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by

David Colander

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Most economists believe that outsourcing will lead to prosperity for both the United States and poor nations. This economic theorist has doubts. Based on the law of one price, he believes that the U.S. economy might be in for a rough ride.

THE VIEW ABOUT OUTSOURCING that one normally hears from economists is “Not to worry”—outsourcing is just another form of trade. Since trade has benefited, not hurt, the United States in the past, we should not worry, the market will take care of us. Although outsourcing hurts some people, the large majority of the population benefits. That position shows much insight and truth, but I am not so sanguine about what is currently occurring. In my view, it is suggestive that the United States is now, or will be in the next decade, likely to enter into a period of long-run relative structural decline, which will be marked by economic malaise and a continued loss of good jobs. These are long-run predictions—it is the general trend of the U.S. economy. Economic theory has little to say about shorter-run issues.

DAVID COLANDER is the Christian A. Johnson Distinguished Professor of Economics at Middlebury College.

I base my long-run prediction on the law of one price, a central law of economics. It can be easily stated: “Equal goods” will eventually sell for the same price and “equal factors” will eventually receive equal pay. Since “equal goods” and “equal factors” are ambiguous concepts, there is a certain degree of interpretation in this economic law, which is why economists can come to different positions in making their interpretations.

For example, the law of comparative advantage (the law that economists normally refer to when discussing the implications of trade) is based on the law of one price, but in its normal interpretation it assumes highly limited capital, social/institutional, and technological transferability. When David Ricardo first fully articulated this law in the early 1800s, those assumptions were probably reasonable; today they are less so. Technological changes have made each of those assumptions questionable, especially if one is considering long-run tendencies, as I am here. In the intermediate run, technology will transfer from one country to another, undermining any technology-dependent comparative advantage that a country has. Similarly with institutions: If, in the long run, one country’s institutions work better than another’s, other countries will adapt their institutions to integrate the better-working ones, as China and India recently did when they modified their institutions by adopting more market-oriented systems. Although the process of institutional adjustment is slow, it does occur, and, as it does, it undermines whatever social/institutional dependent comparative advantage a country may have had.

In the long run, when capital, social institutions, and technology are fully mobile and not impeded, then the law of one price works fully on wages. It states that workers of equal ability will ultimately receive equal pay. To the degree that they do not, forces will be set in motion to see that eventually they do. I emphasize the “eventually,” because in the short run, and even the intermediate run, the forces of competition and arbitrage upon which the law is based can be overwhelmed by institutional factors. These factors, along with geographically centered dynamic effects, can push an economy in the opposite direction, giving people a belief that the law of one price has been

repealed. That is what happened in the late 1990s' New Economy period. That period was, in my view, an outlier.

What we're now seeing with the jobless recovery is, in my view, a better indication of things to come. The reason is that the businesses I talk to consider Chinese workers—and, to a lesser degree, workers in a variety of other developing countries—the equivalent of U.S. workers, and that view, combined with the law of one price, will create strong pressures for real-wage equalization. The standard economic answer to this argument is that education will save us—that since U.S. workers are better educated than foreign workers, they can earn a significant premium. I am not so sure. The businesspeople I talk to are less concerned with specific years of school than they are with attitude, ability to adapt to new ways of doing things, reliability, and job-specific training, all of which are not necessarily reflected in indexes of education based on years of formal schooling. Businesspeople today believe that there are significant numbers of appropriately trained individuals in China, India, and other developing countries, so education is not a major differentiating factor. Even if it is partially true that U.S. workers have an edge in education, educational differences cannot support the enormous wage differentials that currently exist internationally.

There are, of course, a number of provisos. The workings of the law of one price depend enormously on the transferability of technological and institutional environment and capital. But again, based on my discussions with businesspeople, transferability of each of these in the long run seems a reasonable assumption. It is true that U.S. firms, because of political issues, limit the amount of production performed outside the United States. But firms also feel pressure to base production outside the country because they believe that if they do not, they will be left out of the Chinese market, and that firms based in other countries will have a head start in the expanding Chinese market, leaving U.S. firms unable to compete. So, assuming the political and social system in China or other major emerging economies remains stable, we can expect outsourcing to increase significantly over the coming decades, as the law of one

price works its way through the world economy. As this happens, the technological and capital differences between the United States and China will become smaller and smaller, making the equilibrium difference between U.S. and Chinese wages less and less. (I use China to simplify the discussion. There are numerous other countries out there that will be exerting the same pressure on various levels of U.S. business and jobs.)

While there are lots of “ifs,” “ands,” and “buts” involved, the law of one price means that for the United States to maintain its standard of living over the coming decades, it must do so within an overall structural setting in which simultaneously the law of one price is exerting forces to bring a labor force at least ten times its size up to its wage level. Chinese workers who currently get 60 cents an hour must be brought into parity with U.S. workers currently getting \$12 an hour. Assuming average Chinese real wages grow at 6 percent a year in U.S. dollars, this means that U.S. real wages can rise by about 1 percent a year if the equalization occurs over a fifty-year period. The slower the growth in Chinese wages, or the faster the equalization, the slower the possible growth of the real wage in the United States that is compatible with eventual factor price equalization. Until that equalization happens, the law of one price will continue to be sucking away at U.S. jobs and U.S. production, a sucking that will likely slow U.S. growth and cause economic malaise in the United States for decades.

The “optimist” argument against this view, as I understand it, is inductive. It says: “Look, this process has been going on for a long time, and it has helped us, not hurt us, so why should the future be any different? Trade is not a zero sum gain; it creates additional jobs. As you lose comparative advantage in one area, you gain it in the other. That’s Principles of Economics 101. So while the United States will lose jobs through outsourcing, it will gain high-level jobs producing sophisticated products through an expansion in trade.” According to this view, the new movement of service jobs is just another form of trade. (Although if you’re a chairman of the Council of Economic Advisers, you had better be careful in making the argument.)

Having had Econ. 101, and having written an Econ. 101 text, I understand this argument, but understanding it does not alleviate my basic pessimism. My problem is that the law of one price applies to high-level jobs producing sophisticated products just as it does to low-level jobs. Until the wage equalization occurs, we can expect pressure on all jobs and production facilities. When thinking inductively about the implications of trade for an area, my thoughts move to the experience in my upstate New York hometown of Jamestown. Over the past fifty years, Jamestown has fallen upon hard times. Its population has declined by almost 50 percent, and it has experienced economic malaise as the law of one price has worked its way through the U.S. economy. Wages are lower there, but not enough to drive development, and many of the dynamic young people move away. I see the United States now in the same position that Jamestown was in fifty years ago, and I see a high probability that in fifty more years, the United States will be in the same position that Jamestown is in now, with a moribund economy, limping along.

To understand my reasoning, one must understand three points relevant to the question of why some areas benefit more from trade than other areas.

First, production is best seen not as a single activity but as a multi-layered process, and that trade generally occurs in only a portion of that production process. For example, production can be divided into resource extraction, manufacturing, planning and organization, research and development, financial services, advertising, and distribution, among other areas. These various layers are tied together in complicated ways. Trade generally does not involve the movement of an entire production process. Instead it involves movement of some sublevel of production. Technological developments in transportation, such as computerized container shipments, and in telecommunications, such as the Internet, are allowing the processes to be divided up more and more finely and are making an increasing portion of the production process a tradable rather than a nontradable. As increasing amounts of the production process become tradable, the nature of nontransferable comparative advantages in production de-

creases and the pressure for factor price equalization increases.

This point is important because the effect of trade on a geographic area depends on both its position in that multilayered process and the percentage of the production process that is located in that geographic area. Over the past seventy-five years, many of the levels of production have been based in the United States. In such an environment, trade benefits the United States enormously because the economic activity it generates occurs there. Thus, for example, when the United States outsourced resource extraction, or even manufacturing, the large majority of the value added still accrued to U.S.-based factors. When \$60 Nike shoes are manufactured in China for \$6, that means, assuming all other aspects of production are in the United States, that \$54 of value-added production is generated in the United States. The workers making shoes are hurt by such trade, but the United States as a whole benefits strongly as the major benefits of the trade accrue to the other levels of production. The more levels of production in a country, the more trade helps that country.

Second, the development of production processes in a geographic area requires enormous setup costs, which initially will significantly slow the working of the law of one price. High setup costs tend to keep production in geographic areas where it was initiated. The geographic distribution of production has inertia that can only be overcome by incurring setup costs. These costs, however, are one-time, not continual, and, once incurred, they are no longer impediments to trade. Thus, once the setup costs have been undertaken, the past experience with trade may not be a good predictor of future experience.

Third, the benefits of trade in an area are equalized throughout that geographic area and will spread to nontradables and geographically fixed factors of production. Nontradables, such as land, country-specific legal services, and country-specific support services, will have much higher costs in areas that have benefited from trade in the past than in other areas. Because these nontradables are inputs into tradable goods, this means that the cost of production of tradables will be higher in areas that have previously benefited from trade, even when wages in the tradable sectors have equalized; slow adjust-

ment of these nontradable goods' prices make quick factor price equalization difficult. Part of the reason that a worker in China can currently exist on 60 cents an hour, whereas a worker in the United States would have a hard time existing on \$8 an hour, is the difference in these nontradable costs. Only when wages and prices in the nontradable sector have equalized will tradable wages be fully able to adjust. Because competition does not work directly on nontradable sectors, that adjustment will take a long time.

Taking these three issues into account, I see the past experience of the United States to be a poor predictor of the likely future U.S. experience with trade. The reasons are: (1) The proportion of production processes in the United States is declining. As the proportion of production related to trade in a geographical area declines, the positive effects it gains from trade decline. (2) Setup costs have been incurred. As the setup costs to develop production facilities elsewhere are incurred, the future gains from trade to a previously successful geographic area will be smaller. (3) Because of institutional rigidities of prices of nontradables that do not experience the direct effect of global competition, the prices of tradables in an area will be unlikely to adjust fast enough, even with exchange-rate adjustments, to mitigate the effects of the law of one price on output.

The United States still has some strong comparative advantages. It has inertia, geographic, and resource advantages, a strong social and political infrastructure, enormous wealth, and a population that still controls much of the residual benefits of trade. So collapse is not imminent, and we might even have some very positive years over the next decade. But the law of one price will continue to chip away at us. Technology is placing an increasing amount of production in play, and as it does so, more and more areas in the United States will be hurt by trade. As the proportion of production tied to the United States continues to decrease, fewer of the residual gains from trade will accrue to the United States. Rather than Nike shoes' being split 10 percent to 90 percent, it will be 20 percent to 80 percent. As that split continues to move against the United States, the benefit of trade accruing to the United States will become smaller and smaller.

Eventually, the process will reach a tipping point, when the majority of the benefits to trade will no longer be accruing to the United States but to other countries. At that point we will see *outsourcing turned on the traders and the outsourcers themselves*, and the United States will experience a large sudden loss in benefits of trade. As the income from those organizers of trade accrues to countries outside the United States, the secondary benefits of trade will spill over to a larger degree in those countries where the organizers of trade live. At that point, the United States will no longer be the world economic leader.

As the process of adjustment occurs, the U.S. real exchange rate will fall, and as it does, our competitiveness will improve. But with wages of 60 cents in China and \$12 here, and with the sheer size of those Chinese, Indian, Bangladeshi, and similar workforces, the 25 percent fall in the value of the dollar that we have seen is only a small portion of the fall that must take place before the pressure from the law of one price will be abated. Over time, at current nominal wages in China and India, the real exchange rate of the dollar would have to fall something more like 60 percent to 80 percent if the underlying process of job loss is going to be halted. An exchange rate adjustment of that magnitude will cause serious structural problems in the United States because it is not only real wages of those in the tradable sector that must fall. It is also real wages of nontradables, such as legal services and U.S.-specific financial accounting services. Many of these, however, are structurally difficult to reduce, because of built-in legal and social monopolies that protect them. Thus, I see the exchange rate adjustment process leading to significant inequality and social unrest. The problem is that globalization and exchange-rate movements put unequal pressure on various sectors, and in doing so create strife and undermine the social institutions upon which the fabric of the U.S. economy is built. If they undermine that fabric, the stability of the system is challenged and may be undermined.

All is not lost. A number of factors will continue to prop up the U.S. economy in the short-term future. The first is the trading convention that English is the language of business and academics. That convention gives the United States what in my mind is its biggest

comparative advantage at high-end jobs, and it will keep U.S. wages above world average since it reduces competition at higher-level jobs where subtle knowledge of language plays an important role. The second is the legacy of past U.S. hegemony. U.S. citizens are the residual claimants of much of the production gains of trade—in terms of patents, copyrights, and intellectual property rights. Residual claimant income flows back to the United States, which means that it is spent in the United States, creating jobs servicing those who get it. Many of these jobs have been filled by immigration, which is another way in which factor price equalization occurs. In fact, if one considers wages of U.S.-born workers, and not family income, wage income over the last twenty years in the United States has been almost stagnant, just as the law of one price would have predicted.

As the outsourcing continues, the relative gains from trade accruing to the United States will become relatively smaller. Eventually, the outsourcing will occur at the management and “job-cutting outsourcers” level. At that point, *the outsourcers become outsourced*, and the residual claimants will geographically move, which means that additional outsourcing will result in far less U.S. geographically specific demand for services.

Once we get to the point where we are outsourcing the outsourcers, the world economic power will shift out of the United States and toward other countries such as China. At that point the equilibrium value of the dollar will be far below where it is now, and U.S. relative wages in tradables below other countries’ wages. The path to that equilibrium is one in which much of the United States languishes in slow growth and economic malaise as the world economy grows.

Let me conclude by saying that my assessment of the long-run future of the economy does not lead to protectionist arguments. The law of one price is a powerful force. Tariffs and other protectionist elements are too weak to stop it and will likely make its effects worse, since those measures will prevent U.S. companies from competing globally. These policies might make some short-run difference for good or bad, but they will not make a long-run difference. It is like putting your finger in one hole of a crumbling dike.

Instead, the policy conclusion I come to is that the United States must prepare for the coming period of decline relative to the rest of the world by increasing its competitiveness on all levels. We need to break down internal monopolies that protect nontradable wages and to add significantly more internal competition to the outsourcers and traders. The United States must become leaner and meaner if it is to remain competitive. If these areas do not increase their competitiveness, the last remaining stronghold of the U.S. economy—the outsourcing branch of the U.S. economy—will itself be outsourced, as Chinese and other foreign firms with residual claimants outside the United States replace current firms as the economic engines of the world and the residual claimants of the benefits of trade.

What are the chances of such a pro-competitive policy? I suspect close to nil, which is why I remain rather pessimistic about the long-run future of the U.S. economy.

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