The Effect of NAFTA on United States Domestic Agricultural Production

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History of NAFTA

The North American Free Trade Agreement, signed in 1992 by three countries; Canada, Mexico and the United States and taking effect on January 1, 1994, established a free-trade zone in North America[1]. The agreement is composed of three bilateral trade agreements between each of the three countries, so different terms between the U.S. and Canada, Canada and Mexico and the U.S. and Mexico. The first of these, the Canada-United States Trade Agreement (CUSTA)(sometimes seen as CFTA), was implemented in the beginning of 1989, and was later included in the final NAFTA documentation. The second and third of the bilateral agreements took effect on the same day as the implementation of NAFTA. The implementation of NAFTA lifted tariffs on a majority of goods produced with the three member nations. For those goods that did not have tariffs immediately lifted, it called for the gradual removal over the next fifteen years of these remaining tariffs and any barriers to cross-country foreign investment amongst the members. Recently NAFTA was renegotiated into the United States-Mexico-Canada Agreement (USMCA) (or for those in Canada, CUSMA) in 2018 at the behest of President Trump. The new terms were originally agreed to on September 30, 2018 and then formally agreed upon the following day. The leaders of each member nation signed it into law on November 30, 2018 at the 2018 G20 Summit in Buenos Aires. A revised version of the legislation was signed on December 13, 2019 and has been ratified by all three countries, with Canada being the last to do so on March 13, 2020. In the following paragraphs I will show how the implementation of NAFTA has affected international trade between the three member nations.

[1] North American Free Trade Agreement. (n.d.). Retrieved November 22, 2020, from https://www.cbp.gov/trade/nafta

Since the implementation of NAFTA, trade in the agricultural sector of the United States has increased significantly with its NAFTA partners. Agricultural exports rose from $8.7 billion in 1992 to $38.1 billion in 2016, while imports rose from $6.5 billion to $44.5 billion. This substantial increase can be partly shown in Figure 3 below. As a percentage of U.S. agricultural trade, Canada and Mexico rank second and third, beaten by only China, as the top U.S. export markets.[2] In 2016, the leading traded products in agriculture under NAFTA were meat and dairy products, grains and feed, fruits, tree nuts, and vegetables, oilseeds and sugar and related products such as sweeteners. This is not to say that the gains to trade that the United States felt from NAFTA were universal for all members of the trade deal. In fact, the implementation of NAFTA greatly effected low wage Mexican workers and small level farmers. in their domestic agricultural market with the expansion of corn markets. This expansion devastated rural livelihoods, increased employment, and caused both legal and illegal immigration into the United States to increase. The number of Mexicans migrating to the United States increased steadily from approximately 350,000 per year before NAFTA to 500,000 per year by the early 2000s[3].

[2] Johnson, R. (2017). The North American Free Trade Agreement (NAFTA) and U.S. agriculture (CRS Report R44875). Washington, D.C.: Congressional Research Service.

[3] Nisivaco, Thomas, "NAFTA and its effect on corn, migration and human rights in Mexico" (2017). College of Liberal Arts & Social Sciences Theses and Dissertations. 235. https://via.library.depaul.edu/etd/235

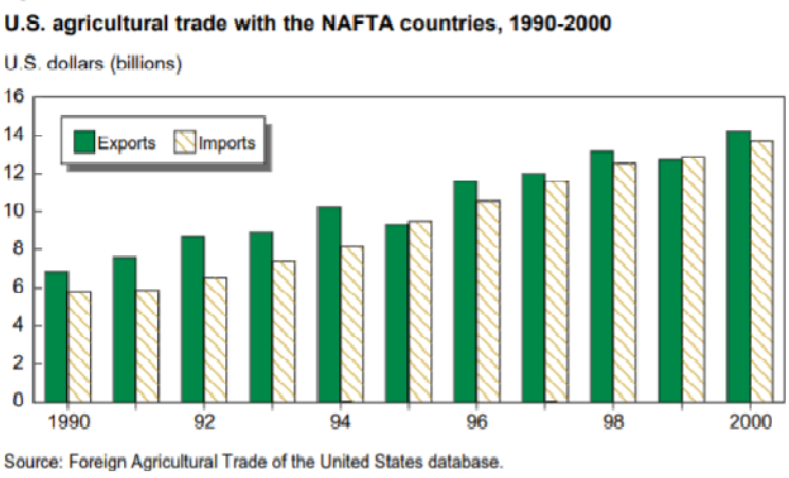

Fig. 1- This figure shows the evolving relationship between U.S. exports and imports to and from NAFTA countries since 1990. You can see a steeped decrease in exports between 1994 and 1995.

The trading patterns of certain agricultural goods have changed during the time that NAFTA has been in effect, given that not all tariffs were reduced at the same time. The figure below gives a rough layout of the major dates of tariff removals. This phased implementation allowed time for certain industries to become more economically competitive in the expanded market than they were at the time of NAFTA original implementation.

Table 1. NAFTA Tariff Chronology, Selected Agricultural Commodities

1989	Canada-United States Trade Agreement (CUSTA) implemented
January 1994	NAFTA commencement • U.S. tariffs eliminated for Mexican corn, sorghum, barley, soymeal, pears, peaches, oranges, fresh strawberries, beef, pork, poultry, most tree nuts, carrots • Mexican tariffs eliminated for U.S. sorghum, fresh strawberries, oranges, other citrus, carrots, most tree nuts
January 1998	Completion of nine-year transition period associated with CUSTA between Canada and the United States • Remaining Canadian-U.S. tariffs eliminated (except for certain exempted products, such as dairy, poultry, and eggs) • U.S. tariffs eliminated for Mexican non-durum wheat, soyoil, cotton, oranges • Mexican tariffs eliminated for U.S. pears, plums, apricots, cotton
January 2003	Completion of nine-year transition period under NAFTA between Mexico and the United States • U.S. tariffs eliminated for Mexican durum wheat, rice, dairy, winter vegetables, frozen strawberries, fresh tomatoes • Mexican tariffs eliminated for U.S. wheat, barley, soybean meal and soyoil, rice, dairy products, poultry, hogs, pork, cotton, tobacco, peaches, apples, oranges, frozen strawberries, fresh tomatoes
January 2008	Completion of 14-year transition period under NAFTA between Mexico and the United States • U.S. tariffs eliminated for Mexican frozen concentrated orange juice, winter vegetables, peanuts • Mexican tariffs eliminated for U.S. corn, sugar, dried beans, milk powder

Source: S. Zahniser and J. Link, *Effects of North American Free Trade Agreement on Agriculture and the Rural Economy*, USDA Economic Research Service, WRS-02-1, July 2002; and H. Brunke and D. A. Sumner, "Role of NAFTA in California Agriculture: A Brief Review," University of California, AIC Issues Brief# 21, February 2003.

Fig. 2- A table showing years in which certain crops saw their tariffs removed to other NAFTA member nations.

Major dates of the figure to take notice of are the removal of wheat tariffs in both the United States and Mexico in 2003 and the removal of the Mexican tariffs on corn and sugar coming from the United States in 2008. Prior to their tariff elimination in 1998, U.S. exports of dairy and poultry were still subject to high above-quota tariffs, when other products had their tariffs removed and their import quotas redefined. During the year of phased removal of tariffs, market integration was correlated with the levels of tariffs in that specific market, but not specifically with the level of tariff with the specific country that had an import tariff, as the third country imposing a tariff could decrease market integration of the two remaining countries. Prior to the first round of delayed tariff reduction, most agricultural sectors of NAFTA nations were associated with a high level of market integration. At this time there were a handful of sectors that were considered to be medium integration, a notable one being the United States and Canadian wheat markets and markets affected by retaliatory tariffs put into place by Mexico

following the U.S.-Mexico trucking dispute that began in 1995 when the U.S. refused to lift restrictions on Mexican trucking[4]. Market integration was lowest in sectors that were entirely exempted from the previous round of tariff reductions, such as between the U.S. and Canadian dairy, poultry, and egg product sectors.

Economic Theory

Following traditional economic trade models, we would assume that the implementation of NAFTA would lead to gains in trade for Mexican producers given their lower labor costs relative to the other member nations. This lower labor cost should theoretically have created a comparative advantage in labor intensive crop due to their low wages. This may not become true however as many producers in Mexico lack similar infrastructure to their competitors in the U.S and Canada and see a higher comparable cost instead. Comparative advantage is important in the economic framework of NAFTA, as one of the initiatives of the agreement was to attempt to strengthen member nations comparative advantages and promote equal shares of markets. Problems arise in the use of subsidies in each of the member nations, especially within the United States utilizing subsidies of corn and wheat as a protectionist method which decreased market prices through the resultant overproduction of those crops.

Data Selection

[4] Rice, J., & Vejar, C. (2017, October 27). More than 20 years later, Cross-Border Trucking Fight under NAFTA Continues. Retrieved November 24, 2020, from https://www.lexology.com/library/detail.aspx?g=94dcee77-d48f-4881-bd70-3b60fbfbcae3

The data used for the analysis of this study was limited to being between the years of 1989 and 1999. These years were chosen so that CUSTA has already had its original round of tariff reductions in 1989. And 1999 was chosen as the end year so that there were the same years prior to the implementation of NAFTA as following it. It was also chosen as the end year to avoid being impacted by the introduction of China into the WTO in 2001 and the market fluctuations that occurred following 9/11. This selection also allows us to have access to the information contained with a USDA census both before and after the implementation of NAFTA. These censuses, from the years 1992 and 1997, are similar to the surveys that the USDA conducts yearly, but more in depth and with additional observations. Additional data in this study will be sourced from the United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) Quick Stats tool.

Data selected from NASS was done with the intention of seeing how domestic consumption of individual crops had changed and the resultant change in the entire domestic agricultural market. I choose to look at individual crops due to tariff reductions on agricultural products occurring at different periods of time for different crops and different nations, not all at once in 1994. The two crops I selected to find data and subsequently see the effects of NAFTA on their domestic markets were corn and soybeans. While these are two major crops produced in the U.S., they are not ones which we export at a significant rate, they were chosen simply due to my familiarity with the crop as they are extensively farmed in Virginia. As a note, in the end corn may not have been the best selection as an indicator of agricultural performance. This is due to Mexican corn tariffs not being removed until 2008, additionally there are many types of corn, that are used for different purposes and other factors may effect the consumption of the different types. Feed corn would see a downturn in consumption if there is a decrease in livestock

production. Edible corns would be a good indicator of how other edible agricultural products are fairing in the industry, but it was not possible to flesh out what percentage of corn production was of edible and nonedible corn.

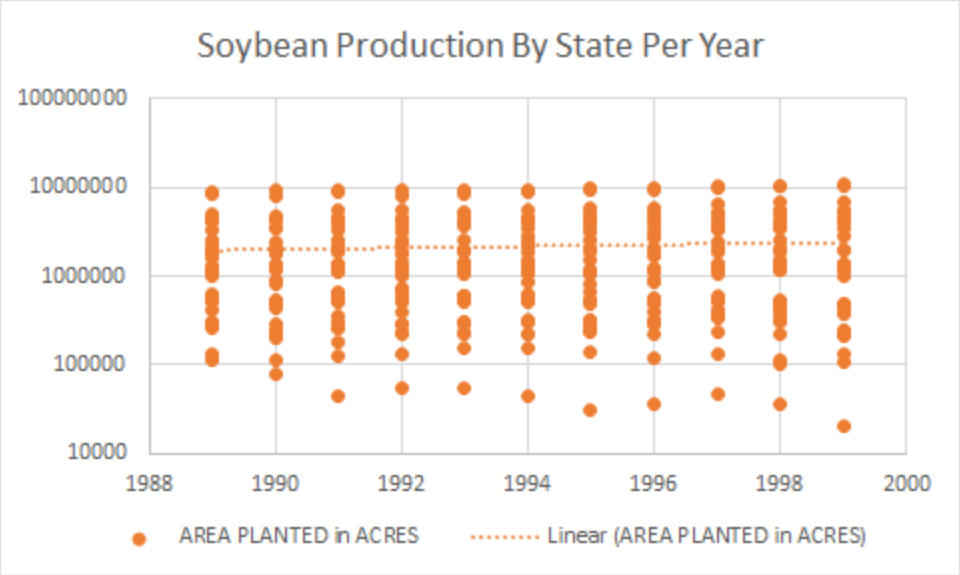

Fig 3. —Relationship between the year and the quantity of soybeans planted in acres. The axis for acres planted is shown on a logarithmic scale. Each dot represents a different state. The dotted orange line represents the average quantity planted by state per year (i.e. one-fiftieth of the total domestic production.

Looking at the results of figure 3 it appears that the implementation of NAFTA did not have a significant effect on the average production of state in terms of acres in the years following 1994.

Shortcomings

Shortcoming of this research are mostly due to omitted variables. There are many factors that have a strong effect on the highly volatile agricultural markets of each NAFTA member country. An inability to find public source data on subsidies given to individual farms is possibly the most important omitted variable. This information could tell us if farmers have a stronger reaction to increased prices of their commodity or to an increase in the subsidy that they obtain. The existence and reliance on subsidies has kept some American farms in operation when they would have stopped producing in other countries, this leads us away from an economically efficient equilibrium quantity produced. Additionally, I was unable to attain information on other important factors relevant to crop production and consumption, such as unusual weather conditions, population growth, and changes in exchange ate and macroeconomic performance. Abnormal weather conditions in one member country could theoretically lead to an increase in production of some goods in another member country to fill that gap in demand. Population growth is an important variable that also needs to be included at some point, as we can say that NAFTA has caused the increases since 1994 but that is not a realistic truth, as consumption in each member country should be continuously increasing as their populations increase as well. There is also little information on how international relations between the countries would impact agricultural trade between those nations, such as how would the rhetoric of President Trump affect agricultural trade with Mexico.

Conclusion

While I have no conclusions on my own research like this assignment prompted, I believe it is safe to say that the conclusions from previous literature tell us that the U.S. that the state of U.S. agriculture has greatly improved since the implementation of NAFTA and the gradual removal of tariffs that existed following the original implementation. Rising population in each

of the member nations has created an expansive new market that may have at one time been economically inaccessible.

To truly flesh out the effect that NAFTA had on total consumption of domestic agricultural production in the United States we would need information on the population increases at each time frame, as well as how consumption preferences have changed. The latter of these is important especially if we do not have information on all forms of agricultural consumption, as the omittance of a variable could lead us to the incorrect conclusion on the state of domestic agricultural consumption.

Citations

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