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NORTH AMERICAN FREE TRADE: BILATERAL IMPLICATIONS IN A TRILATERAL AGREEMENT

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ABSTRACT

The North American Free Trade Agreement will create an economic power bloc representing over 370 million people and an economy over $6.5 trillion. However, not everyone within this region that stretches from the Yucatan to the Yukon is in favor of NAFTA (Auerbach, p.12). The two most affected parties of NAFTA are Mexico and the U.S. The objectives of this paper are to: 1) describe the general provisions of NAFTA; 2) develop a theoretical model of international trade markets; 3) analyze selected agricultural commodities with economic trade models; 4) analyze environmental impacts of NAFTA; and 5) discuss policy implications. A two-country model of tariffs and quotas and a welfare analysis of free versus restricted trade models were used to analyze the impacts of NAFTA on Mexican and U.S. agricultural industries. We found that free trade is more beneficial on than restricted trade, assuming that environmental issues can be addressed. If NAFTA is ratified, a trilateral commission will be set up to enforce environmental provisions. With NAFTA, North America will benefit not only from free trade but also from the advantages of producing on a much larger scale and the formation of an economic power block.

PROBLEM SETTING

The world economy has become increasingly complex. Today, the world economy is experiencing dramatic change and is on the verge of entering a new millennium. In the past fifty years, different regions of the world have gone through a variety of economic changes, while the societies of these regions have adapted to the best of their ability. Economically, the Eastern Europe/Western Asia region has fallen behind, the Central/South American region is catching up, the Western European region is keeping up, while the Far East and North America regions are leading the way into the twenty-first century with economic and technology prosperity. The desire for potential economic prosperity and protection in today's world has driven the world toward the formation of economic power bloc agreements such as the European Community's Agreement (EC), the Latin American Free Trade Agreement (LAFTA), and the North American Free Trade Agreement (NAFTA), (Ames, Jan. 1993).

The North American Free Trade Agreement will create an economic power bloc representing over 370 million people and an economy over $6.5 trillion. Not everyone within this region that stretches from the Yucatan to the Yukon is in favor of NAFTA - primarily some industries within the United States (Auerbach, p.A12). The two prominently affected parties of NAFTA are Mexico and the U.S.

Of the two prominently affected parties of NAFTA, the U.S. has raised the most questions concerning the future of U.S.-Mexico relations. Although NAFTA opponents have thrown some direct and

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difficult questions to NAFTA proponents, the NAFTA opponents have volleyed with equally direct and explicit answers to trade agreements proponents. The main areas ofinterest in this paper are agricultural industries, as well as Mexico's environmental conditions.

OBJECTIVES

This paper examines the impact of free trade on the major participating countries of NAFTA. Specifically, the objectives of this paper are to:

1) Describe the general provisions of NAFTA;
2) Develop a theoretical model of international trade;
3) Analyze selected agricultural commodities by applying economic models;
4) Analyze environmental impacts of NAFTA; and
5) Discuss the agreement's far-reaching policy implications.

METHODS

Many opponents of the agricultural provisions of NAFTA believe that "There cannot be true free trade with Mexico, since all of their workers — from the fields to the processing plant — are paid substandard wages, which is why their labor costs are so low and the U.S. growers have a difficult time competing" (Cooper, 1993). There are a number of methods that can be used to examine the effects of free trade between the U.S. and Mexico. This paper uses two such models for its analysis (Houck).

The first model examines the possible effects of free trade with Mexico using a two-nation trading regime model. This model will illustrate the gains to consumers, as well as producers. The second model examines the possible effects of free trade between two countries by means of a quota reduction analysis. The quota reduction model will illustrate the benefits to consumers and producers.

THEORETICAL FRAMEWORK

Economic trade theory views each individual nation as a basic economic unit (Houck). Beneficial trade can develop mutually among individual countries because basic production conditions differ between nations. The ability of countries to specialize and alter their variety of outputs by internally shifting the allocations of resources is the basis of comparative advantage as described by Ricardian Theory of trade. Trade between nations occurs because the nations of the world can exploit their comparative advantage when trading with other nations for lower cost goods and services, rather than adjusting their resources internally.

International trade allows countries to minimize their particular production limits. Through trade, nations can consume a more diverse bundle of goods and services that cannot be produced at home. With trade, the well-being of trading nations generally increases due to the production specialization and comparative advantage, since this usually leads to lower costs for the specialized product of the trading nation. The ability of a nation to lower production costs, due to comparative advantage, allows a nation to increase its international competitiveness and increase profits through the forces of supply and demand. Since people and resources are not completely mobile, international trade can be a substitute for more efficient resource mobility. However, free trade can be detrimental to some individuals even though society as a whole can benefit.

Under NAFTA, the gradual growth of free trade, along with the reduction of tariffs and quotas can be analyzed. The advantages of free trade are illustrated in Figure 1 by a

partial equilibrium model of trade without tariffs or quotas restricting the flow of goods. With the two-nation model, P_2 is the partial equilibrium trade price. Without free trade, Nation A, the importer, cannot obtain goods from Nation B, the exporter, at the world price. Nation A would have to obtain its goods at the higher price (P_1) because of restricted trade, i.e. tariffs and quotas. The difference between Q_2 and Q_1 (quantity imported) is equal to the difference between Q_7 and Q_6 (quantity exported). Quantity Q_0 expresses the volume of trade in the world market at a price illustrated by the excess supply, ES, for Nation B, and the excess demand, ED, for Nation A.

Nation A faces lower prices and an increase in the quantity of imported goods which is represented by a change from Q_1, Q_2 to Q_3, Q_4. Internally, the lower price results in a reallocation of resources: producers do not receive protection from imports and consumers face lower prices. Nation B, faced with an increase in demand for its exports, will increase its export quantity from Q_6, Q_7 to Q_8, Q_9, and experience the upward pressure in prices as translated by world markets. Exporters will benefit because economies of scale can be captured as the volume of exports grow.

The gainers and losers of trade restrictions to Nation A are illustrated in Figure 2. Area A, between P_1 and P_2 is the change in consumer surplus. These benefits accrue to consumers of Q in the form of lower prices. Area B is an efficiency gain to the economy. Resources that are employed more efficiently somewhere else are drawn from the production of Q because of the lower market prices due to the elimination of trade barriers. Area C represents the reduction of government rents in the elimination of quotas or licensing export licenses. Area D is a deadweight loss to society, no one captures this area. Consumers reallocate their expenditures from the once expensive Q goods to other goods and services. Overall, consumers gain from the reduction of trade barriers because of an increase in real income.

RESULTS AND FINDINGS

Many concerns have been voiced within the U.S. agricultural industry if NAFTA is ratified by the U.S. government. Some of these concerns deal with the U.S. growers, their ability to complete effectively with other growers, and whether they will actually benefit from NAFTA (Barkema, p.11). Three of the agricultural commodities over which concern has been expressed are vegetables, peanuts, and grains.

Applying the partial equilibrium model in Figure 1 to the agriculture industry, one can deduce that restriction-free trade between two nations is more beneficial than restricted trade. The increase of imported goods at lower prices create gains in consumer surplus, while the increase in exports will result in gains in producer surplus. Although producers of the importing nations will not benefit from unrestricted trade, the consumers of the importing nation will prosper (see Figure 1). Using Figure 2 and applying it to the agriculture industry, one can see that Areas A and B are gains to the consumer and the economy, respectively, while Area C represents a loss to government because of lost trade barrier revenue.

Keeping in mind that free trade between countries is more beneficial than restricted trade, one would expect that the vegetable industry will benefit from free-trade. According to Krissoff and Sharples, U.S. vegetable juice exports could increase by as much as 20 percent relative to each country's initial value of exports.

Although some benefits will accrue to the agricultural industry, there are concerns about how NAFTA will affect the "Peanut Program's Section 22," which was part of the 1933 Farm Bill. Section 22 regulates, where and how many peanuts can be grown

based on a quota system, and restricts imported peanuts to 708 tons annually. With NAFTA, the entire peanut program will be eliminated (Collins, 1993). Although U.S. peanut producers will be able to demand a higher than world market price for their high quality peanuts, they may experience a 30-50 percent reduction in revenues under NAFTA (Cooper, 1993).

The U.S. grain industry is also expected to benefit from NAFTA. Current and projected trade patterns are summarized in Tables 1 and 2 and in Figure 3. By 1995, U.S. exports of corn to Mexico should increase from 2.1 percent, currently, to 5.9 percent with free trade (see Table 2). Also, according to the U.S. Department of Agriculture, historically Mexico's supply of corn has not met Mexico's domestic demand (Figure 3). Food demand indicators illustrate a pattern for a gradual increase in demand (see Table 1).

A particular concern regarding NAFTA is its impact on Mexico's environmental quality and the safety of imported foods. Currently, Mexico is recognized as a "pollution haven" because of the lax enforcement of laws (CCFR, pp. 6-17). Today, some Mexican growers are applying U.S.-banned pesticides, such as DDT, to food which could potentially enter the U.S. It is feared that under NAFTA the U.S.-federal ban on these pesticides will be worthless or worse, eliminated (Sierra, pp. 1-2). There are also concerns about the direct pollution of streams, rivers, and other bodies of water in Mexico by means of hazardous waste and chemicals - including pesticides (Sierra, p.1).

Although the above concerns are not unfounded, the Mexican government has taken steps to correct these mistakes, as well as to prevent them from happening again. In 1988, Mexican President Salinas made enforcement of Mexico's U.S.-styled environmental laws a priority by increasing the environmental budget by 600 percent, and hiring additional environmental inspectors. Salinas is also implementing stricter restraints on pesticides that might be used on U.S.-bound food (Embassy of Mexico, Executive Summary, p. 1-2).

CONCLUSIONS

If one were to research the topic long enough, a multitude of reasons for and against ratification of the North American Free Trade Agreement would emerge. But, as I once heard a wise man say, "Problems do not exist in the world, only opportunities to achieve success and to excel." NAFTA participants have looked to the future and implemented far-sighted plans. NAFTA will not be North America's panacea for all of today's and tomorrow's problems, but it is a definite start in the right direction, since the participating nations of NAFTA will benefit from barrier-free trade. In support of these results, Krissoff and Sharple's found that (1) countries entering in Preferential Trade Agreements expand their exports; and (2) the impact of the agreement might be relatively small upon U.S. consumers and producers, but it will have a major impact on Mexico.

One area that will be significantly impacted is Mexico's environment. In the past Mexico has been given with such distinguished titles as a "toxic sewer" and a "procarcinogenic nation" (Sierra, pp. 1-2). But President Salinas is making a conscious effort to improve Mexico's environmental reputation through new legislation and stricter enforcement of existing regulations. Under NAFTA, there will also be a trilateral commission set up to enforce the NAFTA provisions that were agreed upon.

If NAFTA is ratified, North America will benefit not only from free trade, but benefit also on a much larger scale, in reference to world trade and the formation of economic power blocs. On this world-wide stage of production and trade, the North American bloc stands out with its potential wealth of raw materials, resources, labor force,

research and development capabilities, and production possibilities.

REFERENCES

Ames, Glenn. Lectured to AEC 496 International Agricultural Trade, class notes, Athens, Georgia, January, 1993.

Auerbach, Stuart. "U.S.; Canada and Mexico Agree to Form Trade Bloc." *Washington Post*, August 13, 1992, p.A1.

Barkema, Alan. "The North American Free Trade Agreement: What is at Stake for U.S. Agriculture?" *Economic Review*, Vol. 77 No. 3, 3rd Qtr. 1992, p. 11.

Cleveland Committee on Foreign Relations. Presentation outline, "The Environmental Side of North American Free Trade." February 9, 1993, pp. 1-17.

Collins, Allen. Special lecture on peanuts and NAFTA to AEC 496 International Agriculture Trade, class notes, Athens, Georgia, February 26, 1993.

Cooper, Bobby. Field Manager, Benette Farms, Interviewed by Michael Meadows, Autreyville, Georgia, February 22, 1993.

Embassy of Mexico. "Mexico/United States Free Trade." Facts Sheet.

Houck, James P. *Elements of Agricultural Trade Policy*. New York: MacMillian Publishing Company, 1986, pp. 18-19.

Hill, Carla. "The Free Trade Pact is Good for All of Us: Americans, Mexicans, Canadians." *Roll Call*, September 28, 1992, pp. 50-51.

Krissoff, Barry and Jerry Sharples. "Preferential Trading Arrangements in Western Hemisphere Countries." *Agricultural and Resource Economies Review*, Vol.22 No.1, April 1993, pp. 56-57.

Sierra Club. "Trade Agreements Threaten Sweeping Reductions of U.S. Environmental Protection." *Trade & the Environment*, pp. 1-2.

APPENDIX 1

Table 1. Indicators of Food Demand in Mexico and the United States.

	Mexico	United States
GNP per capita (1990)	$2,490	$21,790
Annual GDP growth (%)		
1980-88	.5	3.2
1988-90	2.9	2.4
Food share of household consumption (%)	35.0	13.0
Annual population growth 1988-2000 (%)	1.9	.8
Share of population under 14 years old (%)	38.6	21.6

Sorce: Barkema, p.10

Table 2. Prospective Gains in Mexican Grain Imports by 1995.

	Current trade rules			Free trade		
	Increase in Mexican imports		Increase in total U.S.exports	Increase in Mexican imports		Increase in total U.S. exports
	(1000 metric tons)	(percent)	(percent)	(1000 metric tons)	(percent)	(percent)
Corn	977	25.5	2.1	2,814	73.4	5.9
Wheat	141	24.7	.4	429	75.0	1.2
Soybeans	99	6.0	.6	348	21.2	2.0

Figure 1. General Effects of Tariffs and Quotas, Two-Country Model

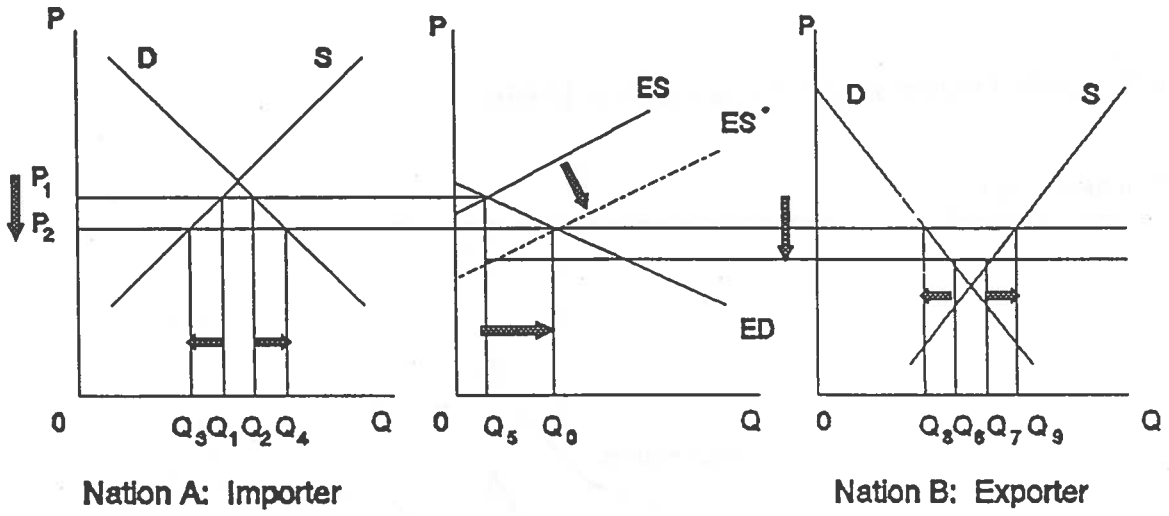


Figure 2. Welfare Analysis of Free vs Restricted Trade

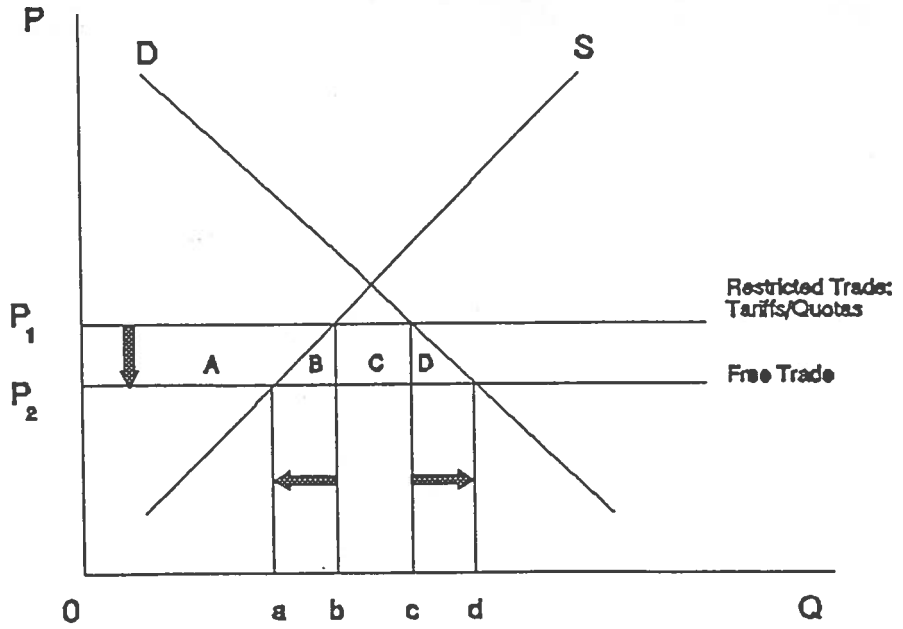
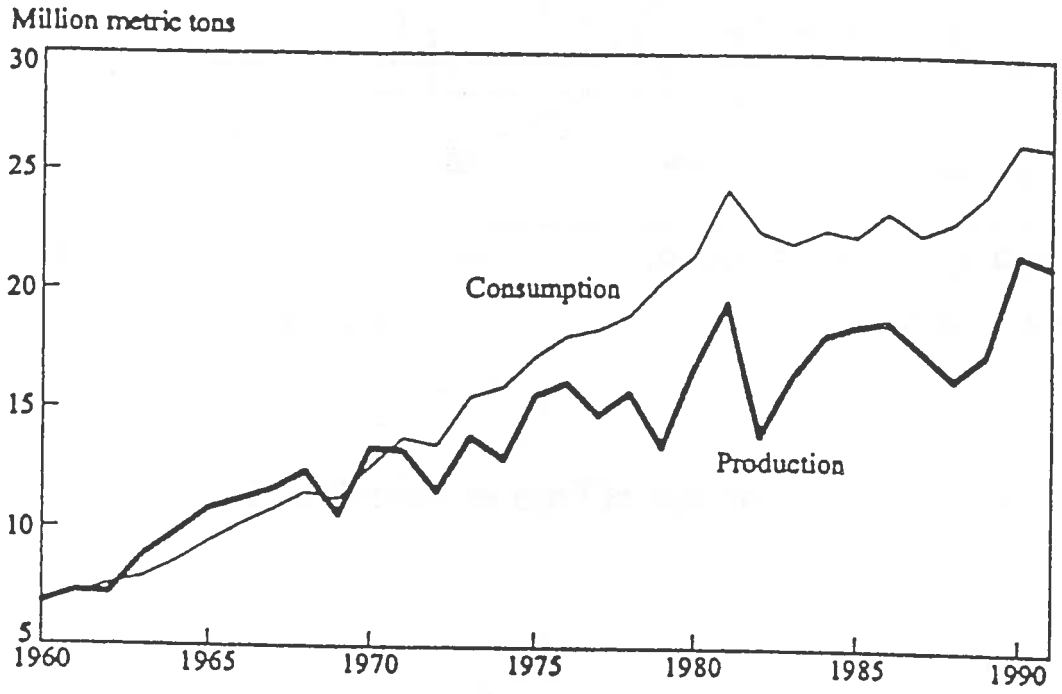


Figure 3. Grain Production and Consumption in Mexico



Source: Barkema, p.11