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Economic Implications of the FAIR Act on U.S. Peanut Producers

Changping Chen and Stanley M. Fletcher^{*}

^{*}The authors are postdoctoral research associate and professor, respectively, Department of Agricultural and Applied Economics, the University of Georgia, Griffin, GA 30223. This study was supported by a grant from the Georgia Agricultural Commodity Commission for Peanuts and state and Hatch funds allocated to the University of Georgia.

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Changping Chen and Stanley M. Fletcher

Department of Agricultural and Applied Economics

University of Georgia

Griffin, Georgia 30223

cchen@gaes.griffin.peachnet.edu

Abstract

This study analyzed the potential economic impacts of the FAIR Act under GATT and NAFTA on the U.S. peanut industry. Results indicate that the economic impacts of the new program combined with the trade agreements are profound on the peanut industry in both short and long terms. Changes of the peanut program could decrease peanut producers' farm income substantially, eliminate government financial costs related to excessive quotas, and transfer peanut growers' program benefits back to peanut consumers. Increasing imports of foreign peanuts due to free/reduced trade barrier agreements would transfer peanut producers' program benefits to domestic peanut importers and foreign exporters who sell peanuts to the U.S.

Key Words: economic impacts, FAIR Act, peanuts, quota, support price.

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The long debate and discussion on the U.S. peanut program concluded when President Clinton signed the Federal Agricultural Improvement and Reform (FAIR) Act of 1996. The Act symbolizes that the U.S. peanut industry is entering an era characterized as no government financial support and increasing competition. Under the new 7-year peanut program, Congress reduced the quota support price, and eliminated the minimum poundage quota floor, the price escalator, and undermarketing carryover. U.S. Department of Agriculture, based on the Act and anticipated domestic market demand, adjusted the annual basic quota poundage. Accompanied by the domestic policy reform, the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement (NAFTA) with their transition mechanisms continue to open the U.S. domestic market to foreign peanuts and peanut products.¹ Minimum import access levels for edible peanuts and peanut products under the trade agreements were 96,467 short tons (st.) in 1995 and would reach as high as 136,763 st. by year 2000 (Fletcher *et al.*). Because of trade agreements among member countries, the U.S. government has to reduce quota peanut production to cope with increasing imports of foreign peanuts and peanut products.

Domestic policy reform coupled with increasing imports has been reshaping the U.S. peanut industry. Many are convinced that peanut program reform may alter peanut growers' livelihoods since peanut production with a support price has been an economic backbone in many peanut producing areas for more than five decades (Head; U.S. Congress). Based on the 1992 Agricultural Census, seven states produced about 98% of U.S. peanuts. In the seven states about 36% of the peanut producing counties had 35% or more of their total crop income from peanuts.

Twenty-four percent of the counties had 50% or more of their crop income from peanuts. From a state perspective, crop income from peanuts in the peanut producing counties amounted to about 48% in Virginia, 50% in Oklahoma, and 70% in Alabama. Because of the high concentration of peanut production, changes in policy combined with increasing imports could create difficulty for local rural communities to absorb the economic shock in the short time frame.

The bulk of literature (Borges; Carley and Fletcher; Earley; Fleming and White; Nieuwoudt *et al.*; Sanford and Evans; Song *et al.*; U.S. General Accounting Office) has examined various parts of previous peanut programs. Martin and Brown estimated economic impacts of support price and quota reduction in North Carolina before the new program, but no studies known have examined the reform of the new peanut program and its economic implications. An understanding of the program reform and increasing imports that affect different market participants related to peanuts would be of particular interest to policy makers and peanut leaders. The information and knowledge of the new program and potential economic impacts are also important for peanut growers to recognize and meet the challenges presented by the new program.

The objective of this analysis is to analyze the economic impacts of domestic peanut policy reform associated with trade agreements on the U.S. peanut industry. Specific objectives include evaluating the economic impacts of domestic peanut program reform on peanut producers, consumers, and government expenditures between 1996 and 1995 crops, estimating the impacts of the new peanut program combined with GATT and NAFTA on program benefit redistributions among U.S. peanut growers, peanut product manufacturers, and foreign peanut exporters between the two years, and projecting the economic impacts of the new program and trade agreements on the U.S. peanut industry for the 1997-2002 period.

The U.S. Peanut Program and Its Recent Reform

The U.S. peanut program was one of several agricultural commodity programs established by the Congress in the 1930s to subsidize farmers' income and cope with economic instability of agriculture. Before 1976, a system of fixed acreage allotments was used to control peanut production. A guaranteed government loan was introduced as the floor price to support peanut producers who had allotments. In the mid-1950s import restrictions were imposed to prevent foreign competition. A quota poundage system was introduced into the program in the 1977 farm bill. Under the system, peanuts were categorized into "quota" and "nonquota" (i.e., additional peanuts). Quota peanuts were often called "edible peanuts" or "edibles" and produced on the allotments under quota limits, while additional peanuts (or additionals) were produced on allotted acreage but beyond quota limits. Edibles were used for domestic food consumption, while additionals were exported or crushed for oil and meal. Additional peanuts could be used for domestic food consumption only through "buyback" in the case of shortage caused by natural disasters such as serious drought and pest infestations. Both edibles and additionals were supported by the government, but the support price was two or three times higher for edibles than for additionals. The mandatory acreage allotment provision was no longer in force after 1981. Anyone could produce peanuts, but only those who had quota were guaranteed the higher government support price for quota peanuts.

The U.S. peanut program essentially is an income transfer program from peanut consumers to peanut producers through supply management. The program theoretically should not create government financial burdens if the supply of quota peanuts set by the government equals the domestic demand for edible peanuts. However, a surplus of quota peanuts often took place

because predicting domestic demand was difficult for the government. The “error” of government annual quota establishment may be attributed to either policy consideration for abundant high quality peanuts, changes in domestic food demand, or increasing peanut imports. Peanut growers could sell their quota peanuts to the government agency, Commodity Credit Corporation (CCC), if they were not able or willing to market their quota peanuts through commercial channels. All quota peanuts unused in the CCC must be crushed or exported within the same year. Any resulting losses between the support price paid (for quota peanuts) and market price (for peanut oil and meal) received by the CCC pool were absorbed by the federal government using tax revenues. Government expenditures associated with previous peanut programs averaged about \$62 million annually in the 1970s, \$14 million in the 1980s, and \$50 million in fiscal years 1991 and 1992 (Sanford and Evans). The Congressional Budget Office November 1995 spending baseline projected outlays to average \$63.5 million for the fiscal years 1997-2002 if the program remained unchanged (Fletcher *et al*).

While the FAIR Act of 1996 retained the basic structure of the 1990 peanut program in terms of program mechanisms such as quota and two-tiered support price systems, several major changes were made in the new program. The most important change brought by the FAIR Act is that the government would no longer bear any financial costs resulting from excessive quota peanut production. All losses from crushed quota peanuts in the CCC pool would be paid by peanut producers who participate in the program. A second major change of the new program is that the support price was reduced substantially. Under the FAIR Act, the support price (i.e., loan rate) of quota peanuts was reduced from \$678/ton in 1995 to \$610/ton for the entire life of the 7-year-long program (1996-2002), with no price escalator for production cost increases. A

possible rational behind this price adjustment is that lowering price may stimulate domestic consumption of edible peanuts. Third, the method of determining quota level was modified in the new program. Seed under the new program is treated as a temporary quota allocated to all peanut growers. The quota floor (1.35 million tons) in the previous program was eliminated since it is believed that the quota floor resulted in overproduction of edible peanuts. Basic quota poundage for the 1996 crop was about 1.1 million tons, or 18.5% less than the quota poundage in 1995. Additionally, undermarketings designed as a buffer for nondelivery of quota peanuts were also eliminated. Sales or leases of quota across county lines were restricted within the state. Those who do not produce peanuts or live outside the state are not eligible to own quotas. Fletcher *et al* discussed and summarized the changes of the new peanut program in more detail.

Analytical Framework

The reform of the peanut program was driven by political pressure of increasing treasury costs to the government in the recent years (Borges) and the overall political climate against supply management programs. Increasing foreign competition due to GATT and NAFTA was also a catalyst for changes in the peanut program. While the peanut program is complicated in terms of its many provisions and regulations, the essence of the program reform is simple--to control quota peanut production, and in doing so to meet demand for edible peanuts in the domestic food market. Most provisions and regulations changed or modified such as quota floor, temporary quota for seed, and undermarketings all come to quota poundage. The feature of a supply management program determines that the supply of U.S. quota peanuts is a single point, B, in Figure 1 under the previous program. Given the fixed support price, P_{s0} , USDA sets the quota

level at Q_1 where the supply would presumably equal domestic demand for U.S. produced edible peanuts. The supply of all edible peanuts, Q_0 in Figure 1, includes U.S. quota peanuts and imported foreign edible peanuts. The difference between $Q_0 - Q_1$ is the import of foreign edible peanuts, which is regulated by trade agreements.²

Domestic demand for peanuts consists of demand for edibles and demand for additional. The demand for edible peanuts in the domestic food market includes demand for quota peanuts and demand for imported edible peanuts. Without NAFTA and the new GATT, imported peanuts were not an issue because U.S. used Section 22 to prevent foreign peanuts coming into the domestic market. Under the new GATT, Section 22 was replaced with tariff rate quotas. Minimum import access level of peanuts to the U.S. domestic market was granted to member countries of the trade agreements including Argentina, Mexico, and Canada.

Referring to Figure 1, let curve D_0D_0 represent the aggregate demand for edible peanuts and $D_0^*D_0^*$ be the domestic demand for U.S. quota peanuts under the previous program. With a support price of P_{s0} , the supply for quota peanuts under the previous program was set at Q_1 by the government. Because of increased imports due to GATT and NAFTA, U.S. peanut growers would lose quota by $Q_0 - Q_1$ under the previous program, *ceteris paribus*.

Peanuts for export or crushing are not subject to supply management control. The aggregate farm-level demand for additional is denoted by P_aD_p , which is a combined demand for export and crushed peanuts. Additional peanuts include crushed and exported edibles through CCC and contracted additional through commercial channels. The combined demand for additional is assumed to be perfectly price elastic since additional and unused edibles for food must be crushed or exported. Furthermore, world demand for American peanuts and peanut

products is a small component of the total world oilseed complex (Helmberger). Therefore, total aggregate farm-level demand for all edible and additional peanuts under the previous peanut program can be captured by a kinked demand curve, D_0ND_t (Figure 1). Aggregate demand for American peanuts at the farm-level under the previous program is reflected by a kinked demand curve, D_0*RD_t .

The demand schedule of edible peanuts associated with the previous program, D_0D_0 , however, shifted to D_1D_1 due to a shift in consumers' preference such as away from foods viewed as high in fat. This is evident by the continued decline in peanut food use in the domestic market since the 1989/90 peak. After accounting for imports, the domestic demand for U.S. produced edible peanuts would be D_1*D_1* (Figure 1). If there was no change in the quota peanut support price, domestic demand for U.S. quota peanuts could be Q_4 . The 1996 peanut program reduced the support price of quota peanuts from P_{s0} to P_{s1} , which would lead to an increase of demand for quota peanuts by $Q_3 - Q_4$. U.S. Department of Agriculture reduced quota by $Q_1 - Q_2$, so that the demand and supply for domestic produced edible peanuts under the FAIR Act would presumably be equal. Because of GATT and NAFTA, imported peanuts would be $Q_2 - Q_3$, which was larger than $Q_0 - Q_1$ in 1995. While imported peanuts do not create a financial burden associated with quota peanuts for the government, they are substitutes of domestic produced edible peanuts. Because of the lower price for imported peanuts, peanut product manufacturers would use them. The potential increase in surplus of domestic edible peanuts forces the government to reduce quota peanuts to maintain a supply and demand balance with no government cost. Due to GATT and NAFTA, the U.S. government cannot reduce the imports that are the minimum access levels as designated in the agreements. Thus, the aggregate demand for all peanuts under the new

peanut program is represented by the kinked curve D_1SD_1 , while the demand for U.S. produced peanuts under the new peanut program is captured by D_1*TD_1 .

Changes in support price, quota, and imports affect the peanut industry, especially quota peanut growers' welfare. A reduction of support price from P_{s0} to P_{s1} at the new quota level would decrease farm income for quota peanut producers by $P_{s0}AG P_{s1}$, *ceteris paribus* (Figure 1). A reduction of quota poundage from Q_1 to Q_2 would reduce farm income (i.e., gross income) for quota producers by JBQ_1Q_2 , other things constant. The imports ($Q_2 - Q_3$) would decrease farm income for quota producers by GEQ_2Q_3 , *ceteris paribus* (Figure 1).

Farm income reduced for quota growers is the gain for consumers and taxpayers since the program benefits under the previous program were from consumers and taxpayers. Changes in the peanut program should result in an income transfer back to consumers by the area of $P_{s0}HGP_{s1}$ (Figure 1).³ Of the farm income reduction due to lowering quota, $JBCK$ is the savings for government expenditures and $GEKF$ is the benefit captured by peanut importers. Area $AJEG$ would be benefit lost for peanut importers due to the reduction of support price for edible peanuts. Area KFQ_2Q_3 is the benefit transferred to foreign peanut producers and exporters.

The fixed seven-year peanut program under the FAIR Act gives us an advantage to analyze long term economic impacts. Since minimum import access levels for foreign peanuts under GATT and NAFTA are fixed for each individual year, impacts of the FAIR Act on the U.S. peanut industry mainly depend on the domestic demand for edible peanuts because of the fixed support price for the seven year period. Long term impacts of domestic policy reform and increasing imports due to GATT and NAFTA were analyzed based on three different hypothetical scenarios about the possible changes in domestic demand for edible peanuts.

Methods and Data

While a new support price and basic quota are given for 1996, the demand function for U.S. produced edibles must be estimated to analyze the program effect on income transfer between producers and consumers. Total quota needs to be estimated because of changes in provisions/regulations in the new program. The price of additional peanuts also needs to be obtained to estimate program effects on government expenditures and benefit transfer.

Domestic demand for quota peanuts at the farm gate was specified as a function of price for edible peanuts, personal disposable income, and the price of a substitute for peanuts. Since there was little variation in government loan rates over time, free on board (FOB) price of shipping sales was derived as the price for domestic edible peanuts. FOB price of cleaned shelled peanuts was converted to the price of farmer stock peanuts using the formula established by the International Trade Commission.⁴ Cleaned shelled peanuts were also converted to farmer stock peanuts. The aggregate demand function for American produced edible peanuts was specified as:

$$Q_i = \beta_0 + \beta_1 P_i + \beta_2 I_i + \beta_3 S_i + \epsilon_i \quad (1)$$

where Q is quantity of demand for domestic edible peanuts (farmer stock peanuts, 1000 lbs.); P is real FOB price for edible peanuts (cents/lb) (base year: 1982-84=100); I denotes real disposable income for the U.S. (million dollars); S is real price of almond, a peanut substitute (cents/lb), and ϵ is random error for the equation.

FOB price was a weighted average of the prices for medium Runners, medium Virginia, No.1 Spanish, and Virginia fancy reported in *Peanut Marketing Summary* [U.S. Department of Agriculture (a)]. Weight used for deriving the FOB price was quota peanut disappearance in the domestic market each year including peanut butter, candy, salted peanuts, and roasting stocks.

Disposable income was collected from *Statistical Abstract of the United States* (U.S. Department of Commerce). The price of almond was collected from *Agricultural Statistics* [U.S. Department of Agriculture (b)]. The consumer price index was used to deflate the monetary value of FOB price. With this estimated equation, the demand for edibles under the current program at the previous support price could be estimated by substituting the support price, P_{s0} in real terms, into the demand function, holding disposable income and almond price at their means. The potential income transferred back to peanut consumers from quota growers was approximated with the formula: $(P_{s0} - P_{s1})(Q_4) + \frac{1}{2}(P_{s0} - P_{s1})(Q_3 - Q_4)$ (Figure 1).

Total quota for the 1996 crop under the new program consists of basic quota and temporary quota for seed. Given the basic quota determined by the U.S. Department of Agriculture for 1996, the amount of additional was derived using the relationship of quota to additional peanut marketings in the previous three years. Since peanuts are distinguished by type (i.e., Runner, Virginia, Valencia, and Spanish), peanut production was further decomposed according to the production distribution for each of these types of peanuts in the previous three years.⁵ The decomposition of peanuts by type is applicable since production distribution, yield per acre, and seeding rate vary with type of peanut produced in each region.⁶ Planted acreage equals production divided by average yield per acre for the previous three years.⁷ Temporary quota for seed equals planted acreage multiplied by the seed rate for each type of peanut, respectively. Planted acreage for temporary quota equals temporary quota divided by average yield per acre for the previous years. Total quota is the sum of basic quota and temporary quota for seed.

To estimate the program effect on government expenditures, the price of additional peanuts was also derived. The price of additional peanuts, P_a , was a weighted average price of export and

crushed peanuts in the CCC pool and contracted additional through the commercial channel [U.S. Department of Agriculture (d)]. Based on the information for the 1992-1994 period, the derived weighted average price for additional peanuts was \$349.80 per ton. The price of imported foreign peanuts is assumed to equal the price of exported peanuts due to no price information available for imported peanuts.

Long term impacts of the FAIR Act associated with GATT and NAFTA were approximated. Since the new peanut program is a no-net-cost program, there would be no cost due to quota for government expenditures for 1996 and beyond because the CCC would use pool profits and, if necessary, grower assessments to cover the costs relative to quota crushed. Long term economic impacts of domestic peanut policy reform and trade on the U.S. peanut industry were derived from changes in the quota level and imported peanuts and peanut products for edible peanuts. The minimum import access levels under GATT and NAFTA are assumed to be fully imported given the price difference between domestic produced quota peanuts and imported foreign peanuts.⁸ The demand for U.S. quota peanuts was treated as a constant since the quota released by U.S. Department of Agriculture was 3% higher in 1997 than in 1996 [U.S. Department of Agriculture (c)]. For the 1998-2002 period, three hypothetical situations were assumed for the domestic edible peanut demand: constant, increase by 3% annually, and decrease by 3% annually.

Economic Implications

The aggregate demand for American produced edible peanuts (equation 1) was estimated and is summarized in Table 1. The Cochrane-Orcutt procedure was used to correct for

autocorrelated errors (Shazam). All parameters estimated are as theoretically hypothesized. An increase in the edible peanut price decreases the demand for edible peanuts, *ceteris paribus*. An increase in personal disposable income increases the demand for edible peanuts. An increase in almond price increases the demand for edible peanuts. The price elasticity of domestic demand, at the mean, for edible peanuts is -0.14, which implies that a 1% decrease in edible peanut price results in about a 0.14% increase in edible peanut demand, holding other factors constant.

Total quota and planted acreage for the 1996 crop year were estimated and are reported in Table 2. Based on the information released by U.S. Department of Agriculture, domestic demand for quota peanuts was set at 1.1 million tons or 81.48% of the 1995 basic quota for 1996. Given this basic quota level, about 994 million pounds of additional peanuts would be produced for the 1996 crop year (Table 2). Taking into consideration the differences in seed rates, yield, and production distribution for the different types of peanuts, U.S. peanut growers would plant 1,462 thousand acres and produce about 2,388 million lbs. of quota peanuts. Of this total quota, about 195 million lbs. of peanuts (i.e., 8%) were temporary quota for seed. Reduction of quota and elimination of undermarketings due to the new program would result in about 573 million lbs. or a 19% decline in total quota in 1996 relative to 1995 total quota level. Planted acreage would drop about 77 thousand acres or by 5% between 1996 and 1995 (Table 2). Imports of foreign peanuts brought by GATT and NAFTA would increase by 16 million pounds between the two crop years.

Reductions in quota and support price levels associated with other modified and/or eliminated provisions affect market participants related to peanuts. Quota and support price reduction due to the new peanut program combined with GATT and NAFTA would result in a decline of \$277 million in farm income for quota growers, which was about 26% lower in 1996

than in 1995 (Table 2). Of the decline in farm income, about \$81 million were attributable to the support price reduction and \$198 million were due to quota reduction. Imports of foreign peanuts increased by 8% between the two years, but farm income would increase by 3% because the support price under FAIR Act was about 10% lower than that under the previous peanut program.

Farm income reduced due to the new program was the saving for the federal government and income transfer to peanut consumers. Changes in the program would eliminate the financial burden caused by excessive quota for taxpayers, which could be about \$94 million in the 1996 crop year, other things constant. Under the new program, about \$80 million of farm income would be transferred back to peanut consumers from quota peanut growers through the reduction of support price for quota peanuts.⁹

Since imported peanuts and peanut products replace domestic edible peanuts and peanut products, about 209 million lbs. of quota peanuts (farmer stock peanuts) were squeezed out of the domestic food market in 1996 (Table 2). This means that increased imports for foreign peanuts and peanut products resulted in gross farm income reduction by \$64 million. Of the income reduction due to GATT and NAFTA, about \$27 million were transferred to peanut product manufacturers and \$37 million were transferred to foreign peanut producers in 1996, *ceteris paribus*.

Long term economic impacts of the FAIR Act associated with GATT and NAFTA over the next six years were estimated and are summarized in Table 3. If there was no change in domestic demand for U.S. produced edible peanuts since 1997 (Scenario 1), American peanut producers' farm income would increase by \$2 million for the 1997-2002 period compared with the 1996 crop

because of the difference between two support prices, other things constant. If there was a 3% increase in domestic demand for American produced edible peanuts (Scenario 2), U.S. peanut growers would gain about \$141 million in farm income over its base even though imports of foreign peanuts increase. If domestic demand for American produced edible peanuts declined by 3% (Scenario 3), there would be about \$84 million of farm income reduction for American peanut producers, *ceteris paribus*.

Summary and Conclusions

While the debate and discussion on the U.S. farm program are over, the FAIR Act coupled with increasing international trade has been changing the U.S. peanut industry. This study examined historical peanut programs and analyzed how FAIR Act affected the U.S. peanut industry under GATT and NAFTA. Results show that domestic policy reform combined with increasing peanut imports would have profound economic impacts on quota peanut growers, government expenditures, and peanut consumers. Increasing imports of foreign peanuts brought by GATT and NAFTA would transfer U.S. peanut producers' program benefits to domestic peanut importers, peanut product manufacturers, and foreign peanut growers who sell peanuts to this country.

Findings suggest that the FAIR Act with free and reduced trade barrier agreements have been reshaping the U.S. peanut industry. The peanut program is moving the American peanut industry toward a new arena characterized as a more open, less policy intervention, and more competitive market environment. The peanut industry may be better off in the long run because less policy distortion combined with free trade would improve production and economic

efficiencies. Domestic policy reform, however, would create economic difficulties for the industry in the next several years. The drastic decline in farm income for peanut growers raises concerns about peanut growers' survival in those highly concentrated peanut production regions. These changes would also present challenges to those who heavily depend on peanuts such as shellers. Given an increasing import for foreign peanuts and a sluggish domestic demand for U.S. produced edible peanuts, a further decline could be expected for quota peanut production. A contraction of economic activities in rural communities and in the peanut shelling industry may be inevitable. It would be also challenging for peanut growers to adjust their production and marketing methods to meet the changing domestic program.

Endnotes

¹ U.S. peanut exports have not been expanded as expected since the initiation of NAFTA and the new GATT. Export of U.S. peanuts was, in shelled basis, about 337,000 mt. in 1989/90, 195,000 mt. in 1990/91, 335,000 mt. in 1992/93, and 170,000 mt. in 1993/94 (Man-Producten Rotterdam B.). Preliminary estimate for U.S. peanut exports was about 285,000 mt. in 1994/95. Forecasted U.S. peanut export was about 240,000 mt. in 1995/96.

² Peanuts entering the U.S. is not only determined by market forces but also by the regulations of GATT and NAFTA. This simplification enables us to treat imported peanuts as predetermined component of edible peanuts in total U.S. demand.

³ Previous work by Zhang, *et al* and Fletcher and Deodhar have shown that only a part of the transfer ultimately reaches the final consumers.

⁴ The formula used to convert shelled peanuts to farmer stock peanuts is $Q_{FST} = Q_{shelled} \times (1/R_{shelling}) \times (1/R_{culling})$, where Q_{FST} represents farmer stock peanuts (lbs.), $Q_{shelled}$ represents shelled peanuts (lbs.), $R_{shelling}$ is shelling rate (75%), and $R_{culling}$ is culling rate (88%). The formula used to convert the price of shelled peanuts to the price of farmer stock peanuts is $P_{FST} = P_{shelled} \times R_{shelling} \times R_{culling} - C_{shelling}$, where P_{FST} denotes the price of farmer stock peanuts ($\text{\$/lb.}$), $P_{shelled}$ denotes the price of shelled peanuts ($\text{\$/lb.}$), and $C_{shelling}$ denotes shelling cost (9.98 cents/lb.).

⁵ During the 1992-94 period, Runner peanut production accounted for 74.22%, Virginia 18.26%, Valencia 1.70%, and Spanish 5.82% of the total U.S. peanut production, respectively [U.S. Department of Agriculture (c)].

⁶ Per acre farmers stock peanuts seed usages vary with type of peanuts. Based on the criteria of the U.S. Department of Agriculture, Runner peanuts require 145 lbs/acre, Virginia 165 lbs/acre, Valencia 120 lbs/acre, and Spanish 120 lbs/acre, respectively [U.S. Department of Agriculture (c)].

⁷ Yield per acre varies with type of peanuts. During the 1992-94 period, yield per acre averaged about 2,404 lbs. for Runner, 2,330 lbs. for Virginia, 2,521 lbs. for Valencia, and 1,538 for Spanish peanuts, respectively [U.S. Department of Agriculture (c)].

⁸ Under GATT, minimum import access level of foreign peanuts to the U.S. domestic market was about 96,467 st. in 1995 and 104,515 st. in 1996, and would be about 112,569 st. in 1997, 120,693 st. in 1998, 128,693 st. in 1999, 136,763 st. in 2000, 136,965 st. in 2001, and 137,174 st. in 2002 in farmer stock peanuts (Fletcher *et al*).

⁹ See endnote 3.

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Table 1. Estimated Domestic Demand for Edible Peanuts (1965-94)

Indep. Variable	Estimated Coef.	t-ratio	Elasticity at Means
Intercept	1,081,800.00	3.722*	0.515
Edible peanut price (P)	-5,170.20	-7.158*	-0.144
Income (I)	0.47	4.202*	0.541
Almond price (S)	963.70	2.932*	0.061
$R^2 = 0.95$			

* Indicates significance at $P \leq 0.01$.

Table 2. Economic Implications of the FAIR Act under GATT and NAFTA

Item	Unit	1995	1996 Crop	Difference (1996-95)	
		Crop	Projection	Quantity	%
Quota ^a	thou. lbs	2,691,621	2,193,173	-498,448	-18.52
Effective Quota ^b	thou. lbs	2,961,621			
Additional	thou. lbs		994,165		
Planted Acreage	thou. acre	1,539	1,376	-163	-10.60
Temporary Quota for Seed	thou. lbs		195,136		
Planted Acreage for Seed Quota	thou. acre		86		
Total Quota	thou. lbs	2,961,621	2,388,309	-573,312	-19.36
Total Planted Acreage	thou. acre	1,539	1,462	-77	-5.00
Imports due to GATT & NAFTA ^c	thou. lbs	192,934	209,030	16,096	8.34
Gross Income ^d	thou. dol	1,069,394	792,188	-277,206	-25.92
(1) Due to Price Reduction ^e	thou. dol			-81,202	
(2) Due to Quota Reduction ^f	thou. dol			-197,654	
(3) Due to increasing imports ^g	thou. dol	65,405	63,754	1,650	
Government Expenditures ^h	thou. dol			-94,080	
Income Transfer to Consumers ⁱ	thou. dol			79,770	
Benefit Transfer due to Peanut Imports:					
(1) To Importers and Manu. ^j	thou. dol	31,660	27,195		
(2) To Foreign Peanut Producers ^k	thou. dol	33,744	36,559		

Referring to Figure 1, ^a basic quota in 1996 = basic quota in 1995 \times quota reduction rate under the new program (i.e., 18.52%). ^b Effective quota = basic quota + undermarketings. ^c Minimum import access level set by GATT and NAFTA for 1995 ($Q_0 - Q_1$) and 1996 ($Q_2 - Q_3$), respectively, where Q_0 = quantity of demand for all peanuts in 1995, Q_1 = total quota peanuts in 1995, Q_2 = quantity of demand for all peanuts in 1996, and Q_3 = total quota peanuts in 1996. ^d $P_{so}AG P_{s1} + JBQ_1Q_2 + (GEQ_2Q_3 - BLQ_0Q_1)$. ^e $P_{so}AG P_{s1} = (P_{so} - P_{s1}) \times Q_3$, where $P_{so} = \$678/\text{ton}$ and $P_{s1} = \$610/\text{ton}$. ^f $JBQ_1Q_2 = P_{so} \times (Q_1 - Q_2)$. ^g Minimum import access level \times support price of quota peanuts for 1995 (P_{so}) and 1996 (P_{s1}), respectively. ^h $JBCK = (P_{so} - P_a) \times (Q_1 - Q_2)$, where P_a = weighted average price of additional peanuts for 1992-94 (\$349.8/ton). ⁱ $P_{so}HG P_{s1} = (P_{so} - P_{s1}) \times Q_4 + \frac{1}{2}(Q_3 - Q_4) \times (P_{so} - P_{s1})$, where Q_4 = quantity of the derived demand for quota peanuts under the previous support price based on estimated demand function. ^j Minimum import access level $\times (P_{s1} - P_a)$ for 1995 and 1996, respectively. ^k Minimum import access level $\times P_a$ for 1995 and 1996, respectively.