U.S. Peanut Markets Adjust to Policy Reform

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Workshop on Agricultural Policy Reform and Adjustment
Imperial College, Wye
October 23-25, 2003

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Key Words: peanuts, policy, adjustment, marketing quotas

Summary:

With the recent (2002) elimination of the longstanding "marketing quota" system that supported domestic peanut prices at well above world levels, the U.S. peanut sector is in the initial stages of adjusting to a more uncertain, market-oriented environment. At the aggregate level, some early indications are that the adjustment process for U.S. peanut farmers has been difficult, resulting in deep losses of revenue and a rapid exit from peanut production by some producers. In 2003, the value of U.S. peanut production was down 30 percent and prices fell by nearly 25 percent compared with 2001. U.S. peanut planted acreage is at its lowest since 1915, and planted acreage has declined sharply in several important peanut producing States—55 percent in Virginia and nearly 40 percent in Texas since 2001. Peanut production is concentrated geographically, with a relatively small subset of counties in just 7 States accounting for the bulk of output. As a result, changes to the peanut program have potentially important economic implications not just for the individual farm households that produce peanuts, but perhaps for some rural communities as well.

At the same time, it appears that adjustment difficulties for many current (and historical) producers may be mitigated by a number of factors, including:

- an already diversified farm enterprise structure, with peanut (harvested) acreage accounting for an average of only 20 percent of peanut farmers' overall cropland, and a substantial share—72 percent—of total household income already coming from off farm sources;
- lower production costs for some producers stemming from policy-induced reductions in factor or input costs (e.g. land rental rates, seed prices); and
- government revenue support and asset-loss compensation for current and historical peanut producers.

It appears that one of the main difficulties faced by U.S. peanut producers following the elimination of the marketing quota system has been the loss of price stability, and a lack of price transparency and price discovery mechanisms under the new peanut program. Sources of price information and risk management tools—such as futures markets—are not available to peanut producers. Marketing alternatives may also be limited by a concentrated market structure at the buyer/processor level.

Beyond detailing the more aggregate-level indicators of market adjustment, examining the adjustment experience and strategies of peanut producers at the household/farm enterprise level represents an opportunity to identify policy and market factors that facilitated or hindered adjustment, and to inform producers and policy-makers contemplating reform in other commodity programs. In particular, other U.S. commodities that are geographically concentrated or have a similar program history of production/import controls (tobacco, sugar, dairy) could draw lessons from the experience of peanut producers. Variations by region, demographic and household financial characteristics, and other factors such as institutional setting—market structure, trading/price discovery institutions, macroeconomic

context or market orientation of the economy—are relevant to the analysis of policy reform both in the United States and other countries.

1 Overview of Policy Change

In May 2002, the passage of the Farm Security and Rural Investment Act (2002 Act) substantially overhauled the U.S. peanut program, replacing a marketing quota system with a set of supports similar to those available to producers of other crops such as grains and cotton. These changes reduced revenue support and price stability for most peanut farmers and made production and marketing decisions more market oriented.

For more than half a century, the price of U.S. peanuts destined for domestic edible consumption (quota peanuts) have been supported by marketing quotas that restricted the domestic supply, and required all non-quota ("additional") peanuts to be exported or sold into the lower value crush (oil and meal) market. Under the 1996 Farm Act, the annually established marketing quota (set at 1.18 million short tons for the 2001/02 crop year) was designed to support quota peanut prices at a level equal to a government established quota loan rate of $610 per ton during the 1996-2002 crop years—significantly above estimated world prices ranging from $321-$462 per ton during 1996-2000. Domestic prices were further protected by import restrictions, with tariff rate quotas of approximately 57 thousand metric tons that filled each year, but prevented further imports with over-quota tariffs exceeding 100 percent. Marketings of nonquota (additional) peanut production were eligible only for a lower loan rate of $132 per ton in 2001-02. Although there have been a number of gradual changes to the program over the years, the central component of the program—production limitations—was established in the 1930s. Since 1996, the program was intended to operate at "no-net cost" to the government, with higher domestic prices acting as a transfer from peanut consumers, rather than all taxpayers, to producers.

Under the 2002 Farm Act, all producers—whether former quota holder or not—are now allowed to market their peanuts for domestic edible consumption and are eligible for marketing assistance loans (a per-unit revenue floor) at a rate of $355 per ton. Producers with a history of peanut production (quota or non-quota) are also eligible for direct payments of $36 per ton and counter-cyclical payments when prices are below a $495 per ton (less direct payments) target price. Producers eligible for direct and counter-cyclical payments do not have to produce peanuts to receive these benefits and are required only to keep their land in approved agricultural uses (e.g. crop production, fallow, conservation programs). In addition, quota holders were eligible for a peanut quota buyout amounting to $1,100 per short ton.

----------BOX: Minor Modifications made to Peanut Program in 1996 Farm Act----------

The 1996 Farm Act did not fundamentally alter the U.S. peanut program, but several modifications effectively lowered income potential from peanut production. Among the more significant were those affecting the quota support price and the quota itself – the amount producers could market for domestic food use.

The quota support price was lowered from $678 per short ton during 1995 to a fixed $610 per ton during the 1996-2002 crop years. The quota poundage was set annually at the projected level of U.S. food and related use demand, and there was no longer a required minimum quota (as in previous legislation).

For the 1991-95 crops, USDA was required to set the quota amount at a minimum of 1.35 million short tons, regardless of anticipated domestic food demand. The quota for the 1998 through 2002 crop years has been set at 1.18 million short tons (not including a separate quota for seed peanuts). In addition to lowering the support price, the 1996 Farm Act eliminated an automatic escalator, which allowed the support price to increase annually by up to 5 percent, based on the previous year's production costs.

These changes were intended to ensure that the peanut program operated at no net cost to the government. If the quota amount and support price had been left unchanged at the higher levels, it is possible that demand by peanut producers and shellers would not have been sufficient to clear the market.

----------END BOX----------

1.1 Expected Impact of Policy Change on Production Incentives

The expected impact on aggregate peanut production is not entirely clear, and it's possible that the longer term adjustment could involve relatively small overall changes in production, but eventually lead to significant shifts in production away from traditional growing areas. The quota system restricted not only the supply of quota peanuts, but limited the movement (transfer) of quota production to different—potentially lower-cost—areas in the same or other States. It's therefore essential to distinguish between adjustment at the aggregate level (e.g. national or state-level production) and at the level of the household and rural community. At the micro (farm household) level, the impact may vary by demographic characteristics (age of operator, level of education) and financial indicators (leverage, farm size, farm organization, owner/renter, farm enterprise diversification, and off-farm income). In general, producers whose variable costs of peanut production exceed market prices plus any marketing loan benefits would be expected to exit peanut production rapidly, and those with total costs exceeding revenues to exit more gradually.

In addition, changes in production incentives created by the new program would be expected to vary among different types of producers – quota holders, producers of "additionals," and potential new entrants.

Broadly speaking, those producers who previously produced quota peanuts have faced lower market prices and/or combined market price and marketing loan program earnings, reducing production incentives. Planting decisions are now guided by the higher of market prices or the new $355 per ton loan rate, rather than by the old $610 per ton quota loan rate. Other sources of revenue, though not tied to current production mix, include the direct, counter-cyclical, and quota buyout payments.

A second group of producers are those who previously grew "additional" (non-quota) peanuts. These producers were producing mostly for export and were likely receiving prices well above the additional loan rate of $132 per ton, but less than the quota loan rate of $610 per ton. The world (export) price—ranging between $321 and $462 per ton during 1996-2000—needed to exceed the average variable costs of producers growing exclusively additional peanuts to induce production. The extent to which domestic market prices or the new peanut loan rate varies from prices received under the previous system, will determine the change in production incentives faced by these producers. Revenues for these producers would also be augmented by direct and potential (depending on market prices) counter-cyclical payments.

A third group would be new producers with no history of peanut production. For these farmers, the new legislation may result in new production incentives if they perceive market prices or marketing assistance loan benefits as superior to other crops, or superior to the additionals loan rate under previous legislation.

1.2 Trade Agreements and Peanut Processors Important Sources of Policy Change

The most evident source of pressure underlying the transformation of the peanut program are the commitments made by the U.S. to gradually liberalize peanut imports under the Uruguay Round Agreement on Agriculture (URAA) and North American Free Trade Agreement (NAFTA) in the mid-1990s.

Prior to the 1994 URAA and the NAFTA—which became effective the same year—U.S. peanut imports were limited to a specific and very low absolute level under Section 22 of the Agricultural Adjustment Act of 1933. The permitted import level represented barely one-tenth of 1 percent of domestic food consumption in 1993. This limit was designed to prevent lower priced peanut imports from undermining the U.S. domestic support price program.

Without limitations on imports, the price support program for edible peanuts would not have been sustainable at the quota loan rate and world prices prevailing prior to the passage of the 2002 Farm Act. Peanut processors and shellers would have sought to avoid paying high prices (at or above the $610 per ton quota loan rate) by increasing imports of lower priced peanuts from abroad. If unrestricted imports had been allowed, a large portion of domestic quota peanuts would have gone unsold and forfeited to the Commodity Credit Corporation. This would have required either a substantial cut in the domestic production quota level or a lowering of the quota support price closer to world prices in ensuing years.

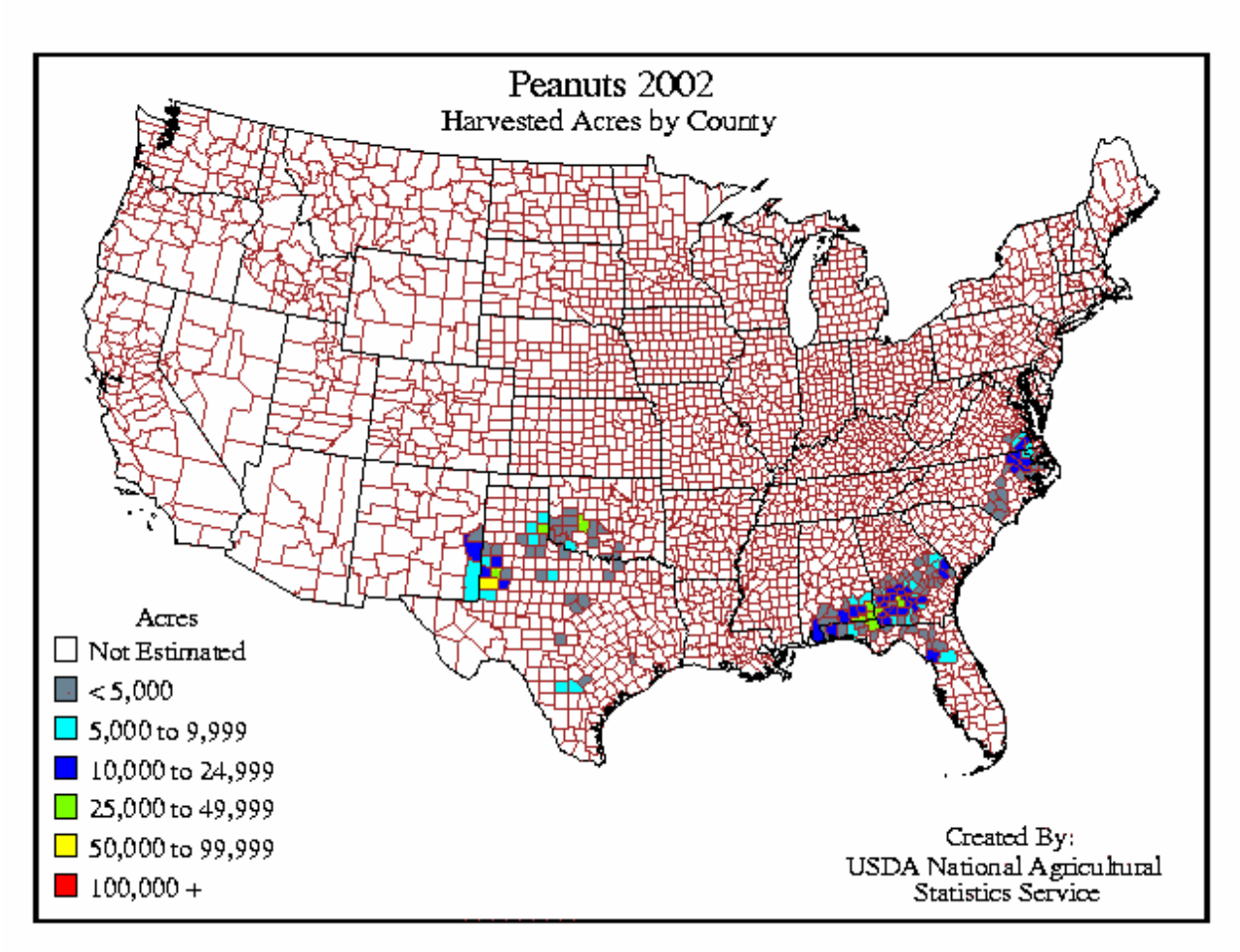
However, under the URAA and NAFTA, the U.S. opened its market to limited, but gradually increasing, quantities of peanut imports through a tariff-rate quota (TRQ) system. Under the URAA, the U.S. replaced the import quota with a TRQ, permitting almost 53 thousand metric tons of peanut imports (about 7 percent of domestic food use) per year at a lower within-quota tariff rate. Prior the 2002 Farm Act, the TRQ filled quickly each year, but a much higher over-quota tariff rate prevented significant imports beyond the quota level. Under current WTO commitments, the TRQ level for all peanut imports except those coming from Mexico is scheduled to remain fixed. Under the NAFTA agreement, though, Mexico's quota is scheduled to increase yearly to a (still very low) level of 4,815 metric tons in 2007, but then become completely unrestricted and tariff free beginning in 2008. Although Mexico is small producer, averaging 130,000 – 160,000 metric tons of production, it is likely that incentives to produce and export peanuts to the United States as the TRQ expires would have placed growing pressure on the U.S. peanut program as it existed prior to the changes enacted in 2002.

According to Jurenas (2002), the new program reflects an approach proposed by many peanut farmers in the Southeast (the largest peanut producing region) and some in the Southwest who were concerned that the quota system could not be defended much longer against opponents (food manufacturers and those ideologically opposed to government management of a food commodity) seeking to reform the program. These producers also recognized that changes were needed to address competitive pressures from trade agreements, particularly NAFTA, and that additional budget (government) resources made available to peanut producers could facilitate a policy change.

2 Overview of U.S. Peanut Sector

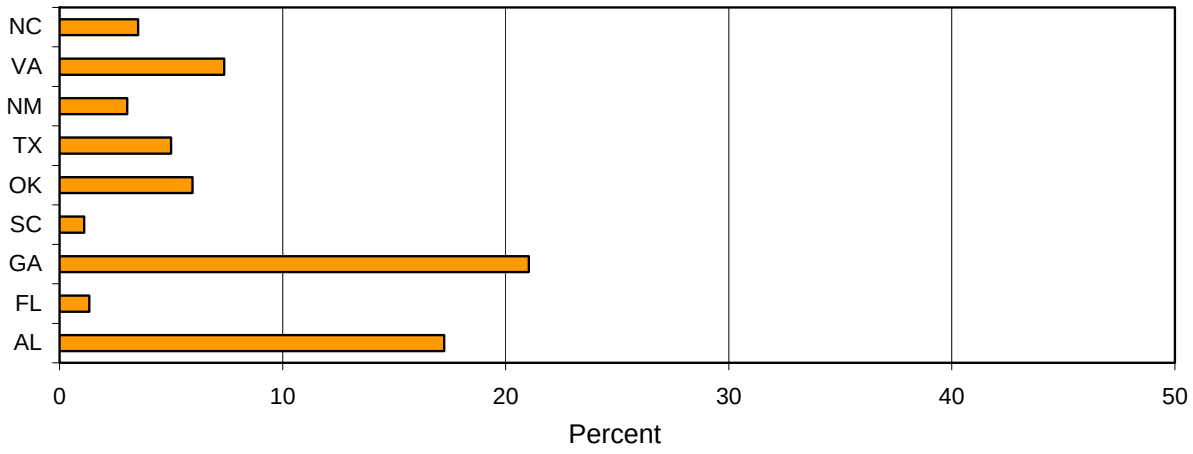
At the national level, peanuts are a relatively minor crop, with a farm-level value of production averaging $950 million during 1999-2001—about 1 percent of the value of total "principle crop" production in the United States, and about 5 percent the value of corn production – the leading U.S. crop by value of production.

At the same time, peanut production is concentrated in a small number of states and is a key contributor to the value of farm production in some local economies. Virtually all peanut production takes place in just 9 States in 3 regions: the Southeast (Georgia, Alabama, Florida, and South Carolina), with 60 percent of national production during 1999-2001; the Southwest (Texas, Oklahoma, and New Mexico), with 28 percent; and the Virginia-North Carolina region, with 12 percent. Georgia and Texas are the two leading producers, with over 60 percent of total production. The most recent Census of Agriculture data available indicates that there were 12,221 farms producing peanuts nationally, down from 16,194 in 1992.



As an indicator of local/regional economic importance, peanut production accounted for as much as 21 percent of the value of all crop production in Georgia, and over 17 percent in Alabama (1997 Census, figure 1). In about one-quarter of peanut producing counties, income from peanut production accounts for more than one-half of overall farm receipts (Census of Agriculture). Although peanut farms tend to have a fairly diversified enterprise structure, with peanut harvested acres accounting for only 20 percent of the average farm's cropland acres (15 percent of operated acres) in 2002, peanuts were a relatively high value crop, accounting for about 27 percent of the farms' value of production. For most peanut producing States, though, peanuts accounted for less than 8 percent of the States' overall value of crop production (1997 Census).

Figure 1: Peanut share of State crop production value



3 Initial Response is Lower Prices, Revenues, and Plantings but Farm Characteristics and other Program Benefits May Ease Adjustment

The recent passage of the 2002 Farm Act and limited recent data on farm household financial performance make it difficult to characterized the response of peanut producers to policy change in anything but the broadest terms, but price and revenue data clearly indicate that prices and revenues dropped substantially from the levels prevailing before 2002. Reflecting the increased competition in the domestic market, prices fell from a range of about 23-28 cents per pound during 1996-2001 to 17-18 cents per pound during 2002-2003 (figure 2). Similarly, revenues from peanut production fell from an average of over $1 billion during 1996-2001 to about $650 million in 2002-2003, a 35 percent decline. Although planted acreage remained stable or even increased in the major peanut producing States of the Southeast, overall plantings in the U.S. during 2003 were the lowest since 1915, and there were steep declines in Virginia and Texas, where plantings fell 55 percent and nearly 40 percent, respectively, since 2001 (figure 3). Much of the decline in Texas, however, appears to be tied to reduced coverage from federally subsidized crop insurance. With high abandonment (acres planted but not harvested) rates in 2000 and 2001—averaging over 30 percent in Texas—the 10-year average yields (per planted acre) used to determine coverage levels have declined, making it more risky to plant peanuts in subsequent years. Abandonment in Texas declined to 14 percent in 2002 and is projected at less than 8 percent in 2003, probably reflecting fewer plantings in riskier dry land (un-irrigated) areas. In Virginia, the decline in planted acres appears to be related to high cost of producing peanuts in that State, reflecting uncompetitive production.

Figure 2: Average Price and Value of Production

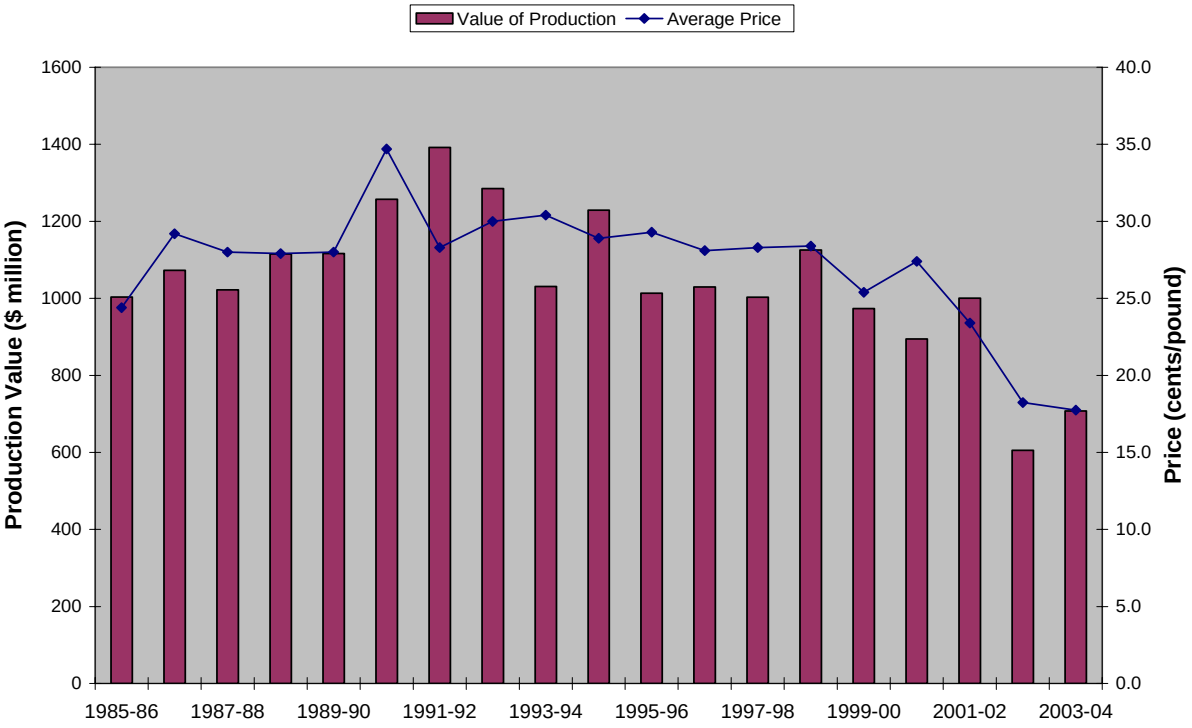
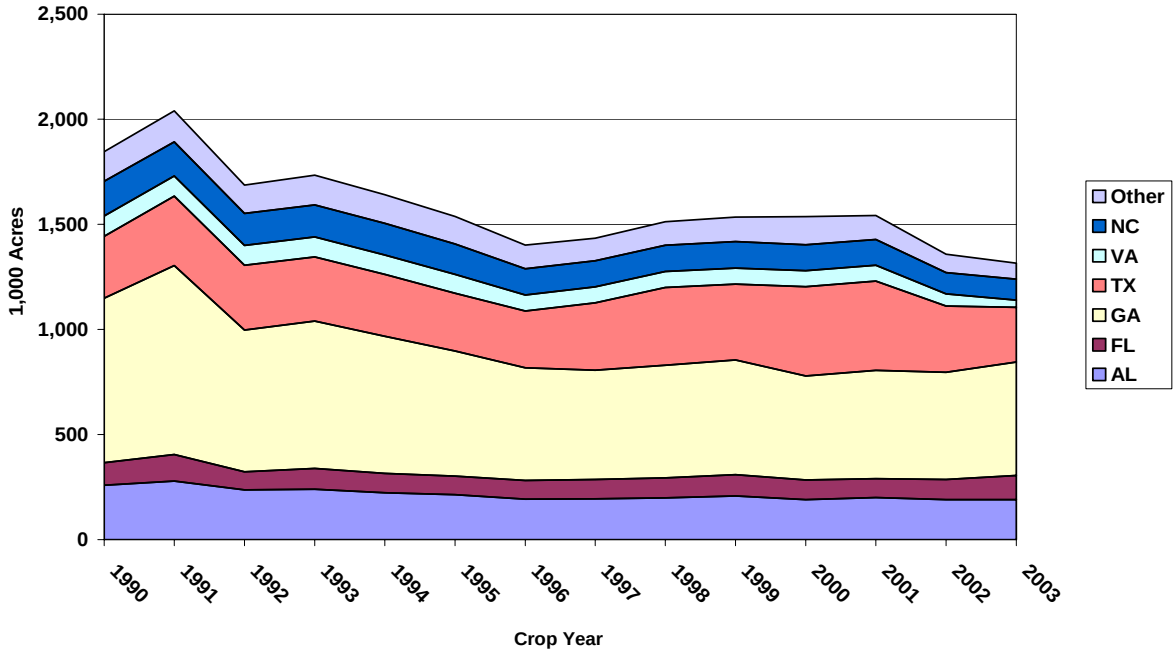


Figure 3: Peanut Planted Acres in the U.S. (1980-2003)



Although the large declines in prices and revenues—and the relatively dramatic reduction of planting in certain States—point to a difficult adjustment, a number of broad indicators of farm structure and financial statements indicate that the impacts on household income (and rural communities) may not be as severe as on the surface, underscoring the importance of including whole-farm and off-farm income in any assessment of program change impacts. A diversified farm enterprise, a significant share of household income from off farm sources, potentially lower production costs, and new sources of government payments all have the potential to facilitate adjustment to the elimination of the peanut quota system.

- Enterprise diversification and off-farm income

Peanuts are grown in only a few States and peanut production is concentrated in a relatively small group of counties in each State, but as noted previously, peanuts account for a small share of most peanut producing States' overall crop revenue, so the potential loss of income from reduced peanut production would have a fairly diffuse impact at the State level. In addition, even in areas where peanut production contributed a substantial share of on-farm revenues, the average peanut grower planted only about 20 percent of cropland acres (15 percent of operated acres) to peanuts, indicating a diversified crop mix. Peanuts are typically grown in a 3-4 year rotation on farms also growing cotton, soybeans, corn, wheat, hay, tobacco, and other crops. In fact, the majority of peanut farmers identified crops other than peanuts as the principal crop for their farm, most often citing cotton or tobacco. Thus, for many producers, a transition away from peanut production would likely entail increased emphasis on crops already grown on the farm, reducing potential capital expenditures and investment in managerial "know-how" that would be required in a switch to producing crops not traditionally raised by that farmer.

Furthermore, as with many other farm households, off farm income of peanut growers accounted for the majority of total household income. In 2002, off farm income represented 72 percent of total household income, a number that is fairly typical of many farms throughout the United States. Combined with a fairly diversified farm enterprise structure, this could temper the income effects of policy change on peanut farmers and peanut growing communities.

- lower production costs from lower factor/input costs

Under the peanut quota system, quota rights were inherited and could not be sold, but could be leased or rented. Originally, the quota peanuts had to be grown on the land of the quota holder, but gradually farmers were permitted to rent quota to produce peanuts within the same county and, with some restrictions, elsewhere in the State. According to detailed surveys of peanut producers—last conducted by USDA in 1995—60 percent of quota rights were cash or share-rented, with the remainder operated by the quota holder. This varied by region, with 77 percent of quota rights rented in the Virginia-North Carolina region, but only 39 percent rented in the Southern Plains (Southwest). Thus, for those renting quota rights, the elimination of the quota system represents a reduction in production costs partly offsetting lower income from the loss of sales at the quota support price.

Production cost data from 2001 indicate that the average quota rent paid in the U.S. was $83.47 per acre, more than 25 percent of the average operating (variable) cost of production for that year ($319.67). Under the new farm program, these costs no longer apply, effectively lowering production costs for the majority of peanut producers who were renting quota rights.[1] In addition, another

[1] Quota rents are categorized by USDA as "allocated overhead" rather than an operating cost, but the elimination of the quota rent will nevertheless result in reduced expenditures for those previously renting quota.

indicator of reduced costs resulting from the program change is the cost of peanut seeds for planting. In 2001, the cost of seed amounted to over $73 per acre. But reflecting the fact that farmers no longer had to pay prices tied to separate quota on seed peanuts, prices had dropped by one-third by 2003, representing another $24 per acre reduction in operating expenses (7.5 percent of total operating costs in 2001).

According to Agricultural Resource Management Survey (ARMS) data, the average 2001 total cost of peanut production in the U.S. was $740/acre ($320 operating cost/acre). Based on average yields that year, this amounts to $240/ton in operating costs and $554/ton in total costs. Per-unit operating costs were $299/ton in the Prairie Gateway, $232/ton in Alabama-Georgia, and $233/ton in Virginia-North Carolina, compared to the loan rate of $355/ton. By itself, then, the new $355 per ton marketing loan rate for peanuts provides a net return above operating expenses for most producers.[2] For the U.S., though, per acre returns above total costs were negative in both 2000 and 2001. Assuming this pattern holds true in the future, even with the potentially lower costs noted above, there may be a gradual reduction in the number of farms growing peanuts. Consequently, producers with operating costs exceeding expected revenue are likely to rapidly exit peanut production, but others may exit more gradually as fixed costs—particularly those tied uniquely to peanut production (such as specialized harvesting equipment)—fully depreciate.

- Other program benefits

For quota holders, peanut prices were fixed at a high level, with stable expectations and little risk except yield risk. Under the new legislation, the price (per unit revenue) floor was reduced from $610 per ton to $355 per ton, but the 2002 Farm Act also compensated historical peanut producers with additional revenues in the form of fixed direct payments, potential (depending on prices) counter-cyclical payments (CCPs), and compensation to quota holders for the loss of asset value. USDA program benefits to current and historical peanut producers—principally CCPs, direct payments, and marketing assistance loans—are expected to amount to $1.57 billion over 6 years ($260 million per year), in addition to the quota buyout compensation of $1.3 billion (CBO, May 2002, as cited in Jurenas, 2002).

4 Price Discovery and Market Structure Complicate Adjustment

In addition to reduced prices and lower revenues for many peanut producers, particularly former quota owners, one of the principal difficulties faced by producers adjusting to the new policy regime has been a lack of price transparency and price discovery mechanisms—a problem related to the lack of cash markets and marketing alternatives commonly available to producers of bulk commodities such as corn, soybeans, and wheat. The problem is compounded by an apparently concentrated (oligopsonistic) market structure in the peanut shelling industry—typically the first buyers of peanuts.

Currently, there are only 10 active shelling companies, down from 45 in the early 1980s and 92 in 1970. Two companies, Golden Peanut Company and Birdsong Peanuts now control about 73 percent of purchases and two-thirds of peanut buying points. It is also reasonable to assume that information asymmetries exist, with shellers having better market information and greater resources than peanut producers. In contrast, peanut producers are more dispersed and have limited marketing alternatives, a problem exacerbated by lack of appropriate on-farm storage facilities and the perishability of the crop. Previously, 3 regional cooperatives under the quota system administered the program and acted as countervailing power to purchasers/first buyers, but the current role of these cooperatives is unclear.

[2] This data is based on detailed surveys of peanut producers made in 1995, and updated to reflect changes in various price indices. A new ARMS of peanut producers is being prepared for 2004.

As far back as the early 1980s Miller (1981) noted that it was reasonable to assume some degree of market power favoring peanut processors and millers over farmers, and that

> "this possibility points to important policy considerations concerning the role of market organization and price discovery mechanisms. In the event of a free market for peanuts, important policy decisions should include:
>
> 1. Clarification of the price discovery role of government sponsored producer associations as marketing cooperatives for commercial farmers' stock peanuts.
> 2. Establishment of price reporting for spot market peanut transactions.
> 3. Exploration of price discovery by electronic markets and futures contracts.
> 4. Establishment of farm storage, loan and education programs.
> 5. Study feasibility and funding sources for farmer marketing cooperatives for selling peanuts."

An earlier study by Vell et al. (1978) also pointed out that, with domestic prices having been determined by the government—rather than a free market process—since the government peanut program began, little is known about how price determination will take place in a more market oriented system. In addition, with peanut production considered relatively cost intensive and technology specific compared to many other crops, it's especially important for producers to have marketing alternatives and/or price stability to manage risk.

It appears that the predominant price-risk management strategy adopted by peanut farmers since 2002 is contract production. Although contract production is common among many other agricultural commodities (tobacco, poultry, fruits and vegetables)—and was typical for farmers producing "additional" peanuts for exports—the lack of other marketing options, and perhaps a perceived lack of bargaining power, could be a source of frustration to peanut farmers.

Some observers believe that the success of the new marketing loan program for peanuts will depend on government or private efforts to develop and provide accurate and timely price information to improve price discovery and increase market transparency. For major crops, commodity markets/exchanges typically provide this price information, but it appears that a lack of potential trade volume in the peanut market may be a disincentive to establishing a commodity market for peanuts. The USDA and various news and commodity services do report U.S. and international prices, but this information is often felt to be untimely, not directly reflective of farm-level prices, or is based on incomplete information. Developing new marketing options and providing timely and accurate price information is clearly an important consideration for any policy reform involving a transition from government administered to market oriented price determination.

In addition to further examining potential methods of improving the price discovery process and risk management options for peanut producers, continuing research on the impacts of changes in the peanut program will focus on a more detailed investigation of how the farm household/enterprise adjustment experience varied by region, farm structure, and demographic and financial characteristics. In 2004, the Agricultural Resource Management Survey, conducted by USDA, will include a detailed survey of peanut producers, offering the opportunity to measure the financial performance and well-being of these producers, and explore the consequences of the program changes on current and future decisions. Other key issues worthy of investigation include: What steps have producers taken to improve marketing power, such as through the development of voluntary marketing cooperatives or vertically integrating into downstream processes such as shelling and manufacturing?; what is the role of market structure in the distribution of surplus captured and to what extent does buyer concentration hinder price transmission

from the retail to farmer level? What are the options and implications of greater government involvement in the price determination process, such as through the establishment of marketing orders or marketing boards?

5 References

Agricultural Resource Management Survey (ARMS), 2002 Preliminary Analysis of data.

Bell, James, J. Nichols, R. Glover, G. Mathia, and D. Hacklander. "Who Will Market Your Peanuts: Producer Alternatives." The Texas Agricultural Extension Service, Texas A&M University, D-1055, March 1978.

Dohlman, Erik. "Peanut Consumption Rebounding Amidst Market Uncertainties." *Agricultural Outlook,* Economic Research Service, USDA, March 2002.

Economic Research Service, USDA. "The 2002 Farm Bill: Provisions and Economic Implications." http://www.ers.usda.gov/Features/FarmBill/, accessed September, 2003.

Economic Research Service, USDA. "FBEI Updates: Costs and Returns: Updates on Farm Business Economic Indicators, Peanut Farm Characteristics, Income, and Production Costs." FBEI 97-3, August 1997.

Economic Research Service, USDA. "Peanuts: Background for 1995 Farm Legislation." Agricultural Economic Report Number 710, April 1995.

General Accounting Office. "Potential Effects of Proposed Peanut Provisions." GAO-01-1135R, September 2001.

Jurenas, Remy. "Peanut Program Policy Issues." Congressional Research Service, The Library of Congress. Order Code RL3092. Updated August 8, 2002.

Miller, Bill R. *Peanut Policy Issues for the 1981 Farm Bill: Market Power and Price Discovery*. Special Publication No. 15, University of Georgia College of Agriculture Experimental Station, July 1981.

National Agricultural Statistics Service, USDA. *1997 Census of Agriculture – United States Data.*