



Trade Basics

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Trade Theory and the Real World

By Bob Young, Ph.D.

Most economists are quick to talk about the benefits of trade, in particular agricultural economists. Agriculture in the United States is dependent on export markets for substantial amounts of sales and demand growth. Some commodities see more than 40% of their domestic production leaving the country, and the agricultural sector exports more than it imports. For the economy as a whole, the nation runs an overall trade deficit. This trade deficit is particularly true in goods, as we export more services than we import.¹

The recent presidential election, however, was lacking in positive statements regarding trade. The rhetoric ran the gamut: Trade agreements were as job killers. Other countries were taking advantage of unsophisticated U.S. trade negotiators. The North American Free Trade Agreement was a disaster for the U.S. worker. And, China was regularly brought up as taking unfair advantage of U.S. forbearance.

Is economic theory wrong? Are proponents of protectionism on the right track? Is the use of our negative balance of trade the right way to consider whether or not the playing field is fair? The short answer is no, but this paper examines some of the challenges.

Comparative Advantage

The common classroom lecture on the benefits from trade usually starts from the premise of comparative advantage. In the late 1700s, the idea of absolute advantage tended to hold sway in economic thought. Absolute advantage said that if I could produce something cheaper than you, then you should import from me and you should forego production.

Absolute advantage example: Country A can produce either 100 cars or 50 pairs of shoes a year; Country B can produce 50 cars or 100 pairs of shoes a year. If each country produces both cars and shoes, that means that Country A can produce 50 cars and 25 pairs of shoes and Country B can produce 25 cars and 50 pairs of shoes, for a total of 75 cars and 75 pairs of shoes to consume in the two countries. But, if the two countries agree to trade and they each produce what they have an absolute advantage in producing, then Country A would specialize in cars and produce 100 cars a year while Country B would specialize in shoes and produce 100 pairs of shoes a year. Thus, the combined welfare of the two countries is raised by 25 cars and 25 pairs of shoes.

However, the concept of comparative advantage was introduced by David Ricardo in 1817. Comparative advantage is the idea that the *relative* cost of production is the important point, not the absolute cost. In other words, even if a country does not have an *absolute* advantage in producing anything, it can still benefit from trade. That is, if my *relative* cost of producing wine compared to my cost of producing cloth was cheaper than your relative costs, then we should let me specialize in wine production, you in cloth and we should trade.

This example is often used to show that whenever two parties specialize and trade between them, both are better off. While the arithmetic is fairly straight forward, the concept is also easy to understand. If we both do what we do *comparatively* best, and focus our attention on doing exactly that, then we should be able to produce more and thus have the ability to consume more. Again, the numbers don't lie.

But the story should not stop there.

Those Pesky Jobs...

Consider the resources needed to produce these cars and shoes in our example. For the sake of

Comparative advantage example: Country A can produce either 100 cars or 50 pairs of shoes a year; Country B can produce 50 cars or 50 pairs of shoes in that same year. If each country produces both cars and shoes, that means that Country A can produce 50 cars and 25 pairs of shoes and Country B can produce 25 cars and 25 pairs of shoes. (These are really nice shoes.) Taken together there would be 75 cars and 50 pairs of shoes available for consumption in the two countries.

But now let the two countries trade. Absolute advantage would suggest Country A can produce both shoes and cars cheaper than can Country B, but Country A would have to short-change its own citizens to overwhelm Country B's economy with exports of cars or shoes. If on the other hand, Country A produced 80 cars and 10 pairs of shoes and Country B specialized in producing only shoes and produce 50 pairs of shoes. Country B could then consume 30 pairs domestically and export 20 pairs to Country A. Country B could then import 30 cars from Country A. Exporting those 30 cars to Country B would still allow Country A to consume 50 cars, but Country A's citizens now would be able to sport 30 pairs of new shoes as well. Adding things up gives a combined total consumption of 80 cars and 60 pairs of shoes.

	Maximum w/out Trade		Maximum w/ Trade	
	Cars	Shoes	Cars	Shoes
Country A	50	25	80	10
Country B	25	25	0	50
Total Production	75	50	80	60

So, no question the two countries are better off – Country A with more shoes and Country B with both more cars and more shoes.

discussion, assume the production of each car in Country A uses one employee and a pair of shoes takes four. (Remember, these are really spiffy shoes.) Under the no-trade case and production of 50 cars and 25 shoes, Country A uses 150 employees. Also assume Country B uses one employee per car and one employee per pair of shoes. They employ 50 people. Now let trade happen. Country A goes from 50 people employed making cars to 80 people, but also goes from 100 people making shoes to only 40. Total employment at these two tasks has shrunk from 150 to only 120. In the case of Country B, it still employs 50 people, but half of them are now doing different things. Automotive workers are

now dying leather or working on shipping shoes to Country A.

The bottom line is that when two parties specialize and trade, oftentimes someone has to do something different tomorrow than they were doing yesterday. With complete labor mobility and no geographic ties, people can move easily from one job to another and all of these adjustments happen smoothly.

Then there is reality. Trade between nations is not a simple two-good, two-country case. With global supply chains, an idea for a product may arise in one country, raw materials produced in two or three others, parts made in yet another dozen, with final assembly half a world away from final consumption. On top of all this activity is layered a complex web of nation-states with trade rules and other commercial restrictions complicating how things unfold.

The Manufacturing Sector

Manufacturing sector employment is frequently used as a straw-man for challenges created by trade. Over the last several decades, jobs in manufacturing have been under pressure due to a variety of factors. Gwynn Guilford² writing for Quartz points out the role automation has and is playing in reducing the need for manufacturing employment. Houseman, Kurz, Lengermann, and Mandell³ discuss the role imported parts are having on manufacturing productivity in the United States, suggesting the growth in productivity may be driven more from those imports than other factors.

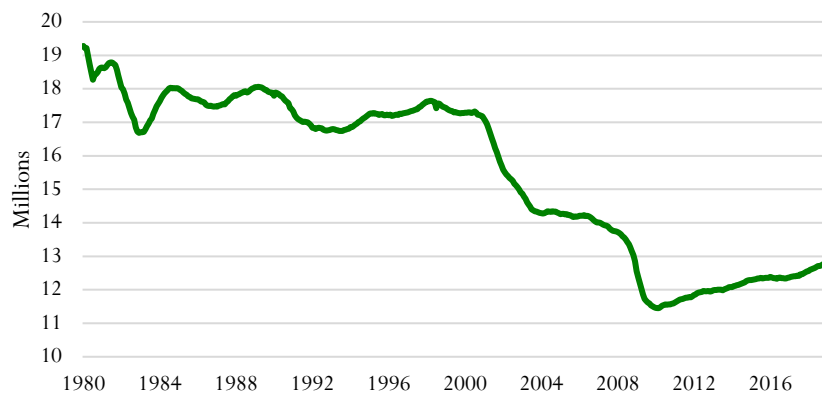
For several years after the Second World War, manufacturing employment went through a slow, but a

fairly steady, upward trend. Jobs in the sector would grow during economic up-turns and retrench during recessions. Usually, the sector would regain most if not all recessionary losses during those growth periods. Even after the implementation of the North American Free Trade Agreement on January 1, 1994, manufacturing sector employment continued to rise.

It was not until the recession beginning in March 2001 that things changed. Manufacturing employment totaled 16.9 million at that point. At the end of the recession in November of the same year, the sector had shed 821,000 jobs, but the slide was a long way from being finished. The first month-over-month increase in the sector's job numbers did not occur until March 2004. During that intervening three-year period, the sector dropped an average of 63,000 jobs *each month*.

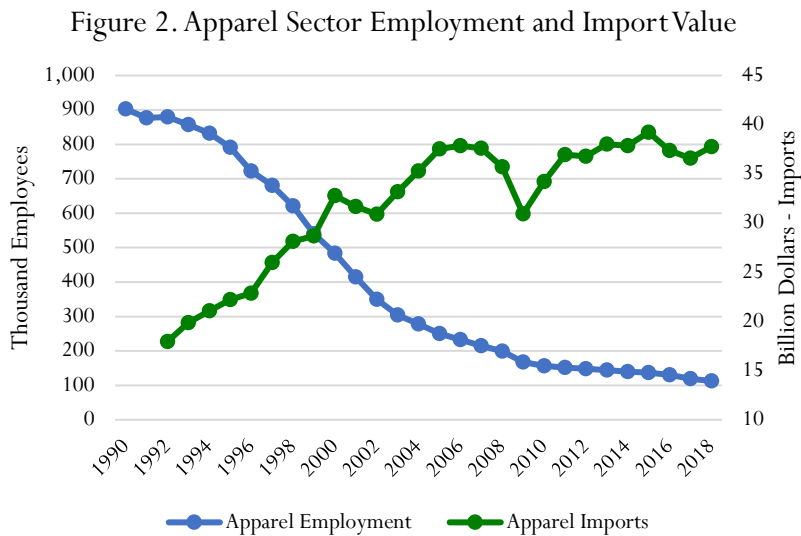
When the next recession began in December 2007, manufacturing employment was down to 13.7 million. The end of the great recession in June 2009 saw the sectors employment numbers down to 11.7 million. The slide continued through March 2010, hitting a minimum of 11.4 million, well below the 16.9 million pre-recession employment.

Figure 1. Manufacturing Sector Employment



This shedding of 5.9 million jobs over the ten years between March 1999 and March 2009 was driven at least in part by trade.

were significantly lower (25.8 percent) for rural textile mills and apparel product manufacturers (versus a 57-percent overall survival rate).”



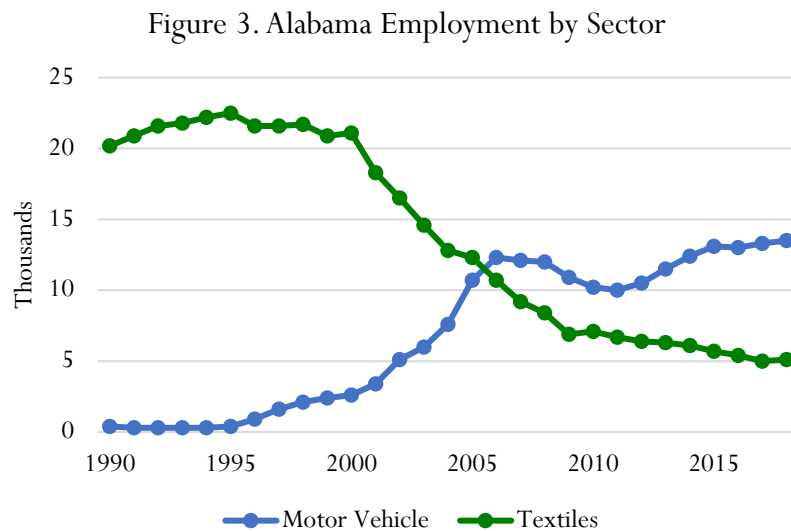
The idea of trade driving people to do different things tomorrow than they did yesterday is shown in a comparison of the textile versus the automotive sectors in Alabama. The decline in the textile industry in Alabama was somewhat different than the national pattern in that the sector remained level up until 2000 and then dropped sharply until 2009, when job numbers somewhat stabilized. Mercedes Benz opened a North American assembly plant in

Recall that China entered the World Trade Organization in January 2001. Recent work by Scott and Makhiber⁴ suggest China’s rise as a major manufacturing competitor has driven a net loss of 3.4 million jobs in the United States, with 2.5 million losses in the manufacturing sector alone. Within manufacturing, Scott and Makhiber estimate 1.2 million jobs disappeared in computer and electronic parts, with another 326,000 in textiles, apparel, and leather products.

Alabama in 1993. Subsequently, Honda, Hyundai, Kia, and Toyota now have plants in the state.

Even during the period of overall stable employment in the manufacturing sector, there were specific areas with significant job losses. The apparel industry all but disappeared between 1990 and 2010, sluffing off almost 800,000 positions. Trade drove most of this employment adjustment. Sarah Low⁵ found that “Survival rates

Trade contributed to the loss of the textile industry, but trade also brought the automotive sector into the state. People just had to be ready to do something different.



Trade Adjustment Assistance

Economic theory effectively "proves" that two parties are better off if they specialize and trade. If they were not better off, there would be no reason for them to trade in the first place, once specialization occurs and trade begins to flow. However, individuals may be forced to do something different tomorrow than they did yesterday. Change is not always viewed as a good thing. The skill set needed for the new reality may be completely different than that needed before. In addition, the location of that new skill set may be thousands of miles away.

Assistance to individuals is critically important in making the transition for how much society benefits as a whole. Other papers in this series cover trade adjustment assistance programs.⁶ The short story is that as a nation, we have probably not devoted enough attention to the funding and structure of these policies.

Conclusions

Individuals, companies, and countries benefit from the ability to specialize in what they do best

and to trade the excess of their individual needs with others. This is true for a lawyer, a plumber, an automotive industry, or insurance services. While the *country* may be better off, that does not mean that *every individual* will see benefits. At the very least, some individuals will probably need to adjust to the new reality, to do something different. With perfect labor mobility and easily developed skill sets, one would see people moving freely from one job to the other. Entrepreneurs would start up new firms as soon as trade closed down an old company.

But, real life has friction. People are not able to move across the country on a moment's notice. The skill set of making a new engine or programming a robot is different than those needed to assemble fabric into a new shirt.

Proponents of trade need to recognize these challenges and help individuals with the adjustment process that increased trade brings. The country has much to gain from expanded trade.

About the Author: Bob Young, Ph.D., served as the Chief Economist at the American Farm Bureau Federation, a Co-Director of the Food and Agricultural Policy Research Institute at the University of Missouri, and the Chief Economist of the U.S. Senate Committee on Agriculture, Nutrition and Forestry.

¹ For additional information on overall U.S. trade flows, see the *Trade Analysis* paper by Dr. Bob Young at www.farmfoundation.org/trade

² <https://qz.com/1269172/the-epic-mistake-about-manufacturing-thats-cost-americans-millions-of-jobs/>

³ Houseman, Susan, C. Kurz, P. Lengermann and B. Mandell (2011) *Journal of Economic Perspectives* – Volume 25, Number 2 – Spring 2011 pp 111-132 Offshoring Bias in U.S. Manufacturing

⁴ The China Toll Deepens Robert E. Scott and Zane Makhiber, October 23, 2018 Economic Policy Institute epi.org/156645

⁵ Low, Sarah A. *Rural Manufacturing Resilience: Factors Associated With Plant Survival, 1996-2011*, ERR-230, U.S. Department of Agriculture, Economic Research Service, May 2017.

⁶ For additional information on the Trade Adjustment Assistance program, see the *Trade Basics* paper by Paul Drazek at www.farmfoundation.org/trade