple look at the data confirms this.

Over the last ten years 309,911,000 jobs were lost. However, over the same period 327,673,000 new jobs were created for a net increase in employment of 17,762,000.[2] This enormous turnover reflects the dynamism of the US economy, which contributed to the huge productivity improvements over that period. As a result of such dynamism, total real output in the US (measured by real GDP) doubled over the last twenty years.[3] Per capital real GDP rose from $22,346 in 1982 to $34,934 in 2002.[4] Over 50 percent of the increase reflected increased labor productivity.[5]

Viewing the period in another way, 99,526,000 people were employed in the US in 1982 and the unemployment rate was 9.7 percent. By 2003 the number was 137,736,000 with a 6.0 unemployment rate, only modestly about the post war average.[6] Over the same period to 2002 (the latest available) total output measured by Gross Domestic Product (GDP) rose from $3,255 billion to $10,480 billion.[7] Imports of goods and services over that period rose from 303.2 billion dollars to $1,433.1 billion (or from 9.3 to 13.7 percent of GDP).[8] Exports over the same period rose from 283.6 billion dollars to 1006.8 billion.

Several features of these data should be noted. Everything grew a lot over the last two decades except unemployment. The government financing gap (deficit) grew dramatically in recent years and explains the trade deficit that has emerged in recent years. US exports grew more slowly than imports to accommodate a large capital inflow as the rest of the world invested in US government debt. Trade grew more rapidly than GDP itself, but by 2002 was still less than 14 percent of GDP. Because of the large size of the United State, a large share of the gains from trade occurs within the US.

Increased trade has not generally cost the US higher paying job. Between 1983 and 2002 management and professional specialty jobs grew from 23.6 million to 42.5 million. These jobs increased from 23.4 percent to 31.1 percent of total employment.[9]

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[2] US Bureau of Labor Statistics
[3] The Economic Report of the President 2004, table b2.
[4] Ibid, table b31.
[5] Ibid, table b49.
[6] Ibid, tables b36, b42.
[7] Ibid, table b1.
[8] Ibid, tables b24 and b1.
[9] U.S. Bureau of the Census, *Statistical Abstract of the United States: 2003,* Table no. 615, p. 399.

Trade expanded rapidly throughout most of the world during this period, not just in the US. Between 1982 and 2002 world exports grew from $1,801 billion to $6,385 billion. Over the same period real world output (real GDP) doubled.[10] Thus the benefits to Americans of trade were not at the expense of poor countries. On the contrary, the benefits were mutual. In most countries all income classes have benefited from increased trade and growth. Not only have those in poverty fallen dramatically as a percent of the population but in absolute numbers as well. Citing a study by Mr. Sala-i-Martin, *The Economist* stated that: "the proportion of the world's people living in acute poverty (on less than a dollar a day) fell from 17% in 1970 to 7% in 1998; the proportion living on less than $2 a day fell from 41% to 19%"[11]

The IT jobs lost to foreigners has been more than offset by increase computer sales in the US. Catherine Mann estimates that the offshorting of computer related manufacturing has lowered that price of computer hardware 10 to 30 percent and contributed to $230 billion in additional cumulative output of GDP between 1995 and 2002 from computer spawned improvements in productivity.[12] In fact, the US continues to export more IT services than it imports in part because of the cost saving from offshoring some programming services.

Blaming trade for the cyclical upswing in unemployment since 2001 would be a mistake. Restricting the freedom to trade would be a bigger mistake. It would reduce the growth in living standards both in the US and in the rest of the world, about which we should also care for both humanitarian and national interest reasons.

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[10] International Financial Statistics, IMF, Washington DC.
[11] The Economist, "More or Less Equal" March 13, 2004, page 70.
[12] Catherine Mann, Institute for International Economics.