

A survey of the views and evaluations of the NAFTA and its cost-benefits on the American agricultural and food sectors

William Speagle
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| | |
|--|-----------|
| I. General Summary | 3 |
| II. Survey of NAFTA Issues | 5 |
| <i>Administration</i> | 5 |
| <i>United States Department of Agriculture</i> | 5 |
| <i>Office of the US Trade Representative</i> | 6 |
| <i>US State Department/Commerce Department</i> | 6 |
| <i>Non-Governmental Organizations</i> | 7 |
| <i>Farmers' Union</i> | 7 |
| <i>Public Citizen</i> | 7 |
| <i>United States Chamber of Commerce</i> | 7 |
| <i>World Wildlife Foundation/Oxfam</i> | 8 |
| <i>Think Tanks</i> | 8 |
| <i>Economic Policy Institute</i> | 8 |
| <i>Peterson Institute of International Economics</i> | 9 |
| <i>Academics</i> | 10 |
| III. Survey of cost-benefits on agricultural and food sectors | 11 |
| <i>Cost-Benefits</i> | 11 |
| <i>Pre-NAFTA</i> | 11 |

| | |
|---|-----------|
| <i>Proponents</i> | 11 |
| <i>Opponents</i> | 16 |
| <i>Academics</i> | 17 |
| <i>Post-NAFTA Implementation</i> | 18 |
| <i>Proponents</i> | 18 |
| <i>Opponents</i> | 19 |
| <i>Academics</i> | 20 |
| <i>Model Specification</i> | 23 |
| <i>Brown, Deardorff, and Stern (1992)</i> | 23 |
| <i>Krissoff et al (1992)</i> | 24 |
| <i>Bursfisher et al (1992)</i> | 24 |
| <i>Hufbauer and Schott (1992)</i> | 24 |
| <i>De Janvry (1996)</i> | 25 |
| <i>Gould (1998)</i> | 25 |
| <i>Krueger (1999)</i> | 25 |
| <i>Scott (2001)</i> | 25 |
| <i>Scott (2005)</i> | 26 |
| <i>Zahniser and Crago (2009)</i> | 26 |
| <i>Zahniser and Roe (2011)</i> | 26 |
| <i>Analysis of Sensitive Products and Sectoral Specific Issues</i> | 26 |
| <i>Pre-NAFTA Concerns</i> | 26 |
| <i>Post-NAFTA Issues</i> | 27 |
| <i>SPS Issues on Avocados</i> | 29 |
| References | 30 |

I. General Summary

Since implementation of the North American Free Trade Agreement (NAFTA), the United States' agricultural trade has flourished particularly with Mexico and Canada (See Figures 1a and 1b). Before NAFTA's implementation, its proponents argued that the gains from trade would outweigh the negative impact of NAFTA. NAFTA would allow greater export opportunity for US producers as well as increased investor protection. Proponents of NAFTA contend that the increase in exports and the decrease in some commodity prices are evidence of its benefits for both producers and consumers. The environmental effects of NAFTA appear to be minor, despite the increased economic activity and resource usage. Moreover, many NAFTA proponents explain that macroeconomic shocks may be held responsible for the decline of workers' wages in the period after NAFTA.

Although initial estimates of NAFTA's benefit may have been overestimated¹, it seems that many of the fears critics of NAFTA had did not materialize substantially as a result of NAFTA. These fears include a capital flight (a "giant sucking sound"), suppression of a majority of U.S. wages, and a complete contamination of the US food chain. Post-implementation, opponents' assessment of NAFTA was based on the fact that NAFTA did not deliver the level of benefits that proponents had promised. These critics also focus on the costs of NAFTA without considering the entire net gains. Opponents note that many (e.g. unskilled labor, small farmers, Mexican workers) were made worse off due to NAFTA. Moreover, they insist that small-scale farmers were placed at a disadvantage to larger agribusiness in the United States. However, critics have not used rigorous econometric techniques to discern causality of NAFTA to the negative economic experiences that the US economy and workers had faced in the period following NAFTA's implementation. Furthermore, it was never the contention of proponents that there would not be negative effects of NAFTA, but rather that the gains outweighed the losses. As a result, both proponents affiliated with the US government and opponents affiliated with labor unions use inappropriate techniques to analyze the impact of NAFTA. In general, both groups do not use econometric analysis to estimate benefits and costs that NAFTA may have had.

Pre-implementation static computational general equilibrium models (CGE) allow estimation of the potential costs and benefits of trade liberalization. This model inherently will underestimate the short-term costs due to adjustment and are reliant on a high number of assumptions. Furthermore, this model continues to not include a way to accurately model the service industry. Post-implementation, estimations may consist of a gravity model that tries to consider all factors, but cannot accurately measure the impact of an agreement if it was not signed or separate the effects of macroeconomic shocks. Finally, comparison between the pre-estimate using a CGE and post-estimation using a gravity model, may be suitable to determine the impact of the liberalization process.

As of 2008, tariffs had been eliminated for agricultural commodities among NAFTA countries. However, there exists many non-tariff measures like subsidies or sanitary and phytosanitary (SPS) standards in place to prevent a truly integrated free market. Therefore, Hufbauer and Schott's (2005) recommendation that a transitional period allowing a gradual reduction in tariffs followed by a multilateral reduction in and harmonization of non-tariff barriers may be the optimal way to liberalize protected industries.

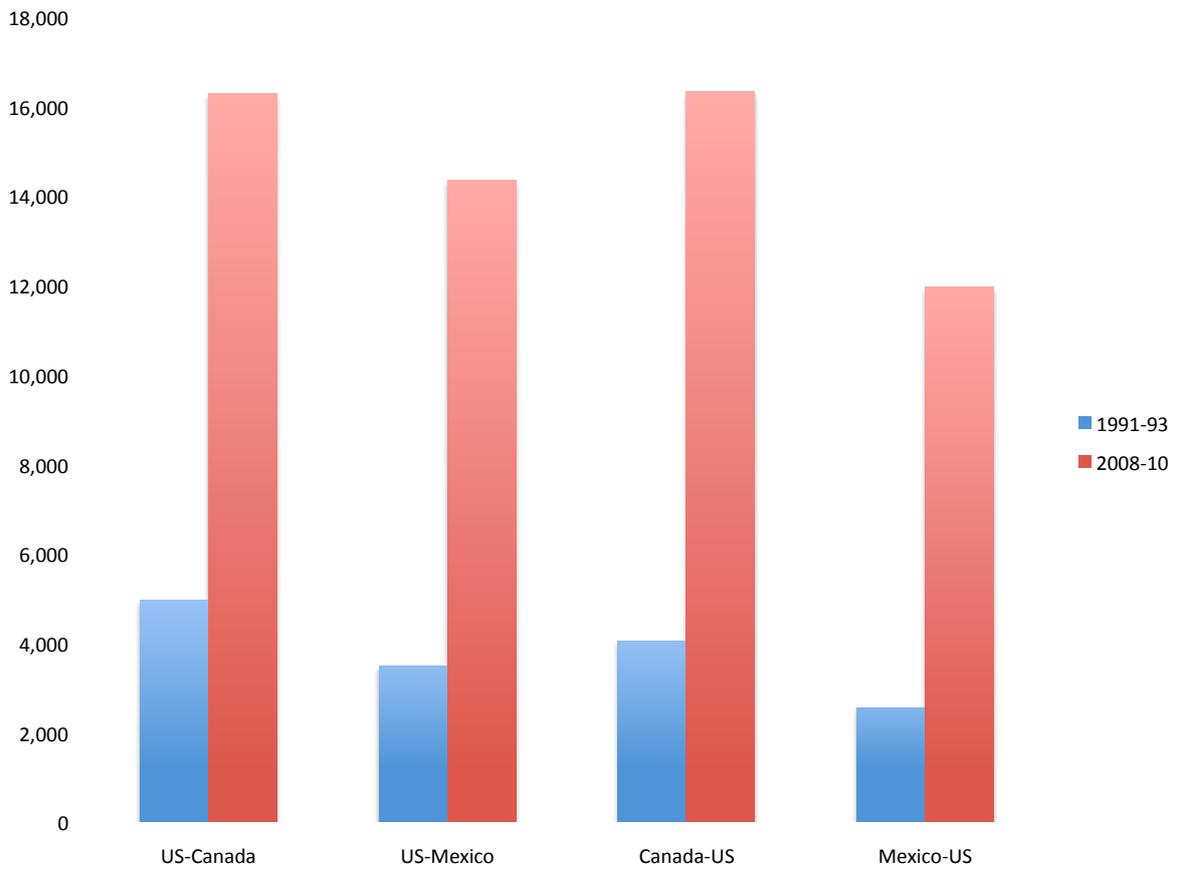
¹ Kehoe (2003) notes that much of the overestimation may have been due to NAFTA's gradual tariff reductions while models that predicted the gains from trade were tested before NAFTA was finalized and assumed full liberalization. Consequently, post-NAFTA estimation using the same data and models but accounting for a partial tariff reduction have generally been much more accurate. See Fox (1999)

Figure 1(a): US Raw Agricultural Imports and Exports



Source: The World Bank (2011)

Figure 1(b) : Exporter-Importer Total Agriculture Trade (In Millions USD)



Source: Zahniser and Roe (2011)

II. Survey of NAFTA Issues

Administration

United States Department of Agriculture

The United States Department of Agriculture (USDA) has issued several reports and publications in support of NAFTA. They cite that in 2007 Canada and Mexico were the top two export destination of U.S. agricultural goods and trade had grown by 156% since 1992 (USDA, 2008). In the years before the implementation of NAFTA, US agricultural producers were losing market share with Mexican producers in Mexico. After NAFTA's implementation, the US was able to reverse this trend due to preferential access and price advantages. One of the biggest inhibitors to United States exporters before NAFTA was the import-licensing needed for American producers. NAFTA also allowed for greater export opportunities for US producers and granted consumers with higher quality products at more competitive prices (USDA, 2005). Tariff reduction in Mexico and the United States was done in phases allowing what each country considered their most import sensitive industries to transition. .

Export subsidies of Canadian and US goods to Mexico are permitted in certain circumstances as long as they are competing with other countries using export subsidies. However, the US and Canada are not allowed to use export subsidies for goods flowing between the two countries. In addition to that, NAFTA has strict rules of origins for processed goods. Several goods traded under NAFTA must have its raw materials originate within the US, Canada or Mexico to be subject to the trade agreement. These goods include (but are not limited to) bulk commodities, citrus, dairy products, vegetable oils, sugar, peanut products (USDA, 2008).

According to Zahniser and Crago, after full implementation of NAFTA on January 1, 2008, US exports in many of the remaining protected commodities surged (2009). For instance, compared to 2007, in 2008 the value of corn and bean exports from the United States to Mexico increased 53% and 43%, respectively. For Mexico, the value of sugar imports to the US from Mexico increased 285%. Moreover, they estimate that US agricultural exports to Canada and Mexico account for 243,000 jobs² and that strong US productivity growth and the size of the US economy prevented more jobs from being lost. Although the US apparel industry had lost a significant number of jobs since NAFTA was implemented, this loss could be attributed to rising competition from China, Vietnam, and other developing countries and not solely on Mexico. Moreover, over this same period, the agricultural markets of the three countries have increasingly become integrated and co-dependent on each other in the production chain.

The United States use of subsidies has been perceived as a way to keep downward pressure on agricultural commodity prices. In response, Mexico has raised direct subsidies of its farmers in oriented grain and oilseed farmers (Zahniser and Crago, 2009 p. 19).

Furthermore, sanitary and phytosanitary measures (SPS) were designed to prevent the usage of these measures as a non-tariff barrier (NTB). However, NAFTA still permits countries, regions, and even local level governments to decide these measures to protect its

² They also note that this value is relatively minor compared to the entire US labor force of over 100 million workers.

citizens and livestock as long as these measures are supported by scientific research³. They also note actions that Canada, Mexico and the US took during an outbreak of BSE (bovine spongiform encephalopathy) shows an effective coordinated action to prevent the cross contamination among countries and that they have continued to work together to implement sanitary policies to combat BSE, resuming cattle and beef trade (Zahniser and Crago, 2009 p. 21). Consequently, there has been an emergence of a “regionalization of trade-related sanitary standards” (Zahniser and Crago, 2009 p. 22). Moreover, beyond the harmonization of sanitary regulations, in order to export, producers need to be approved by both the national and the importing nation’s governments for meat, poultry and egg products. Some producers have voluntarily adopted standardized good agricultural practices (GAP) or good manufacturing practices (GMP) in order to inform consumers of product safety. Although adoption of these practices remain scarce in each of the countries, some advocate that these policies should be mandatory and have federal oversight to be credible to consumers.

In a report published March 2011, Zahniser and Roe provide an update on the current benefits of NAFTA post-full implementation. They note that NAFTA has allowed a greater variety of consumer goods all season long. However, they also mention that the markets are not truly integrated between the United States and Mexico and recent trucking disputes are resulting in continued partial retaliatory action between each country.

Office of the US Trade Representative

The Office of the US Trade Representative (USTR) compiled a list of common misconceptions and myths regarding NAFTA and seeks to clarify them. According to the USTR, NAFTA has achieved its objective trade goals. Moreover, it contends that NAFTA has not cost the United States jobs, damaged the US manufacturing base, suppressed American labor’s wages, damaged the US agricultural producers, reduced Mexican wages, worsened the environment, or undermined US regulatory laws (USTR, 2008).

In a separate report, the USTR state that NAFTA was equivalent to a tax cut of \$350-\$930 per year in annual savings (USTR, 2007)⁴. Furthermore, they claim that NAFTA benefits are likely underestimated due to the difficulty in measuring NTB and rule changes.

US State Department/Commerce Department

Officially, the US State Department stance is in support of NAFTA and cite a report provided by the US Commerce Department. US investors are able to enjoy the same treatment as domestic investors with binding international arbitration. US service exports have doubled since NAFTA’s implementation, greatly exceeding imports, and “regulatory authorities are to use open and transparent administrative procedures” (26). In addition, US suppliers have nondiscriminatory rights to bid on contracts with Canadian and Mexican authorities leveling the playing field with domestic producers and investors.

³ This has become a de facto form of protectionism even though they are based on scientific research.

⁴ The methodology used to compile this figure was not disclosed.

Non-Governmental Organizations

Farmers' Union

The National Farmers' Union supports policies that assist less developed countries, but believes NAFTA and free trade agreements exploit farm labor. Moreover, Farmers' United does not believe that NAFTA lived up to its expectations and advocate a fair trade policy- where nations compete at equal standards.

Public Citizen

Public Citizen believes NAFTA to be a failure (2008). They cite the increase size of the US trade deficit rather than the absolute gains in trade as one reason of its failure. They contend that pro-NAFTA economists predicted a 9 billion dollar surplus within 2 years, while in reality NAFTA resulted in a 15 billion dollar trade deficit. Although some economists may point to the peso devaluation as the cause for this trade imbalance, Public Citizen notes that Mexico's trade surpluses were unchanged over the same period and that the peso was intentionally overvalued to shroud the effect NAFTA would have on US labor. Consequently, Public Citizen believes that this is evidence that trade imbalances are a result of NAFTA and not other factors (2004b). Furthermore, they write that the manufacturing export gains touted by some proponents of NAFTA is an inappropriate measure to gauge NAFTA because it overlooks manufacturing value-added in each country.

Public Citizen also note that although employment had increased since the implementation of NAFTA, the composition of US employment has changed with a loss in manufacturing jobs (2008). Furthermore, job training or search assistance provided to workers who lost jobs were not utilized because displaced workers lacked knowledge and awareness of its existence. In this regard, manufacturing grew the same as the 13 year period before the implementation of NAFTA.

In connection to agriculture they note that 35,000 US small farms have closed, consumer food prices have increased, and agribusiness has been more profitable (2004a). In Mexico, producers experienced a fall in corn prices forcing migration to find work. NAFTA forced out programs that assisted small farmers while it allowed for policies that supported large agribusiness that incentives overproduction that depresses prices. The study also claims that agribusiness that shifted production to Mexico were allowed to use pesticides that were prohibited in the United States and expose displaced Mexican workers to the harmful chemicals. They estimate that by 2004 NAFTA had resulted in 1.5 million Mexican farms being lost while Canada lost 50,000 jobs. In regards to the environment, despite the introduction of new environmental institutions, these organizations are not sufficiently funded and many environmental laws have been challenged under NAFTA (2008).

Finally, Public Citizen states that NAFTA has cost an American worker without a college degree 12.2% of income. For worker earning \$25,000 this would be equivalent to \$3,000 dollars (2004b).

United States Chamber of Commerce

The US Chamber of Commerce is a vocal proponent of free trade and NAFTA believing that it helps US manufacturers with export opportunities (Christman, 2008). Christman argues that without the \$25,000 each per worker exports bring, manufacturers

would not be able to afford to keep them employed. Moreover, they support Mexican truckers in allowing them to cross the border to ship goods (US Chamber of Commerce, 2004).

World Wildlife Foundation/Oxfam

In a joint study between the WWF and Oxfam, believes NAFTA was part of a broad “policy mix” that resulted in damage to the environment due to decrease genetic diversity, poor planning, and farming practices (Nadal, 2000). In short, the study believes that NAFTA did not generate the social and environmental benefits it promised. The study also cites that competitive producers increased use of water, fertilizer, pesticides, and mechanized traction in both the U.S. and Mexico and thus, increased environmental degradation. Furthermore, they believe that NAFTA increased human migration and that non-competitive farmers were harmed by the agreement more so than competitive farmers.

Think Tanks

Economic Policy Institute

Economic Policy Institute (EPI) believes NAFTA has been a great success for those stakeholders who it was designed to protect: financiers and investors. However, NAFTA was specifically designed not to give any protections to workers in the form of labor standards, social investment or worker rights (Faux, 2001). Faux cites research by Robert Scott who estimate that NAFTA eliminated nearly 760,000 jobs in manufacturing. Moreover, he estimate that per capita income declined in all three countries and an upward redistribution to wealth. He also attributes that the boom in consumer spending was a result of easier credit and a speculative stock market in the United States that spilled over to Canada and Mexico.

EPI considers NAFTA a failure due to the poor outcomes of workers in each of the three countries (Scott et al 2006). They contend that because NAFTA’s stated goals were to make things significantly better for workers, even slightly negative outcomes for workers may mean that NAFTA failed in its original intent. NAFTA has resulted in the “reduction of employment in high-wage, traded-goods industries, the growing inequality in wages, and the steadily declining demand for workers without a college education” (p. 3). They list the following negative effects of NAFTA for the United States as: 1) benefits from exports are exaggerated because trade deficits resulted in a loss of a million jobs and workers with at most a high school education were hit hardest; 2) jobs hit hardest were in the traded manufacturing sector; 3) displaced workers due to NAFTA took lower paying jobs; and 4) declining union rates. For Mexican workers they cite: 1) an erratic wage pattern; 2) losses in the agricultural sector; 3) increased inequality; 4) FDI that did not translate into good quality employment. Moreover, they note that manufacturing zones “is not determined by competitive factors such as training and knowledge, but rather by low wages” (40). Consequently, there is a “race to the bottom” for labor norms. They also note that FDI flows did not result in a technology transfer to Mexico.

Scott’s analysis of NAFTA’s impact focused on the trade deficit and income changes in comparison to the promised benefits (2005). However, he does not use any quantitative models or regressions to take into account other factors that may have influenced these features.

The Peterson Institute of International Economics (PIIE) has a neutral tone that considers both the positives and negative arguments regarding NAFTA. They primarily review the literature and studies done assessing NAFTA. In a book published 10 years after NAFTA came into effect, Hufbauer and Schott contend that the employment growth in the period after 1994 was not entirely due to NAFTA but to the new economy (2005). They note that NAFTA alone cannot account for negative economic patterns and that technological change, business cycles, and macroeconomic policy to be strong determinants of economic outcomes.

PIIE believes that the number of labor who certified for assistance under the NAFTA-Transitional Adjustment Assistance program to be more representative number of actual job loss. This estimate is 525,000 workers by 2002 (or 58,000 per year) were adversely affected. On one hand, they admit that this program allows for individuals who may not have been adversely affected by NAFTA to qualify and thus, overestimates the job loss. On the other hand, they also acknowledge that the program was not well known and those who may have qualified did not apply. In sum, however, they note that even if NAFTA did displace up to 100,000 workers annually, this number only represents a small fraction of total unemployment over this period. In regards to wages, they believe that technology to be a greater determinant of wage inequality growth. However, they admit that manufacturing workers who are directly affected by the trade did on average experience a 12% decline in income. One analysis they used is a fixed effect regression of the number of Mexican maquiladoras on US employment and then compensation. In that study, NAFTA played only a minor role on US employment and wages.

In regards to labor standards and FDI, they note that critics of NAFTA believe that NAFTA would result in a deterioration of US labor standards. To counter this, they cite that FDI in the US has increased since the implementation of NAFTA and the number of businesses that relocated from Mexico to the United States had grown. Furthermore, they note that the decline of unionization was not exclusive to the manufacturing sector of the economy and thus cannot be completely attributed to NAFTA. In addition to that, in Mexico NAFTA did little to alleviate persistent child labor problems. They recommend that businesses operating in two or more NAFTA countries adopt a unified code and an expansion of self-certification programs.

In regards to migration, PIIE writes that problems with immigration before the ratification of NAFTA were well known but ignored by policy makers. Earlier studies (Hinojosa-Ojeda and Robison (1991), Hinojosa-McCleerly (1992), Martin (1993) all anticipated the increases in millions of farm workers during economic restructuring. Hufbauer and Schott believe that illegal immigration has contributed to a decline in low-skilled worker pay in America. They recommend that temporary visas should be permitted for residents, not just citizens, of NAFTA countries and eligible workers should be granted visas if they meet the basic requirements, and the US should permit a significantly larger number of legal Mexican workers.

In connection to the environment, “the NAFTA experience demonstrates that trade pacts can simultaneously generate economic gains from increased trade, avoid dismantling of existing environmental protection regimes, and improve environmental standards. But the NAFTA record does not demonstrate that a trade pact can reverse decades of abuse nor can it turn the spigot on billions of dollars of remedial funding” (p. 154-155, 2005). They believe

that without NAFTA, the Mexican government may not have the incentive to improve its own environmental regulations.

In regards to agriculture, Hufbauer and Schott believed initial estimates of the gains from agricultural trade to be too optimistic. Benefits of agriculture neglect the direct “emergency” and export subsidies that US government gave to farmers. There exists a substantial issue regarding sugar and they note that when trying to liberalize trade in a commodity that has been protected for decades, entrenched forces make it very difficult. They recommend that a tax be implemented on high fructose corn syrup and sugar to curb consumption and decrease health care costs. They also recommend that Mexican farmers adopt a higher level of technology to be more competitive with American corn producers. Moreover, they recommend that SPS restrictions be standardized across the NAFTA countries.

Academics

According to Hufbauer and Schott, Kauchlin and Larudee (1992) estimated as many as 490,000 US jobs could be lost and a \$20 billion dollar reduction in US capital stock. The estimates on capital stock were eventually not realized.

According to Grossman and Krueger (1992), they predicted that NAFTA would contribute to pollution because of increased economic activity.

Burfisher et al. (2001) surveyed the pre-NAFTA assessments and the post-NAFTA studies. According to them, Hinojosa (2000) used a partial equilibrium model to analyze the effects Mexican imports had on US production and employment. Hinojosa’s findings were that NAFTA had a relatively minor impact. They write that according to Panagariya (2000) there are two models that provide a good framework to analyze regional trade models: CGE and gravity models. CGE models are prevalent pre-NAFTA while gravity regression models are more prevalent post-NAFTA. In general Burfisher et al. argue that mainstream arguments in favor of NAFTA were basically correct but both critics and proponents of NAFTA used inappropriate multiplier models to analyze the costs and benefits of NAFTA (p. 141).

Doroodian et al. (1994) used a CGE analysis and estimated that the aggregate impact of NAFTA to be relatively small in the short and medium term for the United States. However, sectors like agriculture and energy would be impacted to a greater extent than other sectors.

Krueger (1999) estimated that the effects of NAFTA to be relatively minor and that macroeconomic shocks like the peso devaluation had a greater impact on the economies. She notes that we cannot assume that data before NAFTA could be an accurate measure of an economy without NAFTA and that anticipated reductions may influence trade flows before NAFTA.

In general, most academics believed that NAFTA would lead to a net-gain for the United States, but the transition costs may be underestimated.

III. Survey of cost-benefits on agricultural and food sectors

Cost-Benefits

This section is divided into proponents, opponents, and academics. Proponents are defined as those who have a vested interest in the success of NAFTA and have a positive expectation of its benefits. These individuals and organizations may be connected to the government or industry groups. Opponents are stakeholders who have a negative expectations and tend to be closely related to union and environmental groups. Academics are defined as those who do not have a vested interest in the success or failure of NAFTA and may be associated with think tanks or organizations.

Pre-NAFTA

Proponents

The USDA's study by Krissoff et al (1992) predicted that agricultural trade would increase by \$650 million (in 1988 dollars) with a 20% increase in US exports. The US would import 20% more feeder cattle, 50% more condensed orange juice, and 10% more tomatoes while Mexico's share of the US market remains quite small. The model predicts that producers would experience a 1% increase in income and subsidies would reduce by 3%. The model specifications are in the next section.

| Table 1: Changes from BASE Agricultural Exports (One Year Gains) | | | | |
|---|------------------------|---------------|--------------------------|----------------------|
| Exporter (Below) Importer (Right) | US | Mexico | Rest of the World | Total Exports |
| Scenario 1: FTA | - in Million dollars - | | | |
| US | - | 482 | -59 | 423 |
| Mexico | 166 | - | 5 | 171 |
| ROW | 3 | -39 | - | -36 |
| Total | 169 | 443 | -54 | 558 |
| Scenario 1: Unilateral Mexican Trade Liberalization | | | | |
| US | - | 435 | -46 | 389 |
| Mexico | 25 | - | 24 | 49 |
| ROW | 16 | 30 | - | 464 |
| Total | 41 | 465 | -22 | 484 |
| Scenario 1: FTA Plus Mexican Trade Liberalization | | | | |
| US | - | 438 | -44 | 394 |

| Table 1: Changes from BASE Agricultural Exports (One Year Gains) | | | | |
|---|-----------|---------------|--------------------------|----------------------|
| Exporter (Below) Importer (Right) | US | Mexico | Rest of the World | Total Exports |
| Mexico | 160 | - | 18 | 178 |
| ROW | 0 | 31 | - | 30 |
| Total | 160 | 469 | -26 | 602 |

Source: Krissoff et al (1992)

| Table 2: Changes from BASE in Welfare, Three Scenarios (One Year Gains) | | | | |
|--|------------------------|---------------|--------------------------|--------------|
| Source of Welfare Change | US | Mexico | Rest of the World | World |
| Scenario 1 - FTA | - In Million dollars - | | | |
| Producer Welfare | 225 | -437 | 432 | - |
| Consumer Welfare | -122 | 978 | -701 | - |
| Government Welfare | 207 | -440 | 0 | - |
| Total | 310 | 100 | -269 | 141 |
| Scenario 2 - Unilateral Mexico Trade Liberalization | | | | |
| Producer Welfare | 279 | -503 | 551 | - |
| Consumer Welfare | -232 | 1068 | -816 | - |
| Government Welfare | 201 | -500 | 0 | - |
| Total | 248 | 65 | -265 | 48 |
| Scenario 3 - FTA plus Mexico liberalization | | | | |
| Producer Welfare | 222 | -457 | 541 | - |
| Consumer Welfare | -126 | 1035 | -813 | - |
| Government Welfare | 199 | -462 | 0 | - |
| Total | 295 | 116 | -272 | 139 |

Source: Krissoff et al (1992)

Note, their model shows that government net expenditures decline because of the reduction in domestic support and slightly higher farm prices both exceed the the loss of tariff revenue.

Burfisher et al. (1992) consider five different NAFTA scenarios: 1) a removal of bilateral farm tariffs only; 2) removal of bilateral farm tariffs and quotas; 3) combine the

FTA with removal of domestic subsidies to Mexican producers; 4) an FTA with a US-type “deficiency payment” program for Mexican farmers; 5) the effects of agriculture on an increase of capital stock. Table 3 , 4, and 5 summarizes the results.

| Table 3: Aggregate Results (% Change from Base Year) | | | | | | | | | | |
|---|----------------------|------|------|------|------|---------------|-------|-------|-------|--------|
| | United States | | | | | Mexico | | | | |
| Scenario | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Real GDP | 0.1 | 0.2 | 0.5 | 0.1 | -0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 7.4 |
| Real Exchange rate | -0.1 | 0.0 | 0.0 | -0.1 | -0.2 | 1.2 | 1.6 | 1.4 | 1.6 | 2.2 |
| Exports to partner | 9.0 | 10.5 | 11.1 | 9.9 | 16.0 | 5.0 | 5.4 | 5.7 | 5.2 | 7.5 |
| Exports to rest | 0.0 | 0.1 | 0.4 | 0 | -0.5 | 2.8 | 4.0 | 4.6 | 3.5 | 12.0 |
| Imports from rest | 0.1 | 0.3 | 0.5 | 0.1 | 0.0 | -5.4 | -5.9 | -5.6 | -5.8 | -0.3 |
| Rural wage | -0.4 | -1.4 | -2.7 | -0.5 | 1.0 | 0.4 | 1.1 | -0.5 | 1.1 | 4.0 |
| Unskilled wage | -0.4 | -1.4 | -2.7 | -0.5 | 1.0 | 0.8 | 0.2 | -1.4 | 1.1 | 3.4 |
| Skilled wage | 0.1 | 0.2 | 0.3 | 0.1 | -0.1 | 0.9 | 0.8 | 0.4 | 0.7 | 3.9 |
| Professional wage | 0.1 | 0.2 | 0.3 | 0.1 | -0.1 | 0.4 | 0.6 | 0.3 | 0.5 | 3.7 |
| Rent (land 1) | -1.3 | 1.2 | 1.6 | 1.0 | 0.7 | -1.4 | -3.8 | -16.8 | -2.7 | 5.1 |
| Rent (land 2) | -1.4 | 2.8 | 3.5 | 2.3 | 2.1 | 1.3 | -14.8 | -22.1 | 0.9 | -4.6 |
| Capital rents | 0.1 | 0.1 | 0.3 | 0.1 | 0.0 | 0.8 | 0.9 | 0.9 | 0.8 | -1.0 |
| Terms of trade: | | | | | | | | | | |
| to Partner | 1.04 | 1.04 | 1.04 | 1.04 | 1.06 | 0.97 | 0.97 | 0.97 | 0.97 | 0.93 |
| to Rest | 1.00 | 1.00 | 1.00 | 1.00 | 1.01 | 0.97 | 0.97 | 0.97 | 0.97 | 0.96 |
| to World | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 0.97 | 0.97 | 0.97 | 0.97 | 0.94 |
| Migration: | | | | | | | | | | |
| from Rural | | | | | | 20 | 280 | 570 | 50.00 | -90.00 |
| to U.S. | | | | | | 60.00 | 240 | 490 | 90.00 | -160 |

Source: Bursfisher et al (1992)

Table 4: Sectoral Results with Partial and Full Liberalization of Agricultural Trade, Scenarios 1 and 2 (% Change from Base Year)

| Sector | US Scenario 1: Farm Tariff Removal Only | | US Scenario 2: Full Trade Liberalization | | Mexico Scenario 1: Farm Tariff Removal Only | | Mexico Scenario 2: Full Trade Liberalization | |
|--------------------|---|---------|--|---------|---|---------|--|---------|
| | Output | Exports | Output | Exports | Output | Exports | Output | Exports |
| Total agricultural | 0.2 | 11.3 | 0.7 | 26.1 | 0.0 | 8.4 | 0.0 | 9.9 |
| Farm | 0.2 | 14.3 | 0.8 | 43.4 | 0.2 | 9.1 | -0.3 | 10.8 |
| Poultry | 0.2 | 9.1 | 0.6 | 8.6 | -0.3 | 0.0 | 0.3 | 0.0 |
| Livestock | 0.2 | 7.0 | 0.6 | 6.8 | -0.6 | 2.9 | -0.3 | 3.7 |
| Cotton | 0.2 | 22.3 | 0.8 | 18.5 | -3.8 | 0.0 | -1.7 | 0.0 |
| Foodgrain | 0.1 | 28.3 | 0.7 | 80.2 | -2.6 | 0.0 | -6.5 | 0.0 |
| Food corn | 0.0 | -3.2 | 7.5 | 190.0 | -0.4 | 0.0 | -15.2 | 0.0 |
| Feedgrain | 0.4 | 61.5 | 0.9 | 52.7 | -4.0 | -0.3 | -3.2 | 3.5 |
| Fruit/veg | -0.3 | 13.5 | 0.3 | 12.1 | 7.6 | 21.2 | 10.3 | 24.4 |
| Oilseeds | 0.6 | 10.6 | 1.3 | 8.3 | -17.4 | 0.0 | -4.7 | 0.0 |
| Forest/ Fish | 0.1 | 19.2 | 0.3 | 19.6 | 0.8 | 1.3 | 1.4 | 1.5 |
| Other agr. | 0.2 | 9.9 | 0.7 | 10.1 | 1.0 | 1.6 | 1.9 | 2.7 |
| Processed | 0.2 | 8.3 | 0.6 | 8.3 | -0.2 | 6.4 | 0.2 | 7.4 |
| Meat mfg. | 0.2 | 6.1 | 0.7 | 6.1 | -0.4 | 1.4 | -0.2 | 2.1 |
| Dairy mfg. | 0.3 | 22.2 | 0.8 | 22.5 | -0.9 | 51.6 | -0.7 | 52.5 |
| Prep. food | 0.1 | 17.4 | 0.6 | 17.3 | 3.4 | 10.8 | 4.9 | 12.2 |
| Grainmill | 0.1 | 11.8 | 0.6 | 11.8 | -0.3 | 21.2 | -0.2 | 22.4 |
| Feedmill | 0.2 | 11.4 | 0.6 | 10.8 | -0.5 | 2.8 | -0.1 | 4.1 |
| Cornmill | 0.1 | 3.9 | 0.8 | 4.0 | -0.3 | 1.1 | -0.1 | 3.4 |
| Sugar | 0.2 | 0.0 | 0.6 | 0.0 | -0.1 | 1.3 | 0.3 | 2.3 |
| Alc. bevs. | 0.1 | 16.4 | 0.5 | 16.3 | 0.0 | 3.9 | 0.2 | 4.7 |
| Oilmills | 0.2 | 4.0 | 0.8 | 4.0 | -0.7 | 3.4 | -0.4 | 4.1 |

Table 4: Sectoral Results with Partial and Full Liberalization of Agricultural Trade, Scenarios 1 and 2 (% Change from Base Year)

| Sector | US Scenario 1: Farm Tariff Removal Only | | US Scenario 2: Full Trade Liberalization | | Mexico Scenario 1: Farm Tariff Removal Only | | Mexico Scenario 2: Full Trade Liberalization | |
|-------------------|---|---------|--|---------|---|---------|--|---------|
| | Output | Exports | Output | Exports | Output | Exports | Output | Exports |
| Misc. foods | 0.2 | 15.1 | 0.6 | 14.9 | -0.3 | 1.9 | 0.1 | 2.9 |
| Textiles/apparel | 0.1 | 16.9 | 0.3 | 16.5 | 0.0 | 16.5 | 0.1 | 17.1 |
| Leather | 0.0 | 21.2 | 0.2 | 20.8 | 2.4 | 23.5 | 2.5 | 24.3 |
| Other light mfg. | 0.0 | 4.3 | 0.2 | 4.1 | 0.2 | 3.1 | 0.5 | 3.7 |
| Oil/gas | 0.0 | 10.2 | 0.1 | 9.9 | 1.8 | 5.7 | 2.5 | 6.6 |
| Intermediates | 0.1 | 8.5 | 0.2 | 8.3 | 0.1 | 4.9 | 0.4 | 5.5 |
| Consumer durables | 0.2 | 10.2 | 0.3 | 10.0 | 2.3 | 4.8 | 3.1 | 5.7 |
| Capital goods | 0.1 | 10.2 | 0.2 | 10.0 | -0.9 | 5.0 | -0.4 | 5.7 |
| Services | 0.1 | -0.4 | 0.2 | -0.4 | -0.2 | 0.3 | -0.1 | 0.5 |

Source: Bursfisher et al (1992)

| Table 5: U.S. Farm Program Expenditures (% Change From Base Year) | | | | | |
|---|----------|----------|----------|----------|----------|
| Scenario | 1 | 2 | 3 | 4 | 5 |
| Total Farm program expenditures (deficiency) | -0.14 | 0.09 | 0.95 | -0.76 | -3.23 |
| Total Revenue | -15.68 | -15.79 | -15.91 | -15.68 | -15.46 |
| Farm Tariff (pt) | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 |
| Farm tariff (rw) | -0.24 | -0.37 | -0.47 | -0.16 | 0.23 |
| Proc. Ag tariff (pt) | -94.31 | -94.28 | -94.26 | -94.30 | -94.16 |
| Proc. Ag. Tariff (rw) | -0.02 | -0.15 | -0.31 | -0.04 | 0.19 |
| Net Farm Program Expenditure | 1.35 | 1.61 | 2.56 | 0.67 | -2.06 |
| Source: Bursfisher et al (1992), pt=partner, rw=rest of world. Net farm program = farm program expenditures minus tariff revenue | | | | | |

They note that an FTA reduces subsidies through lower input prices and lowers the sales of domestic producers who receive payments from the deficiency program. They suggest that a deficiency payment program for Mexican corn producers may be a short-term solution to compensate farmers after the removal of quotas. Take note that the only scenario where the United States reduces its net farm program expenditures is when Mexico experiences capital growth (table 5).

The United States International Trade Commission collected and summarized several studies to assess the impact of NAFTA (1992). This summary is captured in Appendix I.

Opponents

According to Brown et al (1992) labor believed NAFTA would reduce their wages. The 1992 Presidential candidate Ross Perot believed that NAFTA would cause a “giant sucking sound” on US manufacturing. However, the economic research behind these positions is lacking.

Economic Policy Institute analyzed the data and numbers used in several prominent studies on the impact of a North American free trade agreement. They point out that the estimates on welfare gains, job losses, or wage changes are statistically insignificant. Moreover, they believe that studies assume that there would be no investment shift to Mexico, full employment, and US-made inputs and components will continue to be manufactured within the US (Faux and Spriggs 1990). They state that in the International Trade Committee ambiguously reported that there would be a slight decline in wages of unskilled workers. EPI notes that unskilled labor represent nearly 73% of American workers. Furthermore, Faux and Lee (1992) argue that Mexico’s labor productivity is 80-100% of that of American workers but has significantly lower wages. As a result, they predict there would be a shift of manufacturing to Mexico whereas American low-skilled workers would be

worse off. They cite a study that estimate the net job loss to be 900,000⁵. They are also critical of CGE predictions because they assume perfect market conditions like full-employment, instant factor reallocation, etc. Moreover, they continue to critique Schott and Haufbauer's (1992) model as being unrealistic because they assume the US can continue to have trade surpluses with Mexico due to capital exports, that Mexico would not begin to develop its own capital, a stronger peso, and that net foreign investment to Mexico does not come at the expense of American investment.

As a result of pressure from labor and environmental groups and the election of Bill Clinton to the US presidency, NAFTA had several revisions to be more favorable to American workers. Consequently, Clinton's revisions introduced greater labor standards and environmental protections. EPI's Levinson (1993) notes that Mexican labor standards and productivity are considerably lower than the United States and that Clinton's revisions were not adequate enough to address several of the deficiencies of NAFTA. However, the bulk of Levinson's criticisms were concerned with the treatment of Mexican labor rather than US labor. He notes that there are no provisions to facilitate trade unions in Mexico, harmonized minimum wage or child labor standards, greater health and safety standards, and poor enforcement capabilities.

Academics

Runsten and Young (1992) examine the productivity of labor in each country for different agricultural goods (asparagus, tomatoes, broccoli, cauliflower, strawberries). They conclude that studies on NAFTA that assume fruit and vegetable would reallocate to Mexico may overestimate the potential shift because the productivity of Mexican labor is lower than that of places in America (p. 11-12).

Brown, Deardorff, and Stern (1992) test five different scenarios for NAFTA: 1) removal of tariffs among Canada, US, and Mexico and the expansion of US import quotas applied to Mexican exports by 25%; 2) same as 1) but with relaxed capital import restrictions allowing an expansion of Mexico's capital stock by 10%; 3) removal of tariffs between US and Mexico exports and an expansion of import quotas by 25%; 4) same as 3) but with relaxed capital import restrictions allowing an expansion of Mexico's capital stock by 10%; 5) removal of post-Tokyo round tariffs on trade between the US and Canada. A summary table of the effects can be found in Appendix II. They conclude that a NAFTA will reduce the wage gap between the US and Mexican workers and thereby reduce illegal immigration, all countries will have an increase in aggregate welfare, there will be beneficial scale effects, new capital in Mexico will reduce poverty, little factor reallocation in the US, and only negligible negative effects to the rest of the world.

In an early study, Abler and Pick (1993) estimated NAFTA's effect on Mexican horticulture and environment. They examine pesticide residue, pesticide poisoning of Mexican farmers, and damage to the physical environment. To determine its effects, Abler and Pick compare one region of Mexico with its competitor region in the United States and estimate how shifting production to Mexico would damage the environment through increased use of inputs. They conducted a time-series, cross-section analysis of tomatoes, peppers, and cucumber and supply response in the region in Mexico. "The net result is a 50%

5 Cohen and Tonelson (1991) "Doing it right: a winning strategy for US-Mexico trade" Economic Strategy Institute. No copy of this report was available nor details on their methodology. In another study, Koechlin, Larudee, Bowles, Epstein (1992) "Effect of the North American Free Trade Agreement on Investment, Employment and Wages in Mexico and the U.S." estimated 290,000-490,000 US job losses. This study was also unavailable to determine their methodology.

increase in TPC land, a 14% increase in the technology index A^* , and a 33% increase in TPC supply. (p. 798)”

Hufbauer and Schott of the Peterson Institute of International Economics predicted that agricultural liberalization would be slow due to political economic pressure (1992). They suggest sectoral liberalization in the country that has an advantage in production followed by gradual liberalization of the other country. They predict that the sectors that the US would increase its exports would be field crops, chemical intermediates, metals, and equipment. They also predict that Mexico will increase its exports of petroleum, fruits, vegetables, and minor crops. Appendix III has more details on their estimates.

Post-NAFTA Implementation

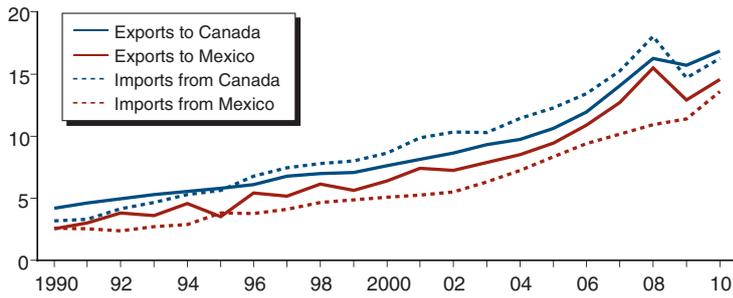
Proponents

Burfisher et al. (2001) surveyed the pre-NAFTA assessments and the post-NAFTA studies. According to them, Hinojosa (2000) used a partial equilibrium model to analyze the effects Mexican imports had on US production and employment. Hinojosa’s findings were that NAFTA had a relatively minor impact. They write that according to Panagariya (2000) there are two models that provide a good framework to analyze regional trade models: CGE and gravity models. CGE models are prevalent pre-NAFTA while gravity regression models are more prevalent post-NAFTA. They argue that mainstream arguments in favor of NAFTA were basically correct but both critics and proponents of NAFTA used inappropriate multiplier models to analyze the costs and benefits of NAFTA (p. 141). They contend that in general, both opponents and proponents of NAFTA both overestimate the benefits and costs, respectively. In general, though, the mainstream consensus was correct, that “...NAFTA has had relatively small positive effects on the U.S. economy and relatively large positive effects on Mexico. The only blemish marring this otherwise exemplary use of economic analysis in a policy debate was the occasional use of mercantilist arguments that attempted to infer the effect of trade liberalization by applying simple multipliers to projected bilateral trade balances. Such methods are inappropriate for the analysis of the benefits and costs of trade liberalization, and were criticized during the debate.” (p. 141).

In a report published March 2011, Zahniser and Roe update us on the current benefits of NAFTA post-full implementation. They note that NAFTA has allowed a greater variety of consumer goods all season long. They contend that NAFTA has been a great success noting the expansion of exports (see following excerpt). They argue that because of macroeconomic shifts over this period, the net effect of NAFTA was probably small but positive (see model specification section).

U.S. agricultural trade with Canada and Mexico is recovering from the global economic downturn

U.S. dollars (billions)



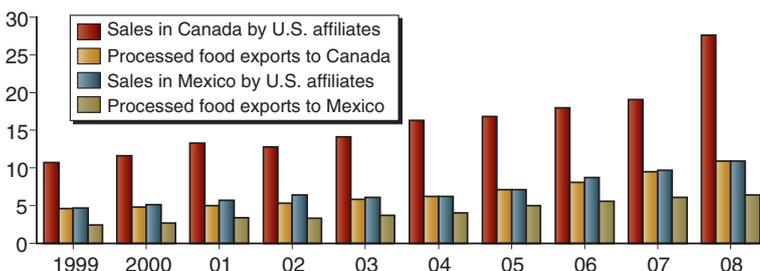
Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Census Bureau, *Foreign Trade Statistics*, as cited by USDA/FAS (2011a).

Zahniser and Roe also contend that NAFTA had expanded investment opportunities by increasing food processing FDI. They note that the value of US food processing sales in Canada and Mexico were greater than the value of US processed food exports. (See following figure excerpt from their study)

Figure 3

Food sales by U.S.-owned affiliates in Canada and Mexico greatly exceed U.S. processed food exports to those countries

U.S. dollars (billions)



Note: Affiliate sales are those of nonbank majority-owned U.S. affiliates and do not include sales in the beverage industry.

Source: USDA, Economic Research Service using data from USDOC/BEA (2010c) (affiliate sales) and USDA/FAS (2011a) (processed food exports).

Appendix IV has more details on aggregate gains from NAFTA.

Opponents

NAFTA has been a great success for those stakeholders who it was designed to protect: financiers and investors. However, NAFTA was specifically designed not to give any protections to workers in the form of labor standards, social investment or worker rights (Faux 2001). Faux cites research by Robert Scott who estimate that NAFTA eliminated nearly 760,000 jobs in manufacturing. Moreover, Scott estimates that per capita income declined in all three countries and an upward redistribution to wealth. He also contributes that the boom in consumer spending was a result of easier credit and a speculative stock market in the United States that spilled over to Canada and Mexico.

EPI considers NAFTA a failure due to the poor outcomes of workers in each of the three countries (Scott et al 2006). They contend that because NAFTA's stated goals were to

make things significantly better for workers, even slightly negative outcomes for workers may mean that NAFTA failed in its original intent. NAFTA has resulted in the “reduction of employment in high-wage, traded-goods industries, the growing inequality in wages, and the steadily declining demand for workers without a college education” (3). They list the following negative effects of NAFTA for the United States as: 1) benefits from exports are exaggerated because trade deficits resulted in a loss of a million jobs and workers with at most a high school education were hit hardest; 2) jobs hit hardest were in the traded manufacturing sector; 3) displaced workers due to NAFTA took lower paying jobs; and 4) declining union rates. For Mexican workers they cite: 1) an erratic wage pattern; 2) losses in the agricultural sector; 3) increased inequality; 4) FDI that did not translate into good quality employment. Moreover, they note that manufacturing zones “is not determined by competitive factors such as training and knowledge, but rather by low wages” (40). Consequently, there is a “race to the bottom” for labor norms. They also note that FDI flows did not result in a technology transfer to Mexico.

Scott’s analysis of NAFTA’s impact focused on the trade deficit and income changes in comparison to the promised benefits (2005). However, he does not use any quantitative models or regressions to take into account macroeconomic factors that may have influenced these features.

Academics

In an early assessment, de Janvry (1996) states that NAFTA is a difficult agreement to assess its benefits and costs because 1) the long transitions of tariff reduction, 2) free trade and FDI movements were in place before NAFTA 3) huge macroeconomic shocks may obscure or reduce the efficiency and welfare effects of the agreement. Moreover, the criticism of NAFTA (increased US trade deficit, job loss, etc) fail to provide a causality between NAFTA and the macroeconomic problems. For instance, the peso crisis was well underway before the implementation of NAFTA. However, NAFTA helped mitigate the economic severity of the peso crisis by giving Mexico more favorable terms of trade. According to his calculation, NAFTA prevented a 46% fall in US exports to Mexico, which fell by 25% instead. Furthermore, he notes that Mexico has had a slow supply response to the reduced tariffs in the United States and he believes that there are three explanations: 1) despite reorganization, producers have poor access to credit to reorganize; 2) competitiveness of horticulture exports continue to depend in part on attracting foreign investment; 3) a significant number of producers are not responsive because they continue to produce for home consumption.

Kehoe (2003) examines three NAFTA CGE models that were used to estimate the effects of NAFTA⁶ and concludes that they had underestimated the level of trade. In general, the models reflected the direction of changes, but not the magnitudes (Table 6). Kehoe notes that in order to accurately estimate using CGE models, we must take into account macroeconomic shocks that effect *productivity*. He also concludes that modelers should find high elasticity of substitutions as unsuitable.

⁶ Kehoe examines the the Brown-Deardorff-Stern model of all three North American economies (see Brown 1992, 1994 and Brown, Deardorff, and Stern 1992, 1995), the Cox-Harris model of Canada (see Cox 1994, 1995 and Cox and Harris 1992a, 1992b), and the Sobarzo model of Mexico (see Sobarzo 1992a, 1992b, 1994, 1995).

Table 6: Changes in the U.S. Exports Relative to U.S. GDP (Brown, Deardorff, and Stern)

| sector | Exports to Canada | | Exports to Mexico | |
|-------------------------|-------------------|-------|-------------------|-------|
| | 1988–1999 | Model | 1988–1999 | model |
| agriculture | -24.1 | 5.1 | 6.5 | 7.9 |
| mining and quarrying | -23.6 | 1 | -19.8 | 0.5 |
| food | 62.4 | 12.7 | 37.7 | 13 |
| textiles | 177.2 | 44 | 850.5 | 18.6 |
| clothing | 145.5 | 56.7 | 543 | 50.3 |
| Leather products | 29.9 | 7.9 | 87.7 | 15.5 |
| footwear | 48.8 | 45.7 | 33.1 | 35.4 |
| Wood products | 76.4 | 6.7 | 25.7 | 7 |
| furniture and fixtures | 83.8 | 35.6 | 224.1 | 18.6 |
| paper | -20.5 | 18.9 | -41.9 | -3.9 |
| printing and publishing | 50.8 | 3.9 | 507.9 | -1.1 |
| chemicals | 49.8 | 21.8 | 61.5 | -8.4 |
| petroleum | -6.9 | 0.8 | -41.1 | -7.4 |
| rubber | 95.6 | 19.1 | 165.6 | 12.8 |
| nonmetal | 56.5 | 11.9 | 55.9 | 0.8 |
| glass | 50.5 | 4.4 | 112.9 | 42.3 |
| iron | 0.6 | 11.6 | 144.5 | -2.8 |
| nonferrous | -20.7 | -6.7 | -28.7 | -55.1 |
| metal | 66.7 | 18.2 | 301.4 | 5.4 |
| nonelectrical | 36.2 | 9.9 | 350.8 | -2.9 |
| electrical | 154.4 | 14.9 | 167.8 | -10.9 |

| Table 6: Changes in the U.S. Exports Relative to U.S. GDP (Brown, Deardorff, and Stern) | | | | |
|---|-------|-------|-------|--------|
| transportation | 36.5 | -4.6 | 290.3 | 9.9 |
| miscellaneous | 117.3 | 11.5 | 362.3 | -9.4 |
| | | | | |
| weighted correlation with data | | -0.01 | | 0.5 |
| variance decomposition of change | | 0.14 | | 0.02 |
| regression coefficient a | | 37.27 | | 190.89 |
| regression coefficient b | | -0.02 | | 3.42 |
| Source: Kehoe (2003) | | | | |

PIIE viewed NAFTA to be a success although they contend that the perception of NAFTA by many labor and environmental groups is that it is a failure (Hufbauer and Schott, 2005). For many critics, they do not discern between NAFTA effects and macroeconomic effects in general. They note that the United States have continued direct subsidies to farmers due to droughts and floods. See table 7. See Appendix V for more details.

| Table 7: Direct US and Canadian agricultural government payments, 2003 (millions of dollars) | |
|--|----------------------|
| Program | Preliminary Forecast |
| United States | |
| Total Direct Payments | 17,380 |
| Marketing loan gains | 712 |
| Production flexibility contracts | -300 |
| Direct payments | 7,702 |
| Counter cyclical payments | 1,894 |
| Loan deficiency payments | 615 |
| Compensation payment to peanut quota holders | 250 |
| National dairy market loss payments | 900 |
| Conservation | 2,286 |
| Emergency assistance | 3,300 |
| Miscellaneous | 20 |

| Table 7: Direct US and Canadian agricultural government payments, 2003 (millions of dollars) | |
|---|-----------------------------|
| Program | Preliminary Forecast |
| Total | 34,760 |
| Canada | |
| Gross Revenue Insurance Plan | n.a. |
| Net Income Stabilization Account | 518 |
| Income disaster assistance | 315 |
| Western Grain Stabilization | n.a. |
| Provincial Stabilization | 510 |
| Tripartite Payments | n.a. |
| Crop insurance | 1,222 |
| Dairy subsidy | n.a. |
| Other | 843 |
| Total rebates reducing expenses | 70 |
| Total | 3,477 |
| Source: Hufbauer and Schott (2005) | |

Moreover, the United States has also allowed export subsidies for various commodities in order to be competitive in third-country markets. They also acknowledge that both the US and Mexico have been using SPS measures as a form of protectionism.

Model Specification

Brown, Deardorff, and Stern (1992)

In a widely cited study, Brown et al use a computational general equilibrium model (known as the Michigan model) to divide the world into three groups (USA, Mexico, and Canada) while the top 31 trading countries are divided as a third group. “The countries of the model produce, consume, and trade 23 tradable aggregate products. In addition, there are six nontraded goods. The market structure in each sector is either perfectly competitive or monopolistically competitive, depending on the degree of scale economies in production... International trade in goods is assumed to be subject to tariffs and nontariff barriers (NTBs). NTBs are incorporated by endogenously solving for the ad valorem tariff rate that will hold imports within each product category covered by NTBs at a predetermined level.” (p. 399-400) Their model is in linear form with a base year of 1989 for data on production, employment and trade. Key parameters and elasticities can be found in Appendix VI.

Krissoff et al (1992)

Krissoff et al. (1992) develop a three region model (US, Mexico, and the rest of the world) with heterogenous commodities. It uses a partial equilibrium 3-region, 29 commodity static model based on the Static World Policy Simulation framework developed by Roningen and extend by Roningen, Sullivan, and Dixit. Their model allows for imperfect substitution,

| Table 8: Commodities Used in US-Mexico Analysis | | | |
|--|------------------------------------|---------------------------------|--------------|
| Grains/Seeds | Livestock/Meat/ Poultry | Horticultural | Other |
| Wheat | Live cattle | Melons | Sugar |
| Corn | Beef | Frozen orange juice concentrate | Cotton |
| Other Course Grains | Pork | Cucumbers | Tobacco |
| Soybeans | Poultry | Onions | Coffee |
| Soymeal | Eggs | Peppers | Dry Beans |
| Soy oil | Butter | Tomatoes | |
| Other Oilseeds | Cheese | | |
| Other meals | Milk Powdered | | |
| Other Oils | Fluid Milk | | |
| Source: Krissoff et al (1992) | | | |

They use supply and demand equations using data from 1988. They then analyze how liberalization may effect US-Mexico economies using three different scenarios: 1) US-Mexico tariff levels fall below the world wide market levels in 1988; 2) Mexico liberalizing all border protection from all countries; 3) Mexico unilateral removes border protection to all countries and enters a preferential agreement with the United States.

They also examine welfare gains from a free trade agreement and changes in government revenue and expenditures (see above).

Bursfisher et al (1992)

A detailed summary of Burfisher et al is in Appendix VII.

Hufbauer and Schott (1992)

Hufbauer and Schott try a historical approach using econometric techniques based on the experience of 31 previous liberalization episodes provided by the World Bank. They admit, although this methodology is not perfect, it allows them to generalize trends. They are primarily analyze the Mexican import and export changes and infer US conditions based on this. They estimate the period between 1989 and 1995. They assume that Mexican exports

will grow at the rate experienced by the countries from the World Bank study (11.2%) and that export growth begins in 1989. They estimated that Mexico will export \$62.2 billion by 1995. They also assume that Mexico will import 75% of its goods and nonfactor services from the United States and export 75% of its goods and nonfactor services to the United States. Their model also assumes that trade reforms will result in increased capital flows to Mexico. To determine the number of jobs gained in the US, they use a multiplier of 14,500 jobs per billion dollars of net exports.

De Janvry (1996)

De Janvry uses an econometric decomposition to analyze the effects of NAFTA and counterfactuals to estimate the effects without NAFTA using monthly data.

Gould (1998)

Gould uses a basic gravity model based on Bergstrand (1985) using quarterly data. See Appendix VIII for more details.

Krueger (1999)

Krueger utilizes several methodologies in her analysis on trade diversion or creation in NAFTA. First, she examines the trade data to see if imports of commodities from the rest of the world fell relative to NAFTA countries. Then she does a “shift and share” analysis to examine volumes and patterns of commodity groups. Third, she uses a traditional gravity model using data on trade values, GDP, population, exchange rates, languages, and distance for the years 1987, 1989, 1991, 1993, 1995 and 1997.

She then uses a pooled time-series-cross-section regression was then estimated, with the following form:

$$\begin{aligned} \text{Exports}(I,J) = & C+a11(D89)+a12(D91)+a13(D93)+a14(D95)+a15(D97)+b1(\text{GDP}(I)) \\ & +b2(\text{GDP}(J))+c1(\text{GDPPC}(I))+c2(\text{GDPPC}(J)) \\ & +e1(\text{DIST}(I,J))+e2(\text{REMOTE}(I))+e3(\text{REMOTE}(J))+e4(\text{CONTIG}(I,J))+f(\text{SL}(I,J)) \\ & +\text{dum1}(\text{PTA}(I,J))+\text{dum2}(\text{TREND PTA}(I,J)) \\ & +\text{dum3}(\text{NOPTA}(I),\text{PTA}(J))+\text{dum4}(\text{TREND NOPTA}(I),\text{PTA}(J)) \end{aligned}$$

Where I and J are the importing and exporting countries, D89, D,91, D93 etc are dummy variables for the year. More details on other variables can be found in Krueger (1999).

Scott (2001)

Scott’s analysis of NAFTA’s impact on labor used the following methodology: “*This study uses the model developed in Rothstein and Scott (1997a and 1997b)... The model used here is based on the Bureau of Labor Statistics’ 192-sector employment requirements table, which was derived from the 1992 U.S. input-output table and adjusted to 1998 price and productivity levels (BLS 2001a). This model is used to estimate the direct and indirect effects of changes in goods trade flows in each of these 192 industries. This study updates the 1987 input employment requirements table used in earlier reports in this series (Rothstein and Scott 1997a and 1997b; Scott 1996).*” (Scott 2001 p. 10)

According to PIIE, Scott's 2001 study uses a "192-sector employment table to estimate changes in merchandise trade flows on labor requirements in these 192 industries. The figure of 879,280 loss was allocated to individual states on the basis of their share of industry-level employment in each three-digit industry" (p.82, 2005).

Scott (2005)

Scott's analysis of NAFTA's impact on labor used the following methodology: "This study uses the model developed in Rothstein and Scott (1997a and 1997b)... The model used here is based on the Bureau of Labor Statistics' 192-sector employment requirements table, which was derived from the 1992 U.S. input-output table and adjusted to 1998 price and productivity levels (BLS 2001a). This model is used to estimate the direct and indirect effects of changes in goods trade flows in each of these 192 industries. This study updates the 1987 input employment requirements table used in earlier reports in this series (Rothstein and Scott 1997a and 1997b; Scott 1996)." (Scott 2001 p. 10)

Zahniser and Crago (2009)

Zahniser and Crago (2009) use an input-output table to estimate the effects of trade liberalization on employment. They use a multiplier of 10,657 jobs per \$1 billion in exports. and note that even using this multiplier, the number of jobs gained through exports is still relatively small compared to the entire US workforce (p. 10-11).

Zahniser and Roe (2011)

Zahniser and Roe calculate their job numbers by multiplying US agricultural exports by 11,825 per \$1 billion of exports. There is no substantial econometric analysis in their study.

Analysis of Sensitive Products and Sectoral Specific Issues

Pre-NAFTA Concerns

Centner notes that soybeans, grain crops, apple, dairy, poultry, and pork producers were likely to benefit from NAFTA due to increased export opportunities (1992). However, Hufbauer and Schott (1992) identify 5 subgroups that are particularly vulnerable: horticulture, field crop, livestock, coffee and sugar. Schoenbaum (1992) writes that sugar had protectionist clause in NAFTA that allowed for a gradual reduction of tariffs. This clause only allowed the sugar quota to be adjusted upward only if Mexico was a net exporter of sugar. This assured that Mexico could not import sugar from other countries for its own consumption and then export its production to the United States. Secondly, NAFTA has a "snap-back" clause that allows countries to return tariffs to pre-NAFTA levels in case of increased imports that may threaten a domestic industry. Thirdly, there is a global safeguard that allows for temporary tariffs or quotas on products as per the GATT agreement. For horticulture, Hufbauer and Schott note that the US and Mexico have varying seasons of cultivation for the crops and recommend a 15 year gradual transition. For field crops like wheat, they recommend a reduction in subsidies in the next five years.

Post-NAFTA Issues

Protectionism for several commodity groups continues to be a thorn in NAFTA’s liberalization and a truly integrated North American market. Complicated political economic concerns continue to persist in both the United States and Mexico that props up these protectionist policies. For example, in their updated study, Hufbauer and Schott (2005) discuss protectionism in sugar. There are three mechanism of protectionism: loans that support domestic sugar production, tariff rate quotas, and a reexport program. The original NAFTA agreement allowed for a 10% increase in the quota per year for Mexico unless Mexico became a net exporter of sugar for two years. In that situation, they would receive duty free access to the United States. However, in 2001, a new sugar “side letter” was signed that limited Mexican exports to America to 250,000 metric tons per year. It also changed the criteria for Mexico to become a net producer and making it harder to circumvent the duties. Considering the political economic circumstances surrounding liberalizing certain commodities, a gradual transition period with renegotiations may be the best way for NAFTA to reduce all tariffs. In regards to subsidies, it may be that little could be done to reduce subsidies to farmers until the European Union and other countries could multilaterally agree to reduce subsidies to farmers. Finally, Hufbauer and Schott recommend a product by product SPS standards among countries that agree to a FTA.

Table 9 : Comparison of sugar side letter provisions

| Original side letter | Revised side letter | November 3, 1993 US Version | November 4, 1993 Mexican Version |
|----------------------|---------------------|-----------------------------|----------------------------------|
|----------------------|---------------------|-----------------------------|----------------------------------|

Fiscal 1993-2008 (first 15 years)

- Maximum Mexican sugar exports limited to no more than net surplus production of sugar, equivalent to the difference between domestic sugar production and consumption
- Minimum Mexican sugar export of 7,258 metric tons raw cane sugar duty-free into United States

- Changed definition of surplus production of sugar that would limit Mexico’s ability to export sugar to the United States
- Revised surplus production status defined by whether Mexican sugar production was greater than Mexican consumption of both sugar and high-fructose corn syrup

- If Mexico reaches net surplus producer status, the United States would allow maximum Mexican sugar exports of 250,000 tons
- Beginning fiscal 2001 marketing year (year 7) Mexico can export up to 150,000 tons
- From fiscal year 2002 to fiscal 2008 (year 8 to 14), Mexico can ship 110 percent of previous marketing year’s ceiling according to original NAFTA terms

- Unlimited Mexican access to US sugar market (i.e. no stipulation to exclude paragraph 16)

- Fiscal 1994-2000 (first 6 years)

Table 9 : Comparison of sugar side letter provisions

| Original side letter | Revised side letter | November 3, 1993 US Version | November 4, 1993 Mexican Version |
|--|--|--|---|
| <ul style="list-style-type: none"> • Maximum duty-free access for MExican sugar exports at no more than 250,000 metric tons raw value | <ul style="list-style-type: none"> •Maximum duty-free access for Mexican sugar exports equal to the projected net surplus production up to 25,000 metric tons | <ul style="list-style-type: none"> •Denies Mexico unlimited access to the US sugar market by stipulating that paragraph 16 of Section A of NAFTA Annex 703.2 (waiver for quantitative limits) would “not apply” | |
| <p>By fiscal year 2001 (year 7)</p> | | | |
| <ul style="list-style-type: none"> • Maximum duty-free access for Mexican sugar exports raised to 150,000 metric tons • Maximum duty free access for Mexican sugar exports will increase by 10% every year | <ul style="list-style-type: none"> •If Mexico does not qualify as a net surplus sugar producer it can still Export maximum 7.258 metric tons duty -free (as bound in US WTO schedule) •No conditions provided for unlimited Mexican sugar exports into the United States | <p>Vague definition for calculating Mexican net surplus producer status:</p> <ul style="list-style-type: none"> • Only indicates that calculation should include “consumption” of HFCS | <p>Vague definition for calculating Mexico net surplus producer status:</p> <ul style="list-style-type: none"> •Only indicates that calculations should include HFCS •Mexican officials claim surplus producer status suggests both HFCS production and consumption are used to determine net producer status (i.e., making it easier to achieve net sugar surplus producer status) |
| <p>Condition for unlimited Mexican sugar exports into the United States:</p> <ul style="list-style-type: none"> • Mexico must achieve net surplus producer status for two consecutive marketing years | <ul style="list-style-type: none"> •2001-07: Maximum duty free access for Mexican sugar exports to the United States is measured by its surplus of up to 250,000 Metric tons | | |

Sources: Hufbauer and Schott (2005)

Original source: USDA (2002c): “US-Mexico Draft Side Letter on NAFTA sugar” Inside US Trade, November 5, 1993

Burfisher et al (2001) states that NAFTA was designed so that sensitive industries had a 15-year transition period. The NAFTA Trade Adjustment Assistance program was designed to give retraining to those who may have been effected by the agreement but may be an inaccurate measure to measure job losses. Wise (2009) analyzes the effects of US agricultural policies on Mexican producers in 8 commodities: corn, wheat, rice, soybeans, cotton, beef, pork, and poultry. According to him, US subsidies in these commodities promoted overproduction and government payments began representing a larger share of producer income. He estimates that there has been a total loss of \$12.8 billion from 1997-2005 due to US agricultural policy.

Berdahl (2001) discusses the history of the avocados in NAFTA. Beginning in 1914, Mexican avocado imports were banned in the United States due to a pest problem. In the 1970s, American farmers began to cultivate their own avocados and by the 1990s became the second largest producers of avocados in the world. Beginning in 1990s, Mexico was able to negotiate entry into the US by showing the pests were under control. By 1997, the USDA's Animal and Plant Health Inspection Service (APHIS) had approved 65 Mexican growers and five exporters in Michoacán, Mexico as being diseased free. These farmers eventually formed an organization to bear the cost of inspection by APHIS and were permitted to export with several safeguards in place. According to Roberts (1999) these safeguards were host resistance, field surveys, trappings and field bait treatment, field sanitation practices, post-harvest safeguards, winter shipping, packing house inspection and fruit cutting, port-of-arrival inspection, and limited distribution.

Consequently, the two countries agreed to allow avocados to be shipped to select US states with labeling to identify that they were Mexican produced (Berdahl 2001). One way to prevent contaminated avocados from shipping to the US was by allowing the US to cease imports from all producers within a area if a single pest was found to have originate from there. This resulted in an incentive for local groups to monitor each other to make sure no one was illegally exporting avocados and was fair to other producers in the country. He notes that the initial US imports of avocados, though large, were below levels that estimates predicted. Two plausible explanations were the over-saturation in a market that could not absorb it and the inexperience of Mexican trading companies. Moreover, avocados sold were of lower quality than the California produced ones and may explain why there was a small elasticity of demand for them in the American market.

Roberts (1999) estimates that the net benefit of allowing avocado imports to the United States was \$1.9 to \$12.5 million with a consumer gain ranging from \$3.3 to \$19 million and a \$1.4 to \$6.4 million⁷. He argues that although producers argue SPS measures are necessary to control pests, these complaints were most likely based on fears of competition from Mexican producers.

In 2001, the US expanded the number of states allowed to accept Mexican avocados to an additional 12 and extended the shipping season from October 15 through April 15 (Stout et al 2004). In 2004, the geographical and seasonal restrictions were scheduled to be eliminated allowing year-round exportation to the United States except for California, Hawaii, and Florida (Peterson and Orden 2007). Consequently, avocado SPS standards from Mexico continue to be field surveys, trapping activities, field sanitation, use of Hass avocados, post-harvest safeguards, packinghouse inspection, and port-of arrival inspection. Using a partial equilibrium model they estimate that the net U.S. welfare gain from removing the geographical and season restrictions to be \$77.4 million, annually.

⁷ Their methodology for these estimates was not disclosed.

References

- Abler, D. and Pick, D. (1993). "NAFTA, Agriculture, and the Environment in Mexico." *American Journal of Agricultural Economics*, Vol. 75, No. 3 (Aug., 1993), pp. 794-798 <http://www.jstor.org/stable/1243594> [Accessed April 4, 2011]
- Bredahl, M. (2001). "Trade Liberalization Under NAFTA: Trade in Avocados" *Agricultural and Food Policy System Information Workshop*. <http://ageconsearch.umn.edu/handle/16821> [Accessed April 14, 2011]
- Brown, D., Deardorff, A., and Stern, R. (1992). "North American Integration" *The Economic Journal* Vol. 102, No. 415 (Nov., 1992), pp. 1507-1518 <http://www.jstor.org/stable/2234806> [Accessed April 12, 2011]
- Brown, D., Deardorff, A., and Stern, R. (1992). "A North American Free Trade Agreement: Analytical Issues and a Computational Assessment" in *Globalization and International Trade Policies* (ed Stern, R.) 2009. (Originally published in *The World Economy*, 15(11), January 1992, pp. 11–30. <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9701.1992.tb00792.x/abstract>) [Accessed April 18, 2011]
- Burfisher, M., Robinson, S., and Thierfelder, K. (1992) "Agricultural and food policies in a United States-Mexico free trade area" *The North American Journal of Economics and Finance* Volume 3, Issue 2, Autumn 1992, Pages 117-139 <http://www.sciencedirect.com/science/article/B6W5T-45PM7X9-4/2/073f3bd56f51d71a535d964b5e8d325c> [Accessed April 13, 2011]
- Burfisher, M., Robinson, S., and Thierfelder, K. (2001). "The Impact of NAFTA on the United States" *Journal of Economic Perspectives*- Volume 15, Number 1. Winter 2001 p. 125-144 <http://199.33.141.23/faculty/webpages/dtaylor/impact%25of%25nafta.pdf> [Accessed April 11, 2011]
- Centner, T. "Changes Impacting Production Agriculture - NAFTA and New Environmental Regulations" *University of Toledo Law Review* http://heinonline.org/HOL/Page?handle=hein.journals/utol24&div=24&g_sent=1&collection=journals [Accessed April 12, 2011]
- Christman, D. (2008). "With Exports, NAFTA Benefits Ohio Workers Much More Than it Hurts" *US Chamber of Commerce Press Release*. www.uschamber.com/press/opeds/2008/exports-nafta-benefits-ohio-workers-much-more-it-hurts [Accessed April 15, 2011]
- De Janvry, A. (1996). "NAFTA and agriculture: An early assessment" <http://agrinet.tamu.edu/trade/papers/dejanvry.pdf> [Accessed April 17, 2011]
- Doroodian, K., Boyd, R., and Piracha, M. (1994). "A CGE analysis of the impact of trade liberalization between the U.S. and Mexico" *The Atlantic Economic Journal*. Volume 22, Number 4, 43-54. www.springerlink.com/content/v1633lkn2gh538m2/ [Accessed April 18, 2011]
- Faux, J. (2001). "NAFTA at Seven: Its impact on workers in all three nations." *Economic Policy Institute* http://epi.3cdn.net/3ec414c1e7d04464e3_z8m6bna2s.pdf [Accessed April 6, 2011]
- Faux, J. and Lee, T. (1992) "The Effect of George Bursh's NAFTA on American Workers: Ladder up or Ladder Down?" *Economic Policy Institute Briefing Paper*. http://epi.3cdn.net/a35dec82f6b0490b95_qrm6b5a1i.pdf [Accessed April 14, 2011]
- Faux, J. and Spriggs, W. (1992). "U.S. Jobs and the Mexico Trade Proposal" *Economic Policy Institute Briefing Paper*. http://epi.3cdn.net/2ccec0bf3bc6ac19e1_slm6bx1qo.pdf
- Fox, A. (1999) "Evaluating the Success of a CGE Model of the Canada-U.S. Free Trade Agreement" *University of Michigan*. November 8, 1999. ctrc.sice.oas.org/geograph/Impact_studies/Bilateral/Fox.pdf [Accessed April 19, 2011]
- Gould, D. (1998). "Has NAFTA changed North American trade?" *Economic Review* *Federal Reserve Bank of Dallas*. <http://www.dallasfed.com/research/er/1998/er9801b.pdf> [Accessed April 17, 2011]

- Grossman, G. and Kreuger, A. (1992). "Environmental Impacts of a North American Free Trade Agreement" Centre for Economic Policy Research. Discussion Paper No. 644. April 1992. [<http://ideas.repec.org/p/cpr/ceprdp/644.html>] [Accessed April 8, 2011]
- Hufbauer, G. and Schott, J. (1992) "North American free trade: issues and recommendations" Institute of International Economics.
- Hufbauer, G., and Schott, J. (2005). "NAFTA Revisited: Achievements and Challenges" Peterson Institute of International Economics. (2005) <http://bookstore.piie.com/book-store/332.html> [Accessed April 7, 2011]
- Kehoe, T. (2003) "An Evaluation of the Performance of Applied General Equilibrium Models of the Impact of NAFTA" Federal Reserve Bank of Minneapolis Research Department Staff Report 320. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.147.7114&rep=rep1&type=pdf> [Accessed April 18, 2011]
- Krissoff, B., Neff, L., and Sharples, J. (1992) "Estimated Impacts of a Potential U.S.-Mexico Preferential Trading Arrangement for the Agricultural Sector" Agriculture and Trade Analysis Division USDA. March 6, 1992 <http://ageconsearch.umn.edu/bitstream/51135/2/92-1.pdf> [Accessed April 13, 2011]
- Krueger, A. (1999). "Trade creation and trade diversion under NAFTA" National Bureau of Economic Research Working Paper 7429. <http://www.unige.ch/ses/ecopo/demelo/Cdrom/RIA/Readings/Krueger99.pdf> [Accessed April 17, 2011]
- Levinson, J. (1993) "The Labor Side Accord to the North American Free Trade Agreement" Economic Policy Institute. Briefing Paper. http://epi.3cdn.net/561e782c56d484d5fa_iqm6bxst1.pdf
- Nadal, A. (2000). "The Environmental & Social Impacts of Economic Liberalization on Corn Production in Mexico." World Wildlife Foundation International. 2000. <http://ase.tufts.edu/gdae/Pubs/rp/NadalOxfamWWFMaizeMexico2000.pdf> [Accessed April 7, 2011]
- National Farmers' Union (2011). "Trade" National Farmers' Union Website. "<http://www.nfu.org/legislation/international-policy/trade>" [Accessed April 6, 2011]
- Office of the United States Trade Representative (2007). "NAFTA: An annual tax cut and income gain for American families." NAFTA Policy Brief. October 2007. [Accessed April 6, 2011]
- Office of the United States Trade Representative (2008). "NAFTA - Myth vs. Facts." Published March 2008. <http://www.ustr.gov/sites/default/files/NAFTA-Myth-versus-Fact.pdf> [Accessed April 5, 2011]
- Peterson, E. and Orden, D. (2007). "Avocado Pests and Avocado Trade" Amer. J. Agr. Econ. xx(x) (xxx 2008): 1-15 http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1119012 [Accessed April 19, 2011]
- Roberts, Donna. 1997. "USDA lifts Import Ban on Mexican Avocados." Agricultural Outlook. Economic Research Service, June 1997: 17-21. <http://www.ers.usda.gov/publications/agoutlook/jun1997/ao241e.pdf> [Accessed April 19, 2011]
- Runsten, D. and Young, L. (1992) "Demand for Labor, Wages and Productivity in Mexican Fruits and Vegetables: Preliminary Estimates and Implications for NAFTA" Latin American Studies Association Meeting. lasa.international.pitt.edu/members/congress-papers/lasa1992/files/RunstenDavid.pdf [Accessed April 12, 2011]
- Schoenbaum, T. (1992) "The North American Free Trade Agreement (NAFTA): Good for Jobs, for the Environment, and for American" Georgia Journal of International and Comparative Law http://heinonline.org/HOL/Page?handle=hein.journals/gjic123&div=22&collection=journals&set_as_cursor=0&men_tab=srchresults&terms=24%20U.%20Tol.%20L.%20Rev.%20371&type=matchall#478 [Accessed April 12, 2011]

Scott, R. (2001) "NAFTA's Hidden Costs: Trade Agreement results in job losses, growing inequality, and wage suppression for the United States." Economic Policy Institute Briefing Paper. March 31, 2001. http://epi.3cdn.net/3ec414c1e7d04464e3_z8m6bna2s.pdf [Accessed April 11, 2011]

Stout, J., Huang, S., Calvin, L. Lucier, G., Perez, A. and Pollack, S. (2004) "NAFTA Trade in Fruits and Vegetables" in Global Trade Patterns in Fruits and Vegetables. USDA/Economic Research Services. p. 39-51. <http://www.ers.usda.gov/publications/wrs0406/wrs0406f.pdf> [Accessed April 19, 2011]

United States International Trade Commission (1992) "Economy-Wide Modeling of the Economic Implications of a FTA with Mexico and a NAFTA with Canada and Mexico" USITC Publication 2516 <http://books.google.com/books?hl=en&lr=&id=g0TZc2uqW5sC&oi=fnd&pg=PR1&dq=Economy-Wide+Modeling+of+the+Economic+Implications+of+a+FTA&ots=JWgskcso6R&sig=MnWGafVTrd-OrzolFaHHbvotZIY#v=onepage&q&f=true> [Accessed April 13, 2011]

US Chamber of Commerce (2004) "U.S. Chamber Applauds Decision to Uphold NAFTA" US Chamber of Commerce Press Release. <http://www.uschamber.com/press/releases/2004/june/us-chamber-applauds-decision-uphold-nafta> [Accessed April 15, 2011]

Wise, T. (2009). "Agricultural Dumping Under NAFTA: Estimating the Costs of U.S. Agricultural Policies to Mexican Producers" Global Development and Environment Institute Working Paper No. 09-08. [Accessed April 18, 2011]

World Bank, The (2011). "World Development Indicators" The World Bank Group. <http://databank.worldbank.org> [Accessed April 16, 2011]

Zahniser, S. and Crago, Z. (2009). "NAFTA at 15: Building on Free Trade" United States Department of Agriculture- Economic Research Service. WRS-09-03. <http://www.ers.usda.gov/Publications/WRS0903/WRS0903.pdf> [Accessed April 5, 2011]

Zahniser, S. and Roe, A. (2011). "NAFTA at 17: Full Implementation Leads to Increased Trade and Integration." United States Department of Agriculture- Economic Research Service. WRS-11-01. <http://www.ers.usda.gov/Publications/WRS1101/WRS1101.pdf> [Accessed April 5, 2011]