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The Post-Buyout Experience

Peanut and Tobacco Sectors Adapt to Policy Reform

Erik Dohlman, Linda Foreman, and Michelle Da Pra



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National Agricultural Library Cataloging Record:

Dohlman, Erik N.

The post-buyout experience : peanut and tobacco sectors adapt to policy reform.

(Economic information bulletin ; no. 60)

1. Peanut industry--United States.

2. Tobacco industry--United States.

3. Agriculture and state--United States.

I. Foreman, Linda.

II. Da Pra, Michelle.

III. United States. Dept. of Agriculture. Economic Research Service.

IV. Title.

HD9235.P32

Photo credits: Shutterstock.

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United States
Department
of Agriculture

Economic
Information
Bulletin
Number 60

November 2009



A Report from the Economic Research Service

www.ers.usda.gov

The Post-Buyout Experience: Peanut and Tobacco Sectors Adapt to Policy Reform

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Michelle Da Pra

Abstract

Marketing quota and price support programs for peanuts and tobacco were a long-standing feature of U.S. farm policy, from the 1930s until the Government enacted quota buyouts, in 2002 for peanuts and 2004 for tobacco. Quota owners were compensated with temporary payments, but elimination of the quota programs exposed producers more to market risks and brought about structural changes at farm, regional, and marketwide levels. Since the buyouts, many peanut and tobacco farms have exited production. The farms that remain are mostly larger and have adopted new risk management strategies, such as contracting. Freed of the planting restrictions in the quota programs, production of peanuts, and to a lesser extent of tobacco, has been relocated to regions better suited to their growth. While total acreage and prices for peanuts and tobacco have remained below pre-buyout levels, the lower prices—along with increased production efficiency—have supported renewed growth in demand, particularly in export markets.

Keywords: policy reform, farm policy, buyouts, marketing quotas, peanuts, tobacco, adjustment, structural change

Acknowledgments

The authors thank the following individuals for their valuable insights and recommendations: Daniel Pick, Greg Pompelli, Carolyn Dimitri, Kelsey Wittenberger, Andrea Woolverton, and Edwin Young of USDA's Economic Research Service; Scott Sanford of USDA's Farm Service Agency; and Walter Thurman of North Carolina State University. The authors also thank Courtney Knauth and Linda Hatcher for editing the manuscript, and Susan DeGeorge, Chris Dicken, and Wilma Davis for design assistance.

Contents

Summary4

Introduction6

Objectives of Marketing Quotas8

Market Pressures That Led to the Quota Buyouts10

Provisions of the Quota Buyouts16

Structural Adjustments to the Buyouts21

 Market-Level Changes22

 Farm-Level Changes28

 Regional Shifts in Production38

Other Tobacco Buyout Experiences42

Conclusions44

Appendix Tables46

References50

Data Resources53

Recommended citation format for this publication:

Dohlman, Erik, Linda Foreman, and Michelle Da Pra. *The Post-Buyout Experience: Peanut and Tobacco Sectors Adapt to Policy Reform*. EIB-60. U.S. Dept. of Agriculture, Econ. Res. Serv. November 2009.

Summary

When longstanding marketing quota systems were eliminated (“bought out”) in 2002 for peanuts and 2004 for tobacco, producers lost quota-related price supports and other quota system protections and were exposed more directly to a market-oriented system. Their response to new economic challenges has markedly altered industry characteristics, including farm size, crop regions, and use of risk-management tools. The study identifies the market forces that have affected the post-buyout peanut and tobacco industries and adjustments that have ensued at the farm, regional, and domestic and foreign market levels.

What Is the Issue?

Until the buyouts, peanuts and tobacco had been among a small group of U.S. commodities regulated through quotas that limited supply and provided price supports. These programs fostered price stability, but caused market inflexibilities that undermined the long-term viability of the quota system. The peanut and tobacco quota programs also stood in contrast to evolving U.S. farm policy, which had moved toward planting flexibility and reduced most Government support tied to production of individual commodities. A central issue was how peanut and tobacco producers would adapt following the elimination of the quotas. In particular, how would the number of farms and farm scale, location, and risk-management strategies be affected by lower prices and greater exposure to market risk?

What Did the Study Find?

After the buyouts, tobacco producers no longer received financial support from Federal programs. Peanut producers became eligible for other federally funded commodity programs, but these programs provided a lower price guarantee than the quota system. Although not all ensuing changes to the peanut and tobacco sectors can be attributed to the buyouts, the quota terminations were clearly landmark events that shaped many of the structural changes that followed. Key findings of the study were:

- **Market forces guided structural changes.** Adjustments to the buyouts—largely in response to market forces—occurred rapidly, including changes in domestic and foreign demand, a movement toward larger operations in regions best adapted to production, and greater use of marketing contracts as a hedge against financial risk.
- **Farms became fewer, but larger.** The buyouts initiated a contraction in the number of peanut and tobacco farms, with smaller operators most likely to exit. The decline in farm numbers was especially large and swift for tobacco farmers, falling by more than half in the year after the buyout, while the number of peanut farms declined by a third after several years. The remaining producers farmed more peanut and tobacco acres, operated larger farms, and are generally in as good financial condition today as the average farmer preceding the buyout. By 2007, the average peanut farm planted two-thirds more peanuts (90 additional acres) than before the 2002 buyout. The average burley tobacco farm had twice the burley acreage in 2007 that it had at the 2004 tobacco buyout (10.5 versus 5 acres), and average flue-cured tobacco acreage increased by more than 150 percent over the same period (from 32 to 84 acres).

- **Lower prices revived demand, particularly in export markets.** Peanut prices fell by about 30 percent and tobacco prices by 20 percent shortly after the buyouts. Although peanut acreage and production initially declined in response, reduced prices stimulated domestic demand and contributed, along with a weaker dollar, to a rebound in U.S. exports and production and a sharp drop in imports. Tobacco production also fell substantially immediately after the buyout, and domestic use of U.S. tobacco leaf has remained weak. As with peanuts, however, lower prices and improved net exports have supported overall demand for U.S. tobacco leaf, particularly flue-cured tobacco.
- **Planting flexibility spurred regional shifts in production areas.** Without the geographic restrictions that the quotas placed on production, growers could farm in areas best suited to their crops, and the buyouts were followed by interstate and intrastate shifts in production regions. Peanut acreage became more concentrated in the Southeast, and every State experienced notable changes in peanut-farming areas. Flue-cured and burley tobacco became more concentrated in the two major tobacco-producing States, flue-cured in North Carolina and burley in Kentucky. For peanuts, the shifts in area have been accompanied by steady growth in national average yields, whereas tobacco yields have remained steady.
- **Effects of buyouts on quota owners' and producers' decisions were mixed.** The termination of the quota programs and the associated Government support prices affected active producers differently, depending on the extent to which they owned or leased quota rights. Producers of peanuts and tobacco who owned most of their quota faced reduced cash revenues due to lower prices, and a number of them may have ceased farming those crops. Although producers who primarily leased quota rights from others also faced lower prices, their net returns—and production incentives—may have increased because they were free of the expense of renting quota. For the many quota owners who were not actively producing peanuts or tobacco, the primary impact was seeing their quota rental income replaced by a one-time cash infusion from the buyout.
- **Farmers increased their use of marketing contracts.** After the buyouts, peanut and tobacco growers faced price risks from which they had been protected by price supports and other provisions of the quota programs. As a hedge against market uncertainties, more farmers turned to marketing contracts. In 2004, 2 years after the peanut quota buyout, 79 percent of peanut farmers had entered into contracts compared with 40 percent in 2002. Similarly, in 2006, 2 years after the tobacco buyout, 71 percent of burley producers and 76 percent of flue-cured producers marketed their tobacco under contract, compared with 31 and 47 percent in 2004.

How Was the Study Conducted?

This report draws on recent ERS reports and other literature on the peanut and tobacco buyouts, and on data drawn from the U.S. Department of Agriculture's National Agricultural Statistics Service, the Agricultural Resource Management Survey (ARMS), and other data sources. The ARMS collects data on the financial conditions and production practices of farm businesses for specific years and contains survey data on field-level production practices, farm business accounts, and farm households.

Introduction

Elimination of Federal Peanut and Tobacco Quota Policies Spurred Significant Structural Change

Peanut and tobacco growers have become more directly exposed and responsive to market forces.

Until recently, peanuts and tobacco were among a small group of U.S. commodities regulated by marketing quotas. Similar to the sugar and dairy programs still in effect, the peanut and tobacco marketing quota programs were established during the 1930s to support and stabilize growers' incomes. Although the programs provided dependable short-term expectations about prices and output, they tempered growers' ability to adapt to longer term market forces by discouraging economies of scale, restricting production location, and distorting trade. The 2002 Farm Act and the Fair and Equitable Tobacco Reform Act of 2004 eliminated longstanding price support programs and brought about structural change in the peanut and tobacco leaf industries.

The elimination of the marketing quotas is commonly referred to as a "buyout" because quota owners—those with the right to sell the commodity at a regulated support price—were financially compensated for the loss of an asset (quota ownership). Peanut quota owners received buyout payments of around \$1.3 billion, funded by the Federal Government, whereas tobacco quota owners and active producers receive a total of \$9.6 billion over 10 years from assessments on tobacco product manufacturers and importers. Peanut farmers then became eligible for the same type of commodity support programs—marketing loans, direct payments, and countercyclical payments—available to producers of corn, soybeans, cotton, and other crops, while tobacco producers did not.

For producers of the two commodities, the quota elimination represented a striking policy change. For most other crops, the earlier introduction of planting flexibility provisions, and the decoupling of most Government support tied to production of specific commodities, had already fostered a greater market orientation, especially since the 1996 Farm Act. However, peanut and tobacco producers avoided a substantial overhaul of their programs until it became clear that high prices and global competition were causing declining market shares in domestic and/or export markets. The threat of lower demand, along with high production costs, made long-term operation of the programs as "no net cost" (i.e., self-paying, without Government expenditures) less viable.¹

The buyouts were enacted in response to many economic factors that were primarily linked to global competition. For peanuts, lower priced imports had made inroads in the domestic market as a result of trade treaties, and producers faced eventual reductions to their quota allocations or lower support prices. U.S. tobacco producers contended with global competition from lower cost foreign producers, which led to falling global demand for U.S. tobacco cigarettes and leaf and an increased share of foreign leaf in U.S. cigarette production. The reduced demand resulted in lower annual marketing

¹By law, the peanut and tobacco marketing quota programs were meant to operate without any direct government payments to producers. Supply limitations supported producer prices, so the marketing quota programs acted as a transfer from consumers—rather than all taxpayers—to producers.

quota levels. In addition, under the quota systems, growers were subject to limits on quantities that could be marketed and geographical restrictions on production. This made it difficult for new operators to enter the market and for efficient producers to expand in order to reduce average production costs.² In terminating the quota and price support programs, the buyouts also eliminated geographical restrictions on production.

²See Rucker, Thurman, and Sumner (1995) for an analysis of how this affected tobacco production.

Although not all ensuing changes to the peanut and tobacco sectors can be attributed to the buyouts, they clearly represented landmark events that guided many of the structural changes that followed. Peanut and tobacco producers were not previously immune to market forces, but decisions on whether to continue, reduce, or drop out of production—or even to begin production for the first time—can now be based more on market-determined net returns from alternate crop choices, without any geographical restrictions. Initially, the buyouts induced lower prices and a contraction of peanut and tobacco acreage, but recent market developments, regional shifts, and farm consolidation suggest that the buyouts and planting flexibility have enhanced overall efficiency.

What Were Quotas?

Prior to the buyout legislation, tobacco and peanut producers were under marketing quota systems, which gave the quota owners the exclusive right to sell a set amount of their commodity at or above the support price within a geographic area. Tobacco producers without quota could not sell the commodity, while peanut producers without quotas faced certain marketing restrictions. Thus, quotas limited the supply that could be brought to market. Quota was essentially an asset that could be owned and used by producers or leased from owners who no longer produced peanuts or tobacco. Absentee owners obtained quota either through inheritance or retention of a quota if they quit farming, but they could not obtain it through purchases because quota could be sold only to active producers.

Quotas often limited production to specific geographic regions. Quotas for flue-cured and burley tobacco were assigned to specific counties in their respective growing regions and were not usually transferable. Only in Tennessee were burley quotas allowed to be transferred across counties within the State. Before 1962, tobacco acreage was limited through allotments assigned only to farms in operation at the time the Agricultural Act of 1930 was enacted. Quota was tied to the land, as only individuals owning or renting allotment land could grow tobacco leaf. After 1962, farmers could purchase or rent quota allotments without having to farm the traditional allotment land, although there were restrictions on the distance that allotments could be transferred. Many quotas applied only within the county or State of the allotment holder. The tobacco quota system applied to most types of tobacco, but minor tobacco-producing States, such as Maryland and Pennsylvania, did not participate in the Federal marketing quota system.

After 1981, the peanut program allowed nonquota holders in any location to produce peanuts for export or crush, but restrictions on transferring peanut quotas confined most production to areas originally granted quota acreage in the 1940s. The 1996 Farm Act loosened restrictions on peanut quota transfers, allowing up to 40 percent of quota production to be transferred across county lines, but transfers across State lines were generally not allowed, except from adjacent counties in different States.

Objectives of Marketing Quotas

The Peanut and Tobacco Quota Programs Were Intended To Elevate and Stabilize Farm Prices

Marketing quotas limited the supply of peanuts and tobacco, and a Government loan program supported prices.

The U.S. Department of Agriculture (USDA) historically has facilitated price support programs for a number of crops, including peanuts, tobacco, and sugar, as well as for dairy. For peanuts and tobacco, support programs were intended to maintain high and stable farm prices by limiting supply and matching it with anticipated demand, at a price at or above a predetermined level. To accomplish this goal, both peanuts and tobacco were governed by marketing quotas, and prices were underpinned by loan programs operated by USDA's Commodity Credit Corporation (CCC).

The national quota levels for these commodities were adjusted each year based on anticipated demand and were set so that prices would match or exceed the loan rates established by the CCC. For peanuts, quotas applied only to domestic "food use" (e.g., peanut butter and snacks) demand, whereas quotas for flue-cured and burley tobacco leaf—the two main tobacco types subject to quotas—applied to anticipated demand from both domestic use and exports.³ Once the annual quota level was determined, USDA distributed quotas to peanut and tobacco quota owners with a history of production, based on their share of quota ownership (Womach, 2004). Restrictions were established to limit transfers of quota rights to other counties. Limitations on peanut production were less binding than for tobacco because nonquota ("additional") peanuts could be produced and sold, without restriction, as long as they were exported or crushed for oil and animal feed.

USDA loan rates for quota peanuts—amounting to \$610 per short ton during 1996-2001—were typically well above operating costs and were above prevailing international prices, giving quota holders better per acre returns than other crops and strong incentives to maximize their use of quota rights.⁴ Producers not possessing quota rights were guaranteed a lower loan rate of \$132 per ton in 2001/02, but typically grew peanuts under contract for export at world prices (ranging from \$320 to \$460 per ton) and responded primarily to demand in foreign markets.⁵

Producers of burley and flue-cured tobacco leaf were also supported with nonrecourse loans that guaranteed them a minimum price. If buyers at tobacco leaf auctions were unwilling to pay a price that exceeded the loan rate, the price stabilization cooperative would buy the tobacco at the loan rate. The cooperative stored the tobacco leaf and later sold it to repay the loan

³These two types of tobacco account for about 90 percent of U.S. tobacco production.

⁴For peanut cost and return data for 1995-2003 and 2004-08, see: <http://www.ers.usda.gov/data/costsandreturns/data/recent/Pean/R-USPean.xls>

⁵During 1999-2001, total peanut production averaged 3.79 billion pounds annually, about 37 percent greater than the quota level of 2.36 billion pounds.

principal with interest. In 2004, the loan rates were \$1.69 per pound for flue-cured and \$1.87 per pound for burley tobacco.⁶

Both the peanut and tobacco programs were operated on a “no-net-cost” basis to taxpayers.⁷ To cover any shortfalls between market prices and loan rates, assessment fees were placed, if necessary, on producers and buyers to recoup losses on loan repayments to the CCC.⁸ The fee was intended to ensure that the Federal Government and the taxpayer did not subsidize tobacco or peanut sales directly.

⁶As mandated by 7 U.S.C 1445, Title 7, which authorizes the support price to be calculated as the 5-year olympic moving average of prices and the change in the annual index for producer costs. For U.S. Code 1445.Title 7: Agriculture, see <http://vlex.com/vid/19271264>.

⁷Prior to 1982, general tax revenues were used to cover CCC losses on tobacco. Congress passed the No-Net-Cost Tobacco Act in 1982, which eliminated the taxpayer subsidy, with the exception of administrative costs (Womach, June 2004, updated December 31, 2005).

⁸Government payments were made to offset losses on tobacco loan inventory in 1983 and 1999 (Womach, March 2004).

Market Pressures That Led to the Quota Buyouts

International Competition Weakened Marketing Quota Programs

Competitively priced foreign substitutes and “no-net-cost to the Government” provisions undermined the sustainability of the peanut and tobacco programs.

Although the experiences were not entirely parallel, a common factor precipitating the peanut and tobacco buyouts was pressure, or the threat of pressure, from international competition. The prospect of increased imports was an important consideration when the peanut marketing quota system was ended in 2002. Pressure from global competition, especially from Brazil—combined with growers’ limited ability to respond to changing market conditions—was a central factor leading to the tobacco buyout. Nevertheless, several key differences distinguished the evolving patterns of trade and overall demand for the two commodities and the implications of these patterns for the sustainability of the quota programs. The United States was an importer and exporter of both peanuts and tobacco, and thus trade was an important determinant of quota levels, which were subject to annual adjustments based on anticipated demand. However, the criteria for establishing quota levels and import tariff regimes affected each commodity differently.⁹

For peanuts, the marketing quota was based exclusively on anticipated domestic “food use” demand, which had been relatively stable. So, unlike tobacco, the annually determined quota did not depend on the ability to competitively sell peanuts abroad. The peanut program allowed exports of nonquota peanuts at market-determined rates. However, because U.S. peanut prices for domestic food use were supported at well above international levels, import restraints were essential to supporting domestic prices and maintaining a stable level of quota production.

⁹Section 22 of the Agricultural Adjustment Act of 1933 granted allowances for import restrictions on agricultural commodities covered by price support programs, in the form of import quotas and tariffs.

Tobacco, in contrast, had been more exposed to international competition, through both exports and imports. A widening price gap between foreign and domestic leaf prices meant a decline in exports, a shift to overseas production, and a loss of domestic market share to imports from foreign producers. Since tobacco quota levels were based on combined domestic and export demand, they were subject to the effects of reductions in both foreign market share and domestic leaf demand.

In both cases, increased competition from foreign producers would likely require the U.S. Government to reduce the quota levels and/or lower the quota loan rates if the programs were to be maintained as “no-net-cost to the Government” programs.

Market Pressures That Led to the Quota Buyouts

The Peanut Buyout Was Precipitated by Trade Agreements That Opened the Market to Imports

The peanut quota program did not give producers flexibility to cope with the threat of increased imports.

The overhaul of the peanut quota program in 2002 was likely influenced by the recognition that policy change was unavoidable due to trade agreements that had begun to liberalize U.S. peanut imports (Dohlman & Livezey, 2005). Until 1994, U.S. trade restrictions capped peanut imports at a very low level, well below 1 percent of domestic consumption. However, under the separate North American Free Trade Agreement (NAFTA) and World Trade Organization (WTO) agreements signed in the mid-1990s, the United States opened its market to gradually increasing peanut imports with the introduction of tariff-rate quotas (TRQs). TRQs replaced purely quantitative limits on peanut imports, and, in this case, opened trade by allowing a larger amount of U.S. consumption to be met by low-tariff (“within-quota”) imports. Imports beyond that level are still restrained with much higher (“over-quota”) tariff rates.

At the time of the buyout, the higher “over-quota” tariff rates continued to protect most of the domestic market, and imports had not yet led to reductions in the U.S. marketing quota level for peanuts (fig. 1a).¹⁰ However, the fast import growth prior to 2002 indicated that further relaxation of import barriers could reduce the demand for domestically produced peanuts (fig. 1b). This issue was particularly relevant under the NAFTA accord, which was entirely phasing out tariffs on Mexican peanuts.¹¹ Mexico was a relatively minor peanut producer, with output equal to 6 percent of U.S. production in 2001/02; however, the incentive to increase production and export lower priced peanuts to the United States was recognized as a threat to the future viability of the U.S. marketing quota program. U.S. commitments to enter into other trade agreements, along with rising imports of peanut-containing products not covered by TRQs, also created incentives to change the domestic support program.¹² These competitive pressures—and the additional Government support made available to peanut producers by the 2002 Farm Act—facilitated the acceptance of policy change by many growers.¹³ Following the 2002 peanut buyout, peanut imports fell sharply as the price of U.S. peanuts became more competitive.

¹⁰Without import restrictions, unsold domestic quota peanuts would likely have been forfeited to the Commodity Credit Corporation. Since the marketing quota was meant to operate at “no-net-cost” to the government under the 1996 Farm Act, large forfeitures would have required either cuts in the domestic marketing quota level or an eventual reduction of the quota loan rate under new legislation. For more information, see Skully (1999), Skinner (1999), and Becker (1999).

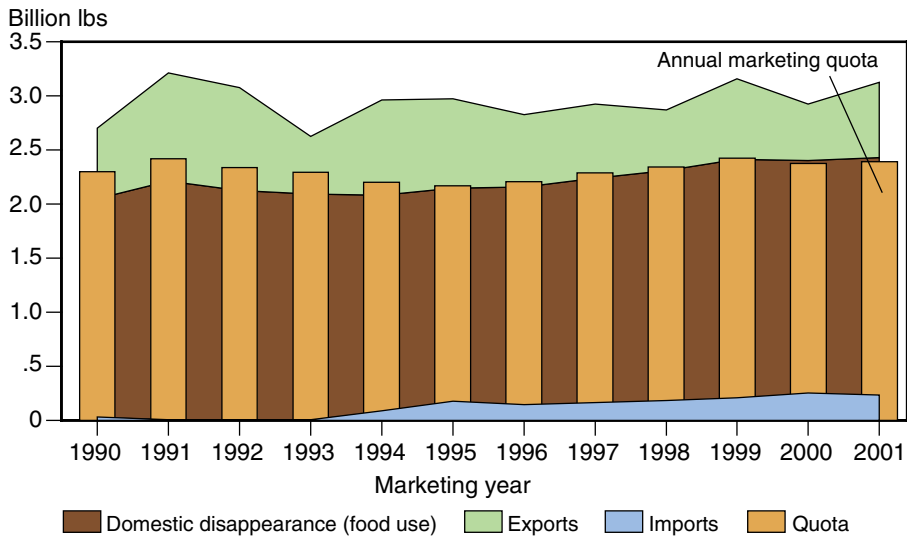
¹¹The 1994 WTO agreement (still in effect as of October 2009) allows lower tariff peanut imports of 116 million pounds (about 6 percent of domestic food use at the time of the buyout).

¹²Peanut butter is covered under a separate TRQ.

¹³For more detail on the new types of government support and projected government outlays, see Dohlman and Livezey (2005) and Dohlman, Hoffman, Young, and McBride (2004).

Figure 1a

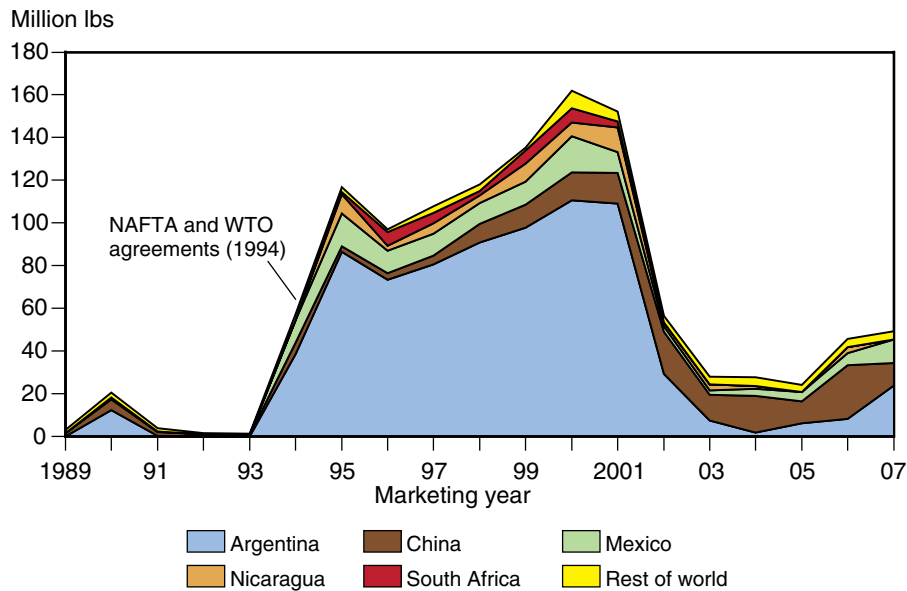
Before the buyout, the marketing quota level for peanuts was holding steady...



Sources: Quota - Farm Service Agency, USDA; Exports and Imports - Foreign Agricultural Service, USDA; Domestic Disappearance - Economic Research Service, USDA.

Figure 1b

...But import growth was a looming concern



NAFTA=North American Free Trade Association; WTO=World Trade Association.

Note: Marketing year is August-July.

Source: USDA, Foreign Agricultural Service, U.S. Trade Internet System <http://www.fas.usda.gov/ustrade/USTImFAS.asp?QI=>.

Market Pressures That Led to the Quota Buyouts

Tobacco Faced Challenges on Many Fronts

Declining domestic and foreign demand had reduced tobacco quotas, with further cuts likely.

While the peanut buyout was precipitated largely by the anticipation of increased imports and the prospect of declining quotas and/or support prices, the tobacco program had been confronting and adjusting to trade, demand, and cost pressures for many years preceding the buyout. Declining demand for U.S. tobacco leaf had already led to sharp reductions in tobacco quota levels, and the sector faced the prospect of further reductions.

Demand for U.S.-produced tobacco leaf was hurt by developments both in the United States and abroad. Exports of U.S. tobacco leaf fell mainly due to widening price differences and narrowing quality between U.S. and foreign tobacco. U.S. tobacco leaf was more expensive than foreign leaf, but U.S. price premiums were frequently attributed to higher quality. However, the quality of foreign tobacco had increased even as the price gap between U.S. and foreign tobacco leaf rose. New manufacturing processes also allowed lower quality tobacco to be used in cigarettes. Reduced foreign demand lowered the quantity of U.S. flue-cured and burley exports by 28 percent between 1997 and 2004. The same factors caused U.S. cigarette manufacturers to increase the share of foreign tobacco in their products. In 2004, foreign tobacco comprised nearly 60 percent of U.S.-manufactured cigarettes, compared with 38 percent in 1995. U.S. cigarette manufacturers began importing a large share of the leaf used in manufacturing in the early 1990s, which led the United States to implement a tariff-rate quota (TRQ) for tobacco in 1995. Under this TRQ, imports above a certain level are subject to a 350-percent duty.¹⁴

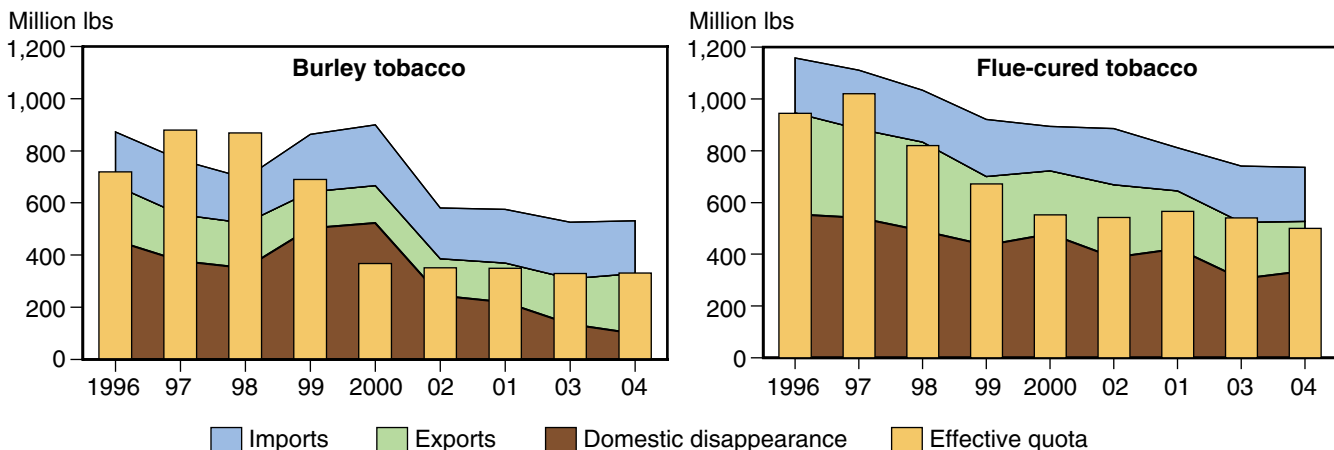
U.S. cigarette exports also began to decline after the mid-1990s, and domestic leaf demand was hurt by health concerns associated with smoking, public smoking restrictions, and rising retail cigarette prices, which lowered demand for cigarettes in the United States. Retail prices climbed as a result of higher Federal, State, and local excise taxes and the enactment of the 1998 Master Settlement Agreement.¹⁵ The declining demand for U.S. tobacco leaf, along with higher support prices, led to further reductions in tobacco quota levels. As a result, the national marketing quota (“effective quota”) for burley fell 54 percent and the quota allotment for flue-cured leaf fell 47 percent between 1996 and 2004 (fig. 2).

¹⁴A duty drawback provision allows most of the duty to be refunded if the same leaf is re-exported as product (e.g., cigarettes); source: <http://www.ers.usda.gov/publications/tbs/may07/tbs26201/tbs26201.pdf>. The United States has never filled more than 80 percent of the overall TRQ, but imports from Brazil—which has the largest TRQ allocation—had been filling its quota level of 80,000 metric tons when the buyout was enacted (USITC, 2007).

¹⁵The 1998 Master Settlement Agreement (MSA) required that cigarette manufacturers reimburse States for their health care costs caused by smoking (Tiller, 2002) and that cigarette manufacturers address the negative economic impacts the agreement would have on tobacco producers and quota owners. As a result, Phase II of the agreement was created in 1999, requiring that participating cigarette manufacturers pay \$5.15 billion over 12 years into the National Tobacco Growers’ Settlement Trust Fund, to be dispensed directly to quota owners and tobacco producers.

Figure 2

Declining domestic and export demand for U.S. tobacco leaf from 1996 to 2004 led to quota reductions for burley and flue-cured tobacco



Sources: Export and domestic disappearance data are from the *Tobacco Outlook*, ERS, USDA, TBS-263, Oct. 2007. Import data are from the *U.S. Tobacco Import Update 2005/06*, ERS, USDA, TBS-262-01. Effective quota data are from *Tobacco Outlook*, ERS, USDA, TBS-258, May 2005.

Note: The sum of domestic disappearance and exports is the usage of U.S.-produced tobacco leaf, while the sum of domestic disappearance and imports is usage of tobacco leaf in the United States.

Declining quota led to additional pressures as sharp reductions in tobacco quota led farmers to bid more to rent quota in order to maintain sufficient acreage to cover their investments in tobacco-related farm machinery, equipment, and buildings.¹⁶ This pushed up quota rental rates, which further increased prices and lowered global competitiveness. Input costs, such as for labor, also rose throughout much of agriculture and lowered the returns from crop sales.¹⁷ Rising labor costs were especially of concern to tobacco producers because labor constitutes a relatively large proportion of tobacco production expenses. Ultimately, price pressures tied to declining domestic and export demand and improved foreign quality, along with cost pressures associated with acquiring quota rights, led many growers to support an end to the tobacco program.

¹⁶According to ERS tobacco cost of production accounts, the opportunity cost of using land and quota rose substantially from 1996 to 2004, on a dollar per hundredweight basis, for both burley and flue-cured tobacco (source: <http://www.ers.usda.gov/Data/costsandreturns/data/history/Toba/H-USToba.xls>). In Reaves's update (2001), an agricultural extension agent estimated that quota rental rates rose 65 percent between 1997 and 2001 (http://gov-info.library.unt.edu/tobacco/_PREpt-disc/00000048.htm).

¹⁷Financial assistance from various sources likely allowed a number of less efficient growers to continue farming until the buyout. One source was the \$5.15 billion trust fund established by Phase II of the Master Settlement Agreement. Additionally, several emergency assistance laws enacted by Congress, such as tobacco loss payments, provided \$860 million to tobacco growers (P.L. 106-224, P.L. 106-76, P.L. 107-25, and P.L. 108-7). Finally, because the financial solvency of the CCC nonrecourse support loan program was in jeopardy, Congress directed the CCC to assume all financial losses of the program in 1999, at a cost of approximately \$625 million (P.L. 106-387). See Womach (March, 2004).

Provisions of the Quota Buyouts

Payments Went to Peanut and Tobacco Quota Owners, With Additional Payments to Tobacco Growers

Provisions of the peanut and tobacco buyouts differed in important respects.

Although the peanut and tobacco buyout programs were similar in intent, they contrasted notably in their structure, financial size, and Government support. These differences were most evident in the total size of payments, the method of dispersing payments to quota owners and/or farmers, and the source of funds for the buyout payments. A comparison of financial and other aspects of the two buyout programs provides insights into subsequent adjustments at the aggregate and farm level in each sector.

The Fair and Equitable Tobacco Reform Act of 2004 eliminated tobacco quotas and price supports effective in 2005, but provided 10 years of buyout and transition payments, which were convertible to a lump sum. The 2002 Farm Act included buyout payments to peanut quota owners only, but also instituted a new marketing loan program and provisions allowing producers to receive new types of support, such as direct and countercyclical payments tied to peanut base acreage.¹⁸ Whereas only quota owners received payments in the peanut buyout, the tobacco buyout program provided buyout transition payments, at different rates, to both quota owners and active producers leasing or renting quota. The source of buyout payments for peanuts and tobacco were also different. Peanut buyout payments (and the new forms of Government assistance) were funded by the Federal Government, while tobacco payments were funded from assessments on tobacco product manufacturers and importers.

¹⁸Base acres are the peanut acres eligible for some Government commodity programs. For more information on peanut program and other commodity provisions of the 2002 Farm Act and revisions enacted in the 2008 Farm Act, see the Title I provisions in: “The 2008 Farm Bill Side-By-Side Comparison,” <http://www.ers.usda.gov/FarmBill/2008/>. Definitions of specific farm policy terms can be found at <http://www.ers.usda.gov/Briefing/FarmPolicy/glossary.htm>.

Provisions of the Quota Buyouts

The Buyouts Included New Government Support for Peanuts

The peanut buyout program ended traditional price supports in exchange for new types of Federal assistance.

The Farm Security and Rural Investment Act of 2002 (2002 Farm Act) eliminated the marketing quota program for peanuts, allowing (without any geographic limitations) all producers to sell their peanuts in the domestic market for food use. Those owning quota in 2001 were compensated for the loss of the quota asset value, with buyout payments spanning 5 years. Quota owners, regardless of whether they had farmed or rented out quota, were eligible either to receive payments in annual installments of \$220 per short ton (\$0.11 per pound) for quota during fiscal years 2002-06 or to take a lump-sum payment in a year that they specified. No payments were authorized to peanut farmers who did not own quota. The total cost of the buyout payments amounted to about \$1.3 billion, funded entirely by the Federal Government.

In addition to the quota buyout, peanut producers became eligible—starting with the 2002/03 peanut crop—for the same kinds of Government commodity program payments available to producers of other crops, such as corn, soybeans, and cotton. Most significantly, these forms of assistance included a new marketing assistance loan program and fixed direct payments and countercyclical payments on newly defined peanut base acreage.¹⁹ These programs operate as follows:

Marketing Assistance Loans

Marketing loans provide short-term liquidity until the farmer's crop is marketed and a guaranteed minimum revenue for production. Since the 2002 Farm Act, a national average marketing loan rate of \$355 per ton have been available to all peanut producers. While well below the \$610 per ton for quota peanuts under the old system, it is significantly above the \$132 per ton loan rate previously available for nonquota peanuts.

Direct and Countercyclical Payments

To receive direct and countercyclical payments, peanut producers are required to establish peanut base acreage and payment yields from their farm production history. It does not matter whether they produced quota or nonquota ("additional") peanuts.²⁰ Because these benefits are tied to historical production levels on specific plots of land rather than current production, farmers' cropping decisions are more flexible and aligned to market incentives, such as prospective returns from alternative crop choices. Most peanut producers—covering about 96 percent of eligible land—elected to enroll their peanut base acres in the new program following the buyout.

¹⁹With relatively minor changes, the peanut provisions of the 2002 Farm Act were continued in the new farm legislation enacted in 2008.

²⁰The direct payment rate on peanuts is \$36 per ton for 2002-12, while countercyclical payments range from \$0 to \$104 per short ton, depending on market prices.

Provisions of the Quota Buyouts

The Tobacco Buyout Program Included Payments to Quota Owners and Producers, but No Future Federal Support

However, tobacco buyout payments were larger and spread among more recipients than were peanut buyout payments.

The Fair and Equitable Tobacco Reform Act of 2004 ended U.S. tobacco price supports and quotas and created the Tobacco Transition Payment Program (TTPP). Beginning with the 2005 production season, restrictions were removed on the amount of tobacco that could be sold, geographic restrictions on production were eliminated, and compensation was provided for quota owners and renters. Payments are funded from \$9.6 billion in assessments on tobacco product manufacturers and importers, based on their market share.²¹ The tobacco buyout program eliminated an estimated \$2 billion that tobacco growers and quota owners would have received from 2005 to 2010 from Phase II of the Master Settlement Agreement (MSA) (Womach, 2005). Pennsylvania and Maryland tobacco producers also lost the right to further Phase II payments, even though they did not participate in the tobacco program and were not eligible for Federal quota buyout payments (see section “Other Tobacco Buyout Experiences,” pp. 42-43).

Unlike the provisions for peanut producers, no new commodity provisions were established for tobacco producers. Tobacco producers and quota owners receive 10 equal annual payments that began in 2005, with quota owners receiving a total of \$7 per pound (or \$.70 per pound per year) and active producers receiving an additional \$3 per pound in transition payments (Womach, 2005).²² Tobacco producers owning and using quota could receive a total of \$10 per pound. Growers and quota owners were permitted to make arrangements with financial institutions to receive a discounted lump-sum buyout payment rather than receiving payments over 10 years.

²¹Total assessments are \$10.1 billion. The additional \$500 million was used to compensate grower cooperatives and for surplus tobacco disposal. Assessments began in 2005 (based on fourth-quarter 2004 market activity) and will continue for 10 years.

²²Tobacco producers who owned their own quota would receive a total of \$10 per pound. When the tobacco quota was specified in farm acreage allotments, the number of pounds owned was calculated by taking the 2002 basic farm acreage allotment and multiplying by the average county yields for 2001, 2002, and 2003. The number of pounds produced was calculated by multiplying the 2002 effective farm acreage allotment by the average farm yield for 2001, 2002, and 2003. The \$3 payment per pound for tobacco produced was prorated if the tobacco producer did not produce tobacco in all 3 years.

Although tobacco producers did not become eligible for new forms of Government support, total transfers to the tobacco sector from the buyouts alone exceed those to the peanut sector by a large margin, approximately \$9.6 billion for tobacco versus \$1.3 billion for peanuts. As a rough comparison, the tobacco buyout payments were equivalent to 5.7 times the 3-year average annual value of all tobacco production leading up to the buyout (2002-04), whereas the total buyout for peanuts of \$1.3 billion amounted to 1.8 times the annual value of quota peanut production during the 3 years 1999-2001.²³ Measured another way, the value of the peanut price support program—based on a fixed reference price reported to the World Trade Organization (WTO)—was estimated as ranging between \$303 and \$350 million annually between 1996 and 2001.²⁴ By this accounting, the buyout payments were equivalent to about 4 years of the estimated past value of quota. The United States did not report a similar price support measure for tobacco to the WTO.²⁵ According to Orden (undated), the lump-sum \$0.55/pound peanut buyout was equivalent to 24 years of average peanut quota rental revenues. For tobacco, quota buyout payments of \$7 per pound for (non-operator) quota owners were equal to 16 years of average quota rental payments for flue-cured tobacco and 21 years of payments for burley tobacco.²⁶

²³Note that not all peanuts were produced under quota. The figure given here for peanuts is based on the quota level (2.36 billion pounds) and loan rate (\$0.305/pound) in effect during 1999-2001.

²⁴For WTO domestic support provisions, see <http://www.ers.usda.gov/Briefing/WTO/domsupport.htm>.

²⁵Brown, Rucker, and Thurman (2007) estimated that the economic rents associated with the ownership or rental revenues from flue-cured tobacco quota (not burley) were \$274 million in 2003. The authors also present several different perspectives, without judgment, on the “appropriate level of compensation.”

²⁶The figures presented do not take into account the prospect that rental rates, and the overall value of owning quota, may have declined if the support prices or marketing allotments were reduced.

Provisions of the Quota Buyouts

Many Buyout Recipients Were Not Active Peanut or Tobacco Farmers

A majority of buyout payments went to recipients who were not producing peanuts or tobacco, but maintained ownership rights to market the crops at the quota support price.

The majority of buyout payments went to quota owners who were not actively producing peanuts or tobacco, and the number of recipients was far greater than the number of active peanut and tobacco farmers. According to Womach (2005), about 358,000 non-operator landlords were eligible for tobacco quota buyout payments, along with almost 57,000 tobacco farm operators. Although most tobacco producers owned some quota, more than half of burley quota and about two-thirds of flue-cured tobacco quota was leased.²⁷

Peanut buyout payments were distributed among roughly 75,000 quota owners, most of whom did not produce peanuts.²⁸ At the time of the buyout, there were fewer than 9,000 peanut farms. Some of those farms produced only nonquota (“additional”) peanuts for export or crush. Of the farms that did produce quota peanuts, the majority of production (about 60 percent) was accounted for by producers who cash- or share-rented quota rights.

Consequently, for most quota owners, the buyout payments replaced an income stream from renting or leasing quota rights to other farm operators, but did not directly impact peanut or tobacco production. For producers renting quota from others, elimination of the quota represented a reduction in production costs that could more than compensate for the reduction in revenue caused by lower prices after the buyouts. In theory, this would lead to higher net returns and increased production among those who had previously rented quota. With the elimination of regional restrictions on production, an expanding share of production would shift to counties or regions with lower production costs.²⁹ Active producers who had owned much or all of their peanut or tobacco quota faced lower prices but had no offsetting cash savings on production costs, since they did not lease their quota. Producers whose costs of production exceeded prices after the buyout would most likely be the first to exit production.

²⁷Data from the 1995 Farm Costs and Returns Survey indicated that burley tobacco producers owned 44 percent of their effective quota and either cash- or share-rented the remainder (Foreman, 2001). Data from the 1996 Agricultural Resource Management Survey indicated that 34 percent of the flue-cured tobacco quota was owned by producers, while most of the remainder was cash-rented. The percentage of quota owned and operated likely fell after these surveys because producers tended to retain quota rights after retirement and rented them to active producers.

²⁸Quota owners were not required to produce peanuts themselves, but to own the asset, they were required to have an ownership interest in a farm.

²⁹The improvement in net returns assumes the quota rental rate was equivalent to the difference between the producers’ marginal cost of production and the price under the quota system (Brown, Rucker, and Thurman, 2007). Recall that tobacco producers who rented quota also received \$3 per pound in transitional payments.

Structural Adjustments to the Buyouts: Market Level Changes

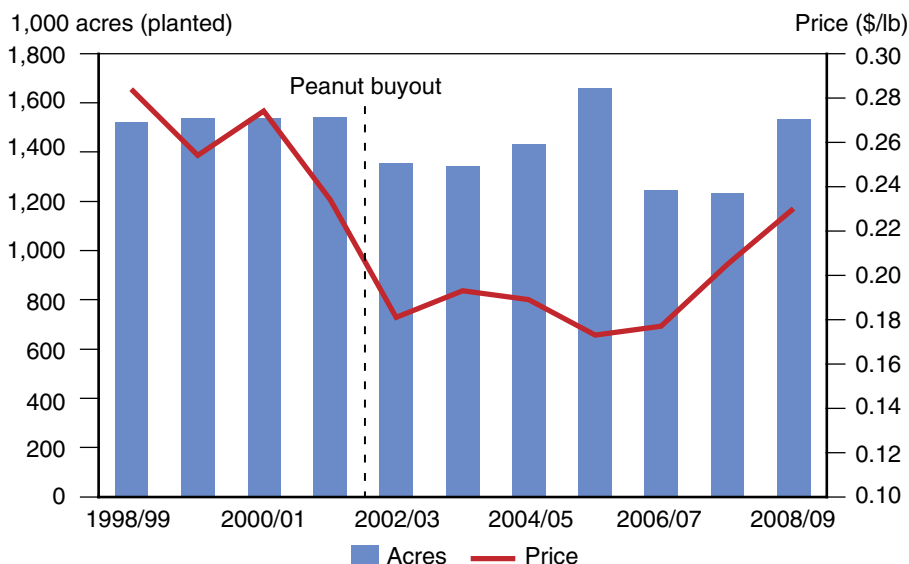
Peanut Prices and Acreage Fell After the Buyout

Average yields per acre have been higher since the buyouts, however, and both acreage and prices recently rebounded.

After marketing quotas were eliminated, the peanut sector initially became smaller, particularly after the first year (2002) of the new policy. Peanut prices in 2002 fell over 30 percent below the previous 5-year average. Large stocks from the previous year and anticipation of the buyout (enacted in May 2002) contributed to a 12-percent decline in planted acreage in 2002, and another decline in 2003 (fig. 3). However, the ensuing growth in peanut demand, along with more efficient production, appears to have stemmed a long-term decline in peanut acreage and stimulated yield improvements—indicating that incentives to grow peanuts remain strong despite prices that, until recently, remained substantially below the pre-2002 Farm Act average.

Annual peanut acreage has generally remained below the pre-buyout level. However, production has been supported by improved yields, which have been a notable trend for the peanut sector since the buyout (see section “Shifts in Peanut Production Regions Reflected Increased Planting Flexibility,” p. 38). National average yields exceeded 3,000 pounds per acre only once prior to the buyout, but have exceeded that level four times since 2002. Record yields and relatively high peanut plantings in 2008 contributed to the largest U.S. peanut crop to date. However, peanut-planted acreage fell sharply (by 28 percent) in 2009, a result of large stocks from the 2008 crop and low contract prices offered to farmers in 2009.

Figure 3
Annual peanut acreage and price, 1998/99-2008/09



Source: Quick Stats, National Agricultural Statistics Service, USDA.

Structural Adjustments to the Buyouts: Market Level Changes

Peanut Production Initially Declined, but the Impact on Demand Was Ultimately Positive

Although peanut prices and acreage fell following the buyouts, domestic and foreign demand gained strength.

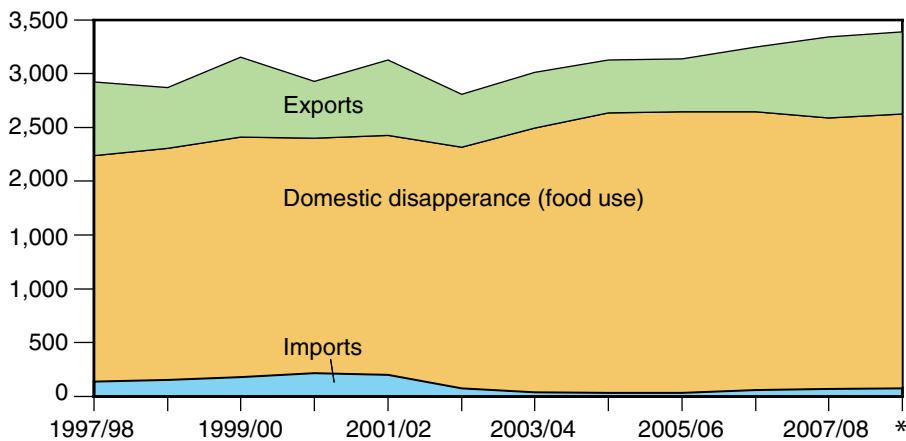
Before the buyout, domestic consumption had been on a slight upward trend since the mid-1990s (table 1). After 2002, lower peanut prices furthered this growth, making peanut products more competitive. For example, the price of peanut butter, the leading use for peanuts, trended downward between 2002 and 2005, indicating that lower farm prices for peanuts were transmitted to the retail level. Increased demand was bolstered initially by an upswing in domestic demand for food-use peanuts (e.g., peanut butter and candy), and, more recently, by larger exports. However, peanut butter prices have since strengthened, which may explain a tapering off of growth in domestic food-use demand (Data Resources, BLS).

Domestic peanut demand appears to have reached a plateau. However, foreign demand for U.S. peanuts—which averaged almost 30 percent lower in the first 4 years following the buyout than in the year before the buyout—has been on an upward path since 2006, and exports are projected at 765 million pounds in 2008/09, the highest volume in 13 years (fig. 4). U.S. exports have been supported by lower prices and by the general weakening of the dollar since 2002. Lower prices have also dampened import demand, which are well below pre-2002 levels despite regional trade agreements (i.e., NAFTA and the U.S. free trade agreement with the Dominican Republic and Central America) that continue to liberalize U.S. peanut imports.

Figure 4

Peanut consumption and exports respond to lower prices

Million lbs



* 2008/09 is estimated.

Source: PSD Online, Foreign Agricultural Service, USDA. <http://www.fas.usda.gov/psdonline/psdHome.aspx>

Table 1

Peanut supply and disappearance, 1990/91-2008/09¹

Marketing year ²	Planted acres	Production ³	Domestic food use	Exports	Imports	Crush	Yield	Price
	<i>1,000's</i>	<i>-----Million pounds-----</i>					<i>Pounds/acre</i>	<i>Cents/pound</i>
1990/91	1,846	3,604	2,020	652	27	689	1,985	34.7
1991/92	2,039	4,927	2,207	1,002	5	1,103	2,444	28.3
1992/93	1,687	4,284	2,122	951	2	891	2,567	30.0
1993/94	1,734	3,392	2,088	533	2	670	2,008	30.4
1994/95	1,641	4,247	2,009	878	74	982	2,624	28.9
1995/96	1,538	3,461	1,993	826	153	999	2,282	29.3
1996/97	1,402	3,661	2,029	668	127	692	2,653	28.1
1997/98	1,434	3,539	2,099	682	141	544	2,503	28.3
1998/99	1,521	3,963	2,153	562	155	460	2,702	28.4
1999/00	1,535	3,829	2,233	743	180	713	2,667	25.4
2000/01	1,537	3,266	2,184	527	216	548	2,444	27.4
2001/02	1,541	4,277	2,225	700	203	693	3,029	23.4
2002/03	1,353	3,321	2,241	490	75	857	2,571	18.1
2003/04	1,344	4,144	2,456	516	38	536	3,159	19.3
2004/05	1,430	4,288	2,600	491	37	393	3,076	18.9
2005/06	1,657	4,870	2,616	491	32	542	2,989	17.3
2006/07	1,243	3,464	2,585	603	61	513	2,863	17.7
2007/08	1,230	3,672	2,517	750	73	496	3,073	20.5
2008/09 ⁴	1,534	5,148	2,550	765	75	455	3,416	23.0

¹As of August 12, 2009.²Marketing year begins August 1st.³Units are farmer stock (in-shell) basis.⁴2008/09 is preliminary.

Sources: National Agricultural Statistics Service, USDA; Foreign Agricultural Service, USDA; U.S. Department of Commerce.

Structural Adjustments to the Buyouts: Market Level Changes

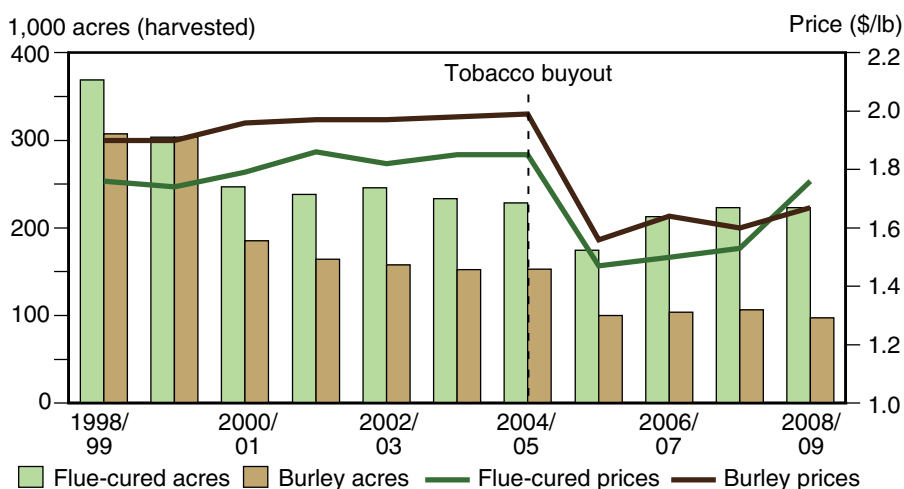
Tobacco Acreage, Production, and Price Initially Fell Post-Buyout

Flue-cured tobacco production has since rebounded, while burley tobacco production remains below pre-buyout levels.

The tobacco sector, like the peanut sector, experienced a decline in farm-level prices, acreage, and production immediately following the buyout (fig. 5; table 2). After the tobacco buyout, many farmers discontinued tobacco production, and those who remained were confronted by more uncertainty about the profitability of tobacco farming. Although producers no longer had to rent quota, they faced lower tobacco prices that reflected the absence of minimum price supports and quota rental payments. Prices initially fell more than 20 percent from 2004/05 to 2005/06 and have remained well below pre-buyout levels. Preceding and directly following the buyout, many remaining producers held off making capital investments needed to significantly expand production. A reduction in the number of farms and lower prices led to a decline in harvested acreage of a third for burley leaf and a quarter for flue-cured leaf between 2004 and 2005.

As a result, burley and flue-cured tobacco leaf production dropped to 584 million pounds in 2005, the lowest in decades. Production has increased since then, however, and is estimated at 701 million pounds for 2008. Prices remain considerably below those preceding the buyout, but renewed export growth has contributed to a modest trend of strengthening demand, particularly for flue-cured tobacco. Flue-cured tobacco acreage has increased steadily since 2005, returning to pre-buyout levels, and production in 2008 was 8 percent higher than the previous 5-year average. Four years after

Figure 5
Annual tobacco acreage and price, 1998/99-2008/09



Source: *Quick Stats*, National Agricultural Statistics Service, USDA; burley type 31, flue-cured types 11-14.

the buyout, harvested burley tobacco acres remained well below the levels preceding the buyout, and production was 16 percent lower in 2008 than the preceding 5-year average. Modest price increases for all tobacco in recent years likely reflect increased export demand and buyers' desire to maintain domestic tobacco supplies, as well as inflationary pressures on production costs associated with higher prices for energy, chemicals, and hired labor.

Table 2

Flue-cured tobacco, types 11-14, and burley tobacco, type 31: Acreage, yield, production, domestic disappearance, trade, and season average price, 1997/98-2008/09 (farm-sales weight)¹

Marketing year ²	Acreage harvested	Yield per acre	Production	Disappearance			Imports	Net exports	Average price per pound
				Total	Domestic	Exports			
<i>1,000 acres Pounds -----Million pounds----- Dollars</i>									
Flue-cured, types 11-14:									
1997/98	458.3	2,285	1047.2	876.8	534.8	342.0	176.5	165.5	1.72
1998/99	368.8	2,204	812.8	833.7	492.2	341.5	182.1	159.4	1.75
1999/00	303.8	2,162	656.8	698.7	434.8	263.9	157.5	106.4	1.73
2000/01	247.0	2,426	599.2	717.2	473.3	243.9	130.4	113.5	1.79
2001/02	238.1	2,432	579.1	664.9	385.3	279.6	179.7	99.9	1.85
2002/03	245.6	2,094	514.3	643.0	420.6	222.4	190.2	32.2	1.82
2003/04	233.4	1,957	456.8	522.5	306.8	215.7	290.8	-75.1	1.85
2004/05	228.4	2,283	521.4	526.2	337.5	188.7	107.6	81.1	1.84
2005/06	174.5	2,182	380.8	572.8	314.4	258.4	179.3	79.1	1.47
2006/07	213.1	2,095	446.4	557.3	310.5	246.8	220.6	26.2	1.49
2007/08	223.0	2,259	503.8	641.9	336.8	305.1	213.2	91.9	1.52
2008/09	223.0	2,239	499.3	³	³	³	³	³	1.75
Burley, type 31:									
1997/98	335.3	1,934	648.5	556.1	379.2	176.9	139.9	37.0	1.88
1998/99	307.1	1,896	582.3	520.5	348.8	171.7	128.2	43.6	1.90
1999/00	303.6	1,829	555.3	416.1	276.6	139.5	178.6	-39.1	1.89
2000/01	185.4	1,957	362.8	666.0	523.7	142.3	170.0	-27.7	1.96
2001/02	164.4	2,032	334.1	385.2	244.7	140.5	220.2	-79.7	1.97
2002/03	157.7	1,861	293.5	369.6	220.6	149.0	191.7	-42.7	1.97
2003/04	152.3	1,850	281.8	309.8	136.1	173.7	217.5	-43.8	1.97
2004/05	153.2	1,908	292.3	327.5	98.3	229.2	187.3	41.9	1.99
2005/06	100.2	2,031	203.5	292.6	84.1	208.5	262.3	-53.8	1.56
2006/07	103.7	2,100	217.8	324.3	64.7	259.6	216.3	43.3	1.63
2007/08	106.3	2,033	216.1	247.4	55.3	192.1	161.0	31.1	1.60
2008/09	97.5	2,067	201.5	³	³	³	³	³	1.66

¹Factors for converting tobacco stocks to farm weight taken from USDA/ Agricultural Marketing Service *Tobacco Stock Report*.

²Flue-cured types 11-14 marketing year is July-June. Burley type 31 marketing year is October-September.

³Data not available.

Sources: Prepared by ERS-USDA, using data from USDA/National Agricultural Statistics Service *Crop Production Report*, U.S. Dept. of Commerce, Census Bureau, and USDA-ERS *Tobacco Outlook*, various years.

Structural Adjustments to the Buyouts: Market-Level Changes

Domestic Tobacco Use Remains Weak, but Trade Outlook Is Improving

Domestic use lags, but lower prices and a weaker dollar have reversed the U.S. decline in net tobacco exports.

Despite the lower prices stemming from the buyout, domestic use of U.S.-produced tobacco leaf has not increased. Domestic use of flue-cured tobacco for each of the post-buyout years has been flat or down compared with use in 2004, while domestic use of burley tobacco has nearly disappeared. Domestic demand has been cut by the decline in per capita smoking rates, the large share of foreign tobacco that continues to be used in U.S.-manufactured cigarettes, and an ongoing decline in U.S. cigarette exports. Although the price gap has narrowed, foreign flue-cured and burley prices remain well below U.S. prices (table 3).³⁰

A bright spot for U.S. tobacco growers has been renewed export demand and a generally more favorable net trade (exports minus imports) position. Spurred by lower prices, a weakening dollar, and a resulting decline in the price gap between U.S. and foreign producers, U.S. tobacco has become more competitive since the buyout (fig. 6). U.S. flue-cured exports averaged 270 million pounds during 2005-07 compared with an average of 209 million pounds during 2002-04. For burley, exports averaged 220 million pounds during 2005-07, compared with an average of 184 million pounds during 2002-04. Nearly 87 percent of burley tobacco was exported in 2006, while exports accounted for 48 percent of flue-cured tobacco disappearance. As a result, total disappearance of flue-cured tobacco has increased slightly since the buyout, while burley tobacco disappearance has remained flat.

U.S. imports of burley and flue-cured tobacco have remained relatively stable, so the share of foreign tobacco in U.S.-manufactured cigarettes has not declined substantially. In 2004, nearly 60 percent of the tobacco in U.S.-manufactured cigarettes was imported, declining to 53 percent in 2005, the year after the buyout (ERS, *Tobacco Outlook*, Oct. 24, 2007, table 22). Nevertheless, the overall trade picture for both types of U.S. tobacco leaf has improved, with net exports stronger in the past several years compared with the immediate pre-buyout period.

³⁰The price drop for tobacco leaf has not had a significant impact on domestic cigarette demand, since the cost of tobacco leaf comprised only about 2½ cents of the price per pack in 2003 (Capehart).

Table 3

The price difference between U.S. and foreign tobacco narrowed after the buyout

Country	Burley				Flue-cured			
	2004	2005	2006	2007E	2004	2005	2006	2007E
<i>Dollars per kilogram</i>								
United States	4.38	3.49	3.61	3.71	4.07	3.30	3.42	3.48
Brazil	1.26	1.51	1.73	1.80	na	1.62	1.90	2.00
Argentina	1.55	1.22	1.24	1.30	1.43	1.37	1.45	1.67

E=Estimated.

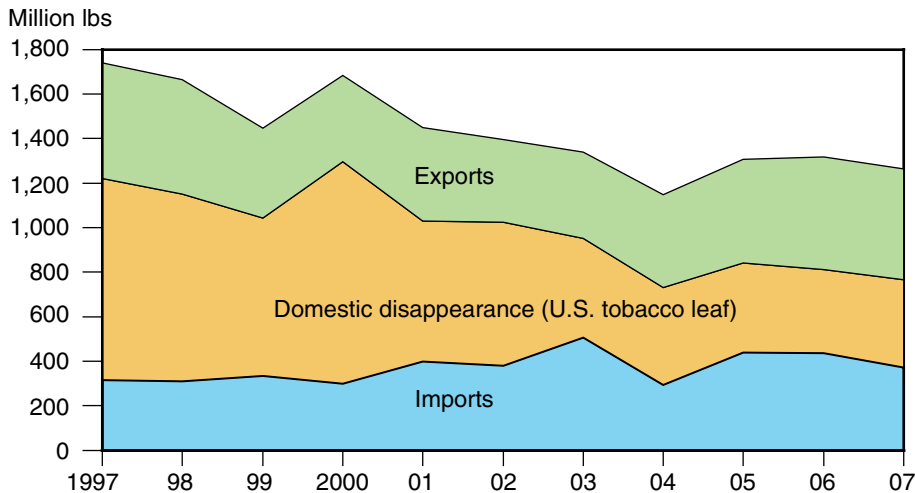
na = not available.

Data source: Universal Leaf Tobacco Company, Supply and Demand, Aug. 2007, Aug. 2006, Oct. 2005. Note: no prices provided in the 2008 report.

Total tobacco production was also supported by increased demand for some specialized products, such as dark tobacco. (See box “Rising Demand for Dark Tobacco Softens the Impact of the Buyout as Acreage Increases.”)

Figure 6

Exports account for a growing share of total disappearance



Sources: Economic Research Service, USDA *Tobacco Outlook*, 2007; U.S. Commerce Department, Bureau of the Census.

Rising Demand for Dark Tobacco Softens the Impact of the Buyout as Acreage Increases

With little competition from foreign dark tobacco producers and rising domestic demand, U.S. dark tobacco producers experienced smaller impacts from the tobacco buyout than burley and flue-cured tobacco producers. Domestic demand for dark tobacco rose, and prices fell less than for other tobaccos because dark tobacco is used in snuff, which has gained popularity as smoking restrictions have increased. The domestic consumption of smokeless tobacco, especially snuff, has increased steadily since the 1980s as bans against smoking in the workplace have proliferated (Bickers, March 15, 2006). Rising demand, along with comparatively high prices and improved yields, has led to increases in dark tobacco acreage. Dark tobacco accounts for a small share of U.S. tobacco production (3 percent in 2008), but acreage of dark tobacco expanded 67 percent between 2004 and 2008 compared with a 37-percent decline for burley tobacco and a 1-percent decline for flue-cured tobacco (NASS). The production regions for many of the dark tobacco types overlap with burley production regions, and some burley farmers in those regions may have switched to dark tobacco acreage because dark tobacco is more profitable (Snell, June 2008).

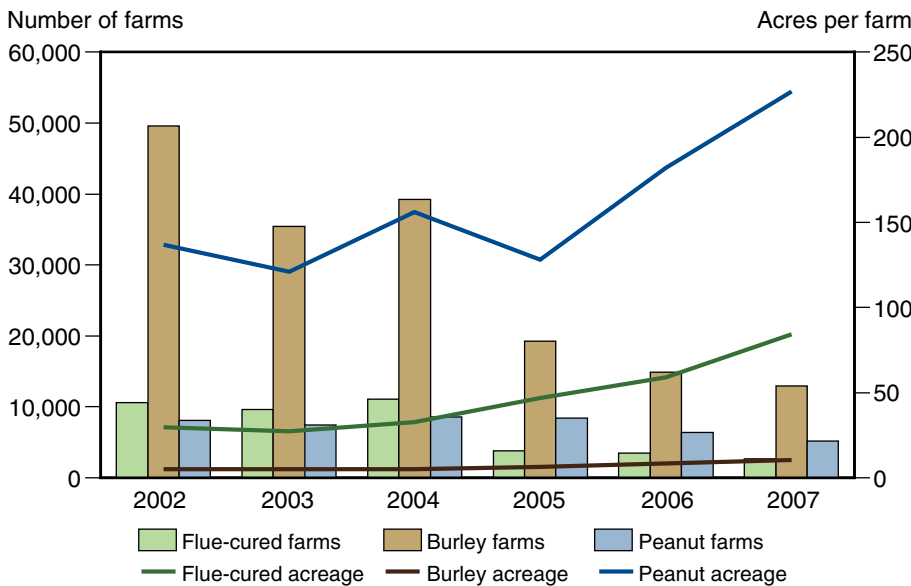
Structural Adjustments to the Buyouts:
Farm-Level Changes

Buyouts Spurred Farm-Level Consolidation

Increased competition and reduced regulation prompted a rapid consolidation of farms, with remaining producers operating larger farms.

Changes in market-level indicators such as prices, production, and trade are shaped by the interaction between overall demand conditions and the aggregated supply response of individual farmers. However, even with production levels that are comparable to the immediate pre-buyout periods, the structure of the peanut and tobacco farm sectors have changed considerably due to farm exits, entry, and grower decisions to alter production levels and practices. The key considerations for growers in a post-buyout environment were whether peanut or tobacco farming could be profitable in a new, lower priced market and whether they could manage price and production risk. Many smaller scale producers exited peanut and tobacco production, finding that high production costs and price uncertainty made their operations nonviable. The ensuing consolidation has created a farm structure characterized by fewer, but larger, peanut and tobacco farms that have household income levels averaging about the same as those for peanut and tobacco farms before the buyout (fig. 7; app. tables 1-4). Remaining producers increasingly engaged in contracting to manage price risk.³¹

Figure 7
After the buyouts, farm numbers declined, but average acreage climbed



Note: The number of acres refers only to peanuts, flue-cured tobacco, and burley tobacco per farm, respectively.

Source: Agricultural Resource Management Survey (ARMS), USDA, 2002-2007.

³¹Contracting in this report refers to marketing contracts. Marketing contracts are defined as verbal or written agreements between a contractor and a grower that set a price (or pricing mechanism) and an outlet for the commodity before harvest or before the commodity is ready to be marketed (Economic Research Service, USDA, Farm Structure Briefing Room).

Consolidation of tobacco and peanut farms has been motivated by increased domestic and overseas competition and the drive for economies of scale. Until the buyout, quotas and price supports kept prices relatively high, so producers could make a profit even on relatively small acreages. When the quotas ended, domestic producers had to increase their scale and lower their production costs to compete more successfully with other U.S. growers and foreign producers. By increasing acreage per farm, producers can spread their fixed costs over more acreage and obtain discounts on large purchases of inputs. These actions may have lowered the costs both per acre and per pound and helped large growers achieve economy of scale advantages. In addition, some producers benefited from a drop in cash outlays because discontinuation of marketing quotas eliminated quota rental payments, with producers who had rented most of their quota seeing the largest cost reductions.³² Growers who had previously rented quotas from multiple landlords, especially when it was spread among different counties, could realize cash savings by consolidating their farm operations on fewer fields over smaller distances. They could also save in management time because they no longer needed to locate landlords with rentable quotas or negotiate quota rental rates.

³²In 2004, burley tobacco quota rental rates averaged an estimated \$0.52 per pound, while flue-cured tobacco quota rental rates averaged an estimated \$0.66 per pound (authors' calculation based on the historical relationship between quota rental rates and quota levels). The value (opportunity cost) of peanut quota was in the \$80- to \$90-per acre range during 1996-2001, which translates into about 3.5 cents per pound based on national average yields (ERS Costs and Returns, <http://www.ers.usda.gov/Data/CostsAndReturns/>). In addition, tobacco producers may have seen some reduction in their marketing expenses since they were no longer paying a no-net-cost assessment fee. In 2004, the no-net-cost fee was \$0.01 per pound for burley and \$0.05 per pound for flue.

Structural Adjustments to the Buyouts: Farm-Level Changes

Tobacco Buyout Led to Rapid Exit From Tobacco Farming

Within a year of the buyout, 54 percent of tobacco growers had ceased production, with exits higher among flue-cured growers than burley growers.

Although overall tobacco production has been recovering—with lower but stabilizing burley acreage and rebounding flue-cured acreage—the 2004 tobacco buyout marked a dramatic change that was followed by sudden and enduring changes to the structure of tobacco production at the farm level. Most notably, the number of tobacco farms swiftly declined, with many older tobacco growers choosing to retire and exit the market. The remaining farms tended to be larger (both in tobacco acreage and total farm acreage) and more diversified compared with the average tobacco farm preceding the buyout (app. tables 3 and 4).

The rapid decline in tobacco farms partly reflects the fact that many producers, especially older producers, anticipated the tobacco buyout and remained in production to be eligible for the buyout “transition” payments to active tobacco growers. Following the buyout, rising competition and uncertainty about the future of tobacco production increased the probability that less efficient tobacco producers would quit growing tobacco. Data from USDA’s Agricultural Resource Management Survey (ARMS) indicate that about 27,000 (approximately 54 percent) of flue-cured and burley growers ceased production of these two crops in the year after the buyout, with the larger share of them flue-cured producers. However, farmers who previously produced flue-cured tobacco were more likely than burley growers to remain active producers of other commodities.

Burley Tobacco Farm Exits

According to the 2004 ARMS, about 39,000 farmers grew burley tobacco in 2004, but data from the 2005 ARMS indicate that the number of burley farmers had dropped to roughly 19,000 a year after the buyout. Combined data from the 2004 and 2005 ARMS suggest that 56 percent of the 2004 burley tobacco growers quit farming burley a year after the buyout.³³ A further breakdown of the data indicates that roughly 41 percent of the 2004 burley producers quit farming altogether in 2005, while 15 percent continued to farm but did not produce burley (fig. 8). The remaining 44 percent of producers grew burley tobacco in both years. Roughly, 1,000 producers who grew burley tobacco in 2005 did not grow the crop in 2004. Without quota restrictions, producers outside the normal burley tobacco production regions, such as those in Pennsylvania, could and did grow burley.

Flue-Cured Tobacco Farm Exits

Flue-cured tobacco producers were more likely to discontinue tobacco production because the residual returns per acre for flue-cured tobacco production had been lower than those for burley tobacco production for

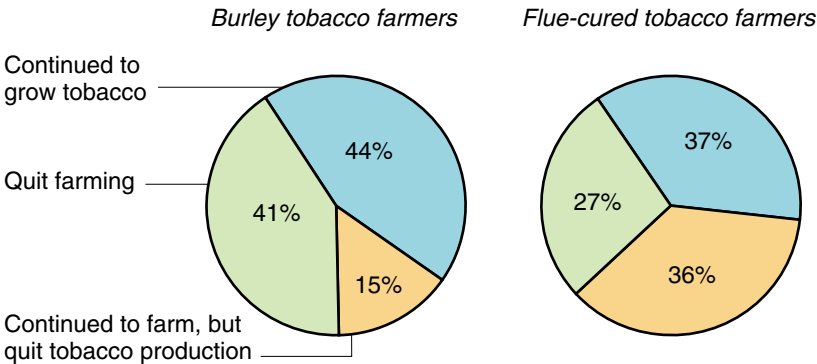
³³Combining data from two surveys yields rough estimates of the percentages of tobacco farmers who quit farming.

10 years preceding the buyout.³⁴ Estimates from the 2004 ARMS show that about 11,000 producers grew flue-cured tobacco that year. ARMS data for 2004 and 2005 indicate that roughly 63 percent of the 2004 flue-cured tobacco producers quit producing flue-cured in the first year of the tobacco buyout (fig. 8). The remaining 37 percent continued to grow tobacco. Very few producers grew flue-cured tobacco in 2005 who had not done so in 2004, suggesting that few producers wanted to risk entering into flue-cured production. The lack of new entrants indicates that flue-cured production remained in the traditional regions in the short term.

Although more of flue-cured producers discontinued tobacco production than burley producers, flue-cured producers were more apt to remain active farmers. In 2005, only 27 percent of the 2004 flue-cured producers retired from farming compared with 41 percent of burley tobacco producers—probably due to flue-cured producers’ greater diversification in commodities and greater dependence on farm income. For example, flue-cured producers sold an average of 4.6 commodities and burley producers sold an average of 4.1 in 2007 compared with 3.3 and 2.8 commodities in 2004, respectively. Dropping one commodity, such as tobacco, would not significantly change the income levels for most flue-cured farms because commodity diversification generates income from—and spread risks over—several farm enterprises. In addition, flue-cured tobacco producers had larger farms, which tend to generate higher farm incomes and allow less time for operators to pursue off-farm employment. With larger farms and their greater dependency on income from their farm operations, former growers of flue-cured tobacco were less likely to discontinue farming.

³⁴ <http://www.ers.usda.gov/data/ CostsandReturns/data/history/Toba/H-USToba.xls>.

Figure 8
One year after the buyout, flue-cured tobacco farmers were more likely than burley tobacco producers to discontinue tobacco production, but were less likely to discontinue farming



Data source: 2004 and 2005 Agricultural Resource Management Survey (ARMS), USDA.

Structural Adjustments to the Buyouts: Farm-Level Changes

Increasing Tobacco Acreage per Farm Has Implications for Tobacco Production

Despite labor shortages, remaining tobacco farms grew in scale and household incomes held steady.

Average tobacco acreage per farm increased after the buyout, more on farms producing flue-cured tobacco than on burley farms. Most of the increase in tobacco acreage per farm, at least initially, was due to smaller tobacco farmers dropping out, while larger farms were more likely to remain in operation. ARMS data show that the average burley tobacco farm harvested approximately 5 acres of burley in 1995, 5 acres in 2004, and over 10 acres in 2006 and 2007 (app. table 3). In 1996, farms producing flue-cured tobacco harvested 38 acres on average; by 2004, the year of the buyout, this had dropped to an average of 32 acres. Just 1 year later, the average was 47 acres per farm, and it rose to 84 acres by 2007 (app. table 4).

Increasing the tobacco acreage per farm to achieve economies of scale has had multiple consequences for tobacco producers. One of the challenges tobacco farmers face today is finding the labor to support the increased scale of production; tobacco production is very labor-intensive, with hired labor accounting for 30 percent of variable cash expenses for flue-cured tobacco production in 2004 and 42 percent of variable cash expenses for burley production.³⁵ Snell (2007) estimates that 200 hours of labor per acre are needed to produce burley tobacco. In the past, many small tobacco operations were able to handle the workload by supplementing operator and family labor with hired local laborers. As tobacco acreage per farm increases, family labor and the supply of local residents willing to work with tobacco may no longer meet labor requirements.

The increasing burley tobacco acreage per farm, combined with the difficulties in finding workers, has increased producers' interest in mechanization (Center for Tobacco Grower Research). One effect of the quotas had been to constrain the size of tobacco operations, indirectly discouraging use of new production technologies, since the quota limited the quantity that each producer could market. Without quotas, tobacco acreage per farm can be increased to levels that support mechanization of the intensive tobacco labor operations, but producers need sufficient acreage to spread purchase and maintenance costs to acceptable levels.

³⁵ <http://www.ers.usda.gov/data/CostsandReturns/data/history/Toba/H-USToba.xls>

The average total (farm and off-farm) household income per farm family did not rise significantly for flue-cured or burley tobacco producers after the tobacco buyout. However, farm income per family for flue-cured tobacco producers was somewhat higher in 2007, according to the ARMS data, compared with income for the 2004 producers. Producers of flue-cured tobacco had more farm acreage and more tobacco acreage per farm in 2007 than in 2004. The higher acreages may have resulted in the higher average farm-based income for flue-cured producers in 2007. In contrast, the average farm income earned by burley tobacco producers in 2007 remained unchanged from the time of the buyout (app. table 3).

Structural Adjustments to the Buyouts: Farm-Level Changes

Peanut Farms Are Fewer, but Larger, Since the Buyout

The number of peanut farms declined by a third—somewhat more gradually than for tobacco—and average acreage increased by two-thirds.

As with tobacco farms, peanut farms following the 2002 buyout have become fewer in number, but larger on average, in both peanut acreage and total operated acreage per farm (app. tables 1 and 2). According to ARMS data, the decline in the number of peanut farm operators was not as rapid as with tobacco, but by 2007, the number of farms had shrunk by nearly 3,000, or more than a third. However, as the number of farms fell, average peanut acreage per farm increased by two-thirds (by 90 acres) between 2002 and 2007. Total operated cropland acreage per farm also became significantly larger—rising to more than 1,500 acres per farm in 2007 compared with just over 900 acres in 2002.

Although the data are not conclusive, ARMS data indicate that the average (farm and off-farm) household income per farm family for peanut producers rose after the peanut buyout (app. table 2). The increase is tied mainly to a rise in farm income, indicating that remaining peanut farmers depend more on farm activities to support total household income than previously. This dependence may reflect the increasing scale of peanut farms, requiring more management and leaving less time for off-farm work. ARMS data indicate that between 2002 and 2007, the share of peanut farms operating in the largest sales class—farm sales over \$500,000 annually—rose from 8 percent to 33 percent. The increase in scale and full-time management of peanut farms may also contribute to the growth in national average peanut yields.

ARMS data also provide some perspectives on why peanut farming area shifted strongly from the Mid-Atlantic and Southwestern regions to the Southeast following the buyout. In 2004, U.S. peanut farmers were asked several policy-related questions as part of the 2004 ARMS data collection. The results showed that a larger percentage of peanut farmers in the Southeast expected to be farming the same peanut acreage in 5 years compared with peanut farmers in the Mid-Atlantic and Southwest. The Mid-Atlantic region had the smallest percentage of peanut farmers expecting to keep the same acreage and the most farmers who expected to stop producing peanuts compared with the other two regions. Peanut farmers in the Southwest indicated they were most likely to reduce peanut acreage, but very few planned to stop producing peanuts. The 2004 ARMS data also indicate that a much larger share of farmers in the Mid-Atlantic felt that peanut production had become less profitable since the buyout than did farmers in the other two regions. A substantial majority of farmers in the Southwest felt that production had become more profitable since the buyout. Before the buyout, many of these growers produced “additional” peanuts (nonquota peanuts for export or crush) without CCC quota loans.

Peanut farmers' expectations, as expressed in the 2004 ARMS, have largely been borne out. Prior to the buyout, peanut production was most profitable in the Mid-Atlantic region due to higher yields than in the other two regions (ERS cost-of-production accounts).³⁶ However, peanut yields in the Mid-Atlantic region remained about the same after the buyout, while yields increased moderately in the Southeast and rose significantly in the Southwest. Profitability from peanut production declined in the Mid-Atlantic region as yields stagnated and prices declined, and peanut production is currently least profitable in the Mid-Atlantic.

Despite the shift in peanut-growing area toward the Southeast, ERS peanut cost-of-production data indicate that peanut production is now most profitable in the Southwest due to soaring peanut yields. This reflects the increased share of peanut production in the Southwest that is grown under irrigation, which rose from 64 percent to 86 percent between the 1995 and 2004 peanut surveys. With lower peanut prices after the buyout, it was difficult to maintain dryland peanut production in the Southwest, since yields tend to be higher on irrigated acreage. This explains the decline in total peanut acreage in the Southwest.

³⁶ <http://www.ers.usda.gov/data/costsandreturns/data/recent/Pean/R-USPean.xls>. See Data Resources, p. 53.

Structural Adjustments to the Buyouts: Farm-Level Changes

Peanut and Tobacco Growers Turned More to Contracting To Manage Risk After the Buyouts

Measured by both the percentage of farms and the value of production, the use of marketing contracts rose significantly for peanut and tobacco farmers.

In agriculture, producers routinely use contracts to market their commodities.³⁷ The contracts are agreements between farmers and other players in the marketing chain that specify, among other things, conditions of producing or selling an agricultural product. By combining market functions, contracting can reduce participants' exposure to risk by specifying quality requirements, price, and quantities. The contractee (in this case, the farmer) assumes all risks of production, but shares price risk with the contractor.³⁸ After the buyouts, and following the decline of tobacco auctions used to market tobacco leaf, growers selling on the spot market faced risks related to crop prices that were not present under Government price supports in the quota programs. As a result, peanut and tobacco producers increasingly relied on marketing contracts to control price risk and ensure that a market existed for their production (fig. 9).

Because farmers cannot adjust easily to changes in demand after planting investments are made, supplies from individual producers are often insensitive to spot market price movements caused by large fluctuations in market demand or aggregate production. In the absence of minimum price supports—or with lower levels of support, in the case of peanuts—tobacco and peanut farmers faced more uncertainty after the buyouts about whether prices would be high enough to recover investment costs incurred during planting. In the new post-buyout environment, contracts offered a way to smooth production, control quality, and manage price risk.

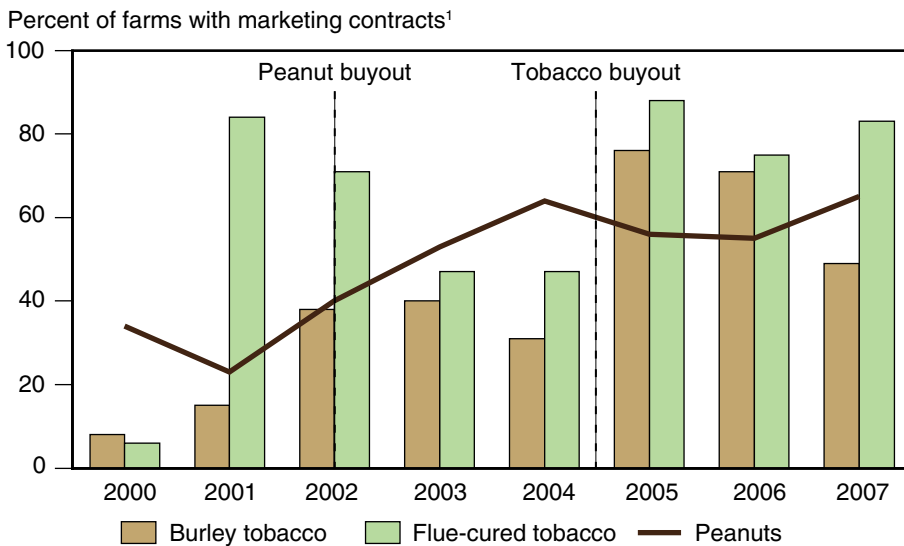
Although marketing contracts were important in the production and supply of peanuts and tobacco before the buyout programs, the number of farms using these contracts significantly increased following the policy changes. In 2004, 2 years after the peanut quota buyout, the share of peanut farms using marketing contracts for their peanut production had grown to 64 percent compared with 40 percent in 2002. Similarly, tobacco growers—who could no longer rely on minimum selling prices at tobacco auction—expanded their marketing contract use. By 2006, 71 percent of burley farms and 75 percent of flue-cured farms marketed their tobacco under marketing contracts compared with 31 and 47 percent in 2004. ARMS data show that in 2007, the percentage of burley producers using tobacco marketing contracts declined, reversing what had been an upward trend, while the percentage of flue-cured producers using contracts stayed fairly stable.

³⁷The use of contracting in U.S. agriculture has been a growing trend. Agricultural contracts covered 41 percent of the value of agricultural production in 2005, up from 36 percent in 2001 and 28 percent in 1991 (MacDonald and Korb, 2008).

³⁸For more information see MacDonald et al. (2004).

In addition to a rising share of peanut and tobacco farms using marketing contracts after the buyouts, the value of production under contract also rose significantly. According to ARMS data, the proportion of peanut production value under a marketing contract averaged 63 percent in the 5 years following the buyout (2003 to 2007), up from 24 percent in 2001. Similarly, the share of burley and flue-cured tobacco production value under marketing contracts was higher in the 3 years after the buyout than in the 3 years before: from 2005 to 2007, the average share of the annual burley tobacco value under marketing contract was 57 percent, compared with 32 percent during 2001-03, while the value of flue-cured tobacco production under contract rose to 85 percent from 68 percent.

Figure 9
Contracting increases following the buyouts



¹Refers to the share of farms using marketing contracts for the specified commodity.
Source: Agricultural Resource Management Survey (ARMS), USDA, 2000-2007.

Structural Adjustments to the Buyouts: Regional Shifts in Production

Shifts in Peanut Production Regions Reflected Increased Planting Flexibility

The buyouts gave peanut farmers flexibility to produce in areas where the soil, climate, and other conditions are better adapted to peanut crops—leading to regional production shifts and rising yields.

While overall peanut acreage has fluctuated since the 2002 buyout, it appears that domestic and export demand have provided sufficient incentives to prevent further contraction of acreage. However, a major adaptation has been a significant change in production location, with shifts between and within each of the three main peanut-growing regions—a development related at least partly to the elimination of planting restrictions brought about by policy change.

Regional and State Shifts in Peanut Acreage

Although acreage has declined sharply in the Southwest (Texas, Oklahoma, and New Mexico) and the Virginia-North Carolina region since 2002, plantings in the Southeast (Alabama, Florida, Georgia, Mississippi, and South Carolina) have expanded considerably. The Southeast accounted for roughly 75 percent of national plantings in 2008 compared with just over half immediately preceding the buyout.

In addition to peanut area shifts between regions, the relocation of production within regions and individual States has been pronounced, reflecting the new mobility of peanut production. For example, figure 10—which maps percentage changes in average peanut acreage by county from the pre-Farm Act years (1998-2001) to 2005-07—shows a large decline in south-central Georgia, while growth in surrounding areas more than compensated for those losses. Production has also shifted in other States, with acreage gains in northern Florida and western Texas and losses in northern North Carolina, central Texas, and throughout Oklahoma and Virginia. Additionally, peanut acreage has declined in southeast Alabama, with production shifting into the southwest portion of the State. New peanut-farming States such as Mississippi now plant more acres than long-established peanut-producing States such as Oklahoma or New Mexico.³⁹

Peanut Yields Improve as Producers Shift Location and Expand Operations

Major shifts within and between production regions have been associated with steady growth in national average peanut yields since the buyout. Data indicate that counties with good yield histories have been gaining area at the expense of counties with poorer performance and that national average peanut yields during 2003-08 improved by almost 450 pounds per acre, or 17 percent, compared with yields during the 1996 Farm Act period (1996-2002).

The impacts of greater planting flexibility and market orientation, brought about by the 2002 Farm Act, have contributed to increased yields. Previously,

³⁹The USDA National Agricultural Statistics Service did not report State-level peanut plantings for Mississippi until 2005.

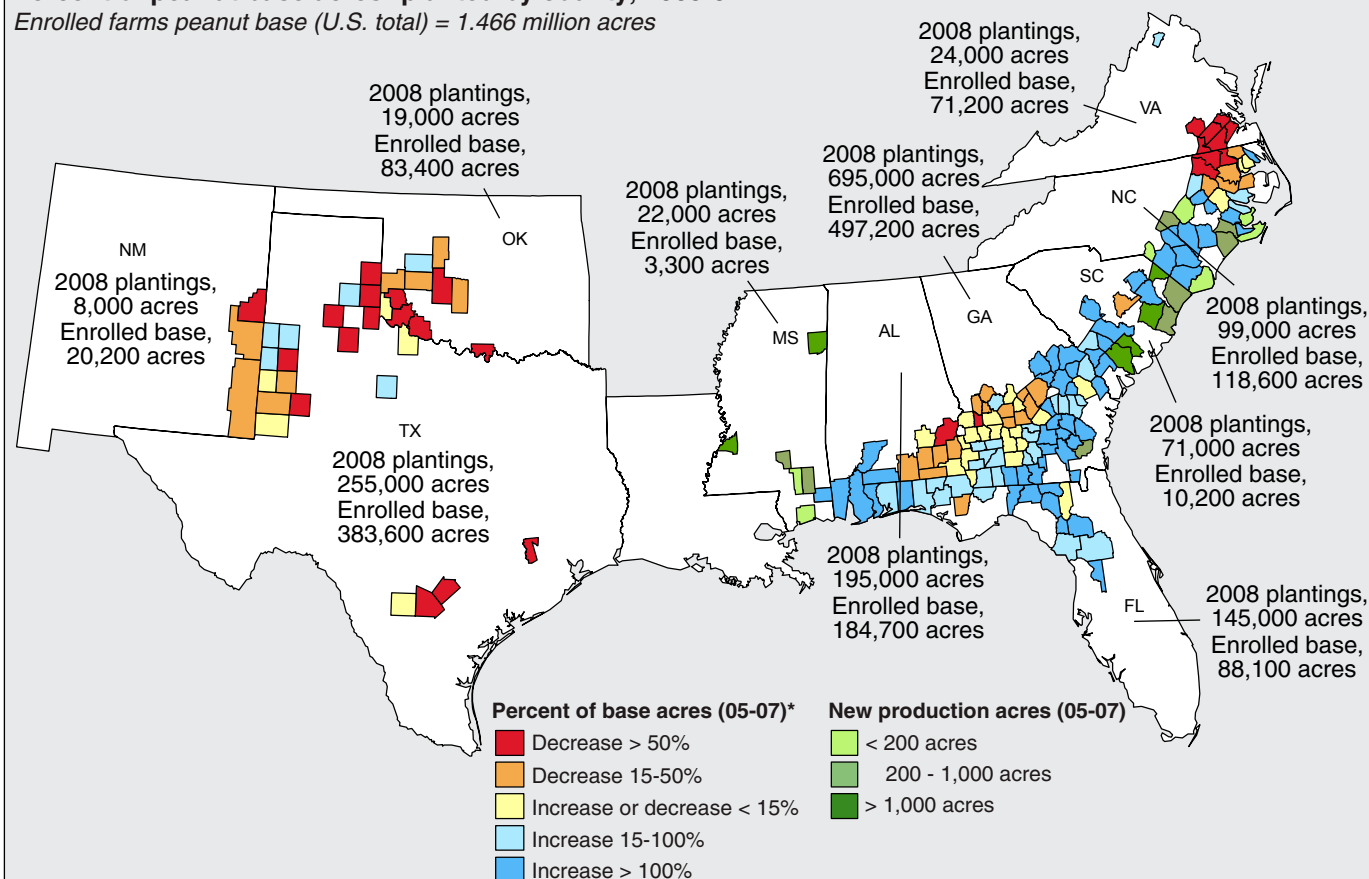
the quota system may have hindered yield improvements by creating rigidities in planting decisions, such as preventing movement to more productive areas. Before 2002, for example, the cost of acquiring quota rights, and restrictions on the transfer of quota rights between counties and States, tended to concentrate production on land originally granted quota acreage “allotments.” Higher prices for quota peanuts encouraged less efficient quota holders to continue producing, and acquiring quota rights to expand production was costly or impossible for more efficient producers elsewhere.

Many of those who ceased producing peanuts after 2002 were likely smaller scale, less competitive quota owners or operators who relied on the \$610-per-ton quota loan rate to cover production costs. Meanwhile, other more efficient producers—probably either those who had been growing nonquota peanuts for export or new producers attracted by the opportunity to sell peanuts domestically without renting quota rights—have expanded. Peanut farms are two-thirds larger than they were at the time of the buyout, and a greater share of farms fall into the largest sales class (\$500,000 or more annually). Better growing conditions in the new areas, along with crop management practices employed by larger operations—such as longer crop rotation strategies and optimal use of inputs (e.g., fertilizers and chemicals)—have contributed to yield growth.

Figure 10

Percent of peanut base acres* planted by county, 2005-07

Enrolled farms peanut base (U.S. total) = 1.466 million acres



* Percent of base acres indicates the ratio of average plantings during 2005-07 to base acres. Base acres, which generally reflect average plantings during 1998-2001, are the peanut acreage eligible to participate in government commodity programs.
Source: Prepared by ERS using data from USDA, National Agricultural Statistics Service, *Quick Stats*.

Structural Adjustments to the Buyouts: Regional Shifts in Production

Tobacco Production Shifted Less After the Buyouts Than Peanut Production

Instead, tobacco farming became more concentrated in prime growing areas.

With tobacco production no longer constrained by geographic restrictions, tobacco area expanded in lower cost areas, such as the coastal plains of North and South Carolina, while higher cost tobacco farming areas, such as Tennessee, decreased in size. Tobacco production became more concentrated in the key tobacco production States: Kentucky for burley and North Carolina for flue-cured tobacco (fig. 11). Kentucky producers harvested 72 percent of burley tobacco acreage in 2008 compared with 69 percent in the year before the buyout.⁴⁰ Tennessee's share of burley harvested acreage fell to 14 percent in 2008 from 16 percent in 2004 and 19 percent in the 1999-2002 period. In 2008, North Carolina accounted for 76 percent of flue-cured harvested acreage, up from 66 percent in 2004, while all other flue-cured-producing States showed declines.

The growing concentration of burley and flue-cured tobacco production in specific areas of central Kentucky and eastern North Carolina indicate that these regions remain especially suited to tobacco production. These regions have exhibited consistently higher yields and lower production costs and have a well-established production and distribution infrastructure capable of handling large quantities of tobacco. While declining in every other significant production region, flue-cured acreage in eastern (coastal) North Carolina has expanded—perhaps benefiting from comparatively low land values, the ability to reduce unit costs with expanded production, and availability of relatively flat, fertile land.⁴¹ Production in this region also benefits from proximity to port facilities, as exports continue to account for a growing share of flue-cured tobacco demand.

Burley tobacco production has declined predominantly in eastern portions of Kentucky and in Tennessee, North Carolina, and Virginia, while remaining relatively stable in central and western regions of Kentucky (See burley map). Burley tobacco yields in Kentucky's eastern region and in Tennessee tend to be lower, which boosts production costs per pound and lowers profitability. According to NASS data, burley tobacco yields averaged less than

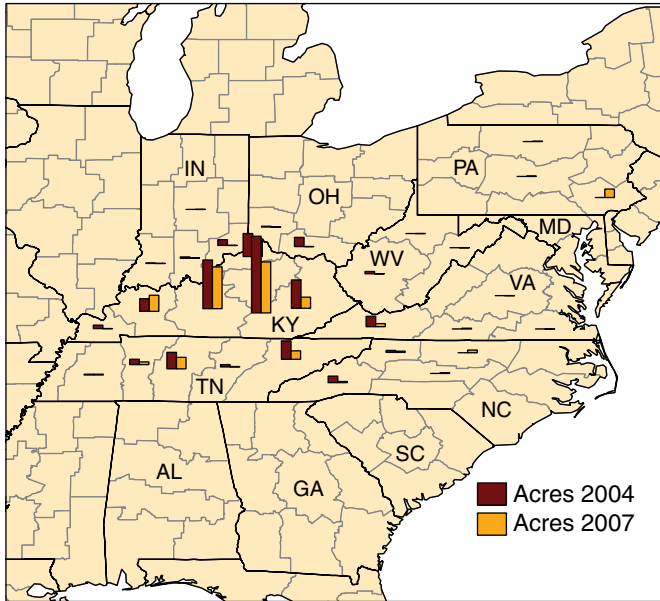
⁴⁰Acreage rather than quantity was used in this comparison because annual weather variations by State can skew the results, especially, when only 3 years of post-buyout data is compared with pre-buyout data.

⁴¹NASS data show that flue-cured tobacco yields averaged over 2,150 pounds per acre from 1980 to 2004, with standard deviations of less than 180 pounds per acre, in eastern North Carolina. This compares with yields of less than 2,150 pounds per acre for most of the other flue-cured regions. The standard deviations for regions other than eastern North Carolina often exceeded 200 pounds per acre (standard deviations are a measure of the variance around the average). Lower figures indicate that yields are less volatile, implying less production risk.

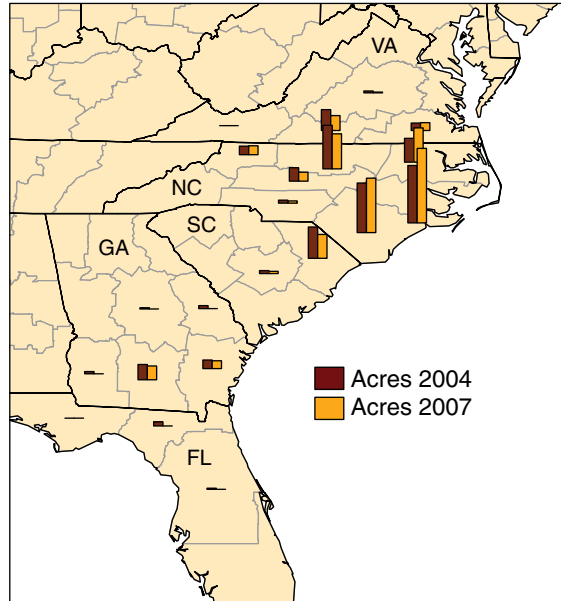
Figure 11

Harvested acres of burley and flue-cured tobacco by NASS county districts before (2004) and after (2007) the buyout

Burley tobacco



Flue-cured tobacco



Note: The tobacco buyout was enacted in 2004, but took effect in 2005.

Source: Economic Research Service, USDA, using data from *Quick Stats*, National Agricultural Statistics Service, USDA.

2,000 pounds per acre from 1980-2004 in these regions compared with higher yields in the central and western portions of Kentucky.

Producers are starting to grow some burley tobacco outside its traditional production regions. Flue-cured tobacco producers in the Piedmont regions of North Carolina and Virginia are experimenting with burley tobacco production, and Amish tobacco farmers around Lancaster, Pennsylvania, have also started raising burley tobacco (Bickers, March 16, 2006). Pennsylvania had no reported burley acreage prior to 2005, but by 2008, it ranked third among the seven burley-producing States—behind Kentucky and Tennessee—accounting for 4 percent of U.S. burley tobacco production. Burley tobacco yields of Pennsylvania farmers have been consistently higher than the national average, which helps them to compete with farmers in the traditional burley production regions.

Other Tobacco Buyout Experiences

Maryland's Self-Funded Buyout

As foreign demand dropped for Maryland tobacco, the State launched a long-term program to phase out production. Most Maryland tobacco producers enrolled in the program, and the U.S. supply of this type of tobacco was reduced.

Three years before the Federal tobacco buyout, Maryland funded its own tobacco buyout program to reduce Maryland Tobacco type 32 production. The buyout was prompted by declining demand for Maryland tobacco, which was primarily exported to Europe, where older smokers preferred the heavier smoke produced by the fast-burning Maryland tobacco leaf used in blends (Yancy). However, younger European smokers preferred lighter cigarettes and alternative blends were developed, which reduced demand for Maryland leaf.

Maryland did not participate in the Federal tobacco program and was therefore ineligible for quota buyout payments. However, in 1999, Maryland allocated \$78 million of the \$4 billion received from tobacco settlement money to fund its tobacco buyout (Frisman). The Maryland tobacco buyout program pays tobacco producers \$1 per pound each year for 10 years if they voluntarily agree to give up tobacco production permanently, as long as they continue operating the farm for at least 10 years for other purposes (Southern Maryland Agricultural Development Commission).⁴² Eligibility was based on the producer's average tobacco sales from 1996-98, with payment contracts effective from 2001 to 2015, depending on when the farmer enrolled in the buyout.⁴³

By the time of the Federal buyout in 2004, about 85 percent of the 990 eligible Maryland farmers were participating in the State program and had converted their land to other agricultural uses. Currently, the majority of the 100 farmers growing Maryland tobacco are Amish farmers who do not accept Government payments.⁴⁴ Production of type 32 tobacco in Maryland fell from an average of 7,000 acres per year in the 3 years preceding the buyout to 1,133 acres in the last 3 years that the Maryland producers could enroll in the program (2001-2004).

⁴² If the farmland changes hands before the end of the 10-year period, a covenant must be added to the sales contract that prevents the new owner from raising tobacco on the land until the 10-year period has passed.

⁴³ Maryland tobacco producers producing type 32 could enroll in the program any time between 2000 and 2004.

⁴⁴ "End of an Era For Maryland Tobacco," *Washington Post*, Thursday, March 1, 2007.

Other Tobacco Buyout Experiences

Canada's Partial Tobacco Buyout

In 2005, Canada bought out some of its tobacco growers to reduce quota and to bring supply closer to reduced demand. However, demand continued to decline, and Canada implemented a transition program to further assist tobacco farmers who wanted to exit production.

Canadian tobacco producers contended with issues similar to those of U.S. tobacco producers before the U.S. buyout. Canadian producers faced declining demand for their tobacco leaf due to falling domestic cigarette consumption related to higher taxes (Tobacco Farmers in Crisis),⁴⁵ and higher taxes led to the development of a significant market in cheaper, contraband cigarettes. By 2007, over 40 percent of cigarettes sold in Canada were contraband. To remain competitive with the contraband cigarettes, legitimate manufacturers imported cheaper tobacco (Ontario Flue-Cured Tobacco Growers' Marketing Board, 2008 Annual Report).

Since Canadian tobacco producers have a quota system that limits their tobacco production, the reduction in tobacco demand led to quota reductions. In addition to facing declining quotas, Canadian tobacco producers had to invest in equipment in 2002 to reduce nitrosamines in tobacco. The quota reductions and rising investment costs put economic pressure on the tobacco producers. In 2005, the Federal and provincial governments provided funding for a partial buyout of tobacco quotas, with farmers competing to retire their quota through bidding.⁴⁶ Thirty-six percent of bids by farmers in Ontario were accepted, vs. 53 of 57 bids from Quebec.

The buyout was partially intended to help the farmers who were still producing tobacco remain viable. However, the partial buyout did not stem the falling demand for Canadian tobacco leaf, and tobacco quota levels continued to fall. In 2008, the Ontario tobacco quota level totaled 20 million pounds compared with an estimated 87.9 million pounds in 2005 (Ontario Flue-Cured Tobacco Growers' Marketing Board Annual Reports). In addition to falling quota, the remaining Canadian tobacco farmers experienced rising tobacco production costs, while tobacco prices remained steady from 2005 to 2007. Because most Canadian tobacco is sold at auction, Canadian producers were unsure of the price they would receive for their crop until harvest. The resulting financial stress caused the number of Ontario tobacco farmers to fall from 580 in 2005 to 444 in 2007 and prompted repeated calls for another tobacco buyout.

In August 2008, the Canadian Government announced that it was providing \$286 million to tobacco producers through the Tobacco Transition Program to assist remaining farmers in exiting the tobacco industry (Agriculture and Agri-Food Canada).⁴⁷ The program provides \$1.05 per pound for tobacco quota. Producers who accept the transition payments will not be able to return to tobacco production.

⁴⁵The referenced source, Tobacco Farmers in Crisis, is an organization, established in 2005, representing Canadian tobacco growers facing economic hardship.

⁴⁶The funds were provided through the Tobacco Adjustment Assistance Program (TAAP).

⁴⁷An additional \$15 million was allocated to fund community development initiatives.

Conclusions

Market Forces Provide Signals in the New Policy Setting

The buyouts fostered rapid adjustments among peanut and tobacco producers, with production now more responsive to demand developments and efficiency considerations.

The peanut and tobacco buyouts each arose from international pressures that created concerns about declining quota levels and the ability to sustain the programs at no net cost to the Government. The 2002 Farm Bill included a buyout of the peanut marketing quota, and made peanut producers eligible for a new marketing loan program as well as for direct and countercyclical payments. The 2004 tobacco buyout ended quotas and loan programs with no additional support beyond the buyout payments. The buyouts represented milestone policy changes that ushered in structural adjustments, such as farm consolidation and regional shifts in production. Once the buyouts were enacted, these adjustments occurred rapidly. Ensuing developments were guided by market forces, including changes in domestic and foreign demand, and a movement toward larger operations in regions best suited for production. Average tobacco and peanut acreage and average total acres per farm grew after the buyouts as both sectors consolidated.

With the elimination of price supports and assurances of a buyer, growers adapted to increased market risk by engaging more in contracting. Without minimum price supports, farmers had less assurance of recovering investment costs from their sales. Marketing contracts provided a method for farmers to decrease price uncertainty and share output price risk with buyers, making contracts appealing to peanut and tobacco growers in the new post-buyout environment.

Following the buyouts, the location of tobacco and peanut farms was increasingly determined by market forces and tied to costs, quality, and yields. With quota transfer restrictions no longer in place, interstate and intrastate movements occurred where opportunities for efficiency gains existed. Increased efficiency and lower prices contributed to stability, and even to a resumption of demand growth, particularly in export markets.

Quota removals and reduced price supports for peanuts—or, in the case of tobacco, the complete elimination of price supports—have allowed the U.S. supply of peanuts and tobacco to more closely match the domestic and foreign demand for these commodities. Prices offered for peanuts and tobacco fell after the quota buyouts since producers no longer had to lease quota. Domestic demand for peanuts benefited from lower retail prices, and both peanut and tobacco exports improved due to lower prices and a weaker dollar. Although declining domestic cigarette consumption has reduced domestic demand for U.S.-grown burley and flue-cured tobacco, there is a growing niche market for dark tobacco, boosting its demand and acreage. After Canada’s and Maryland’s buyouts, the demand for their respective tobacco products continued to fall, resulting in sharply reduced production. These cases illustrate that changes in demand are a central determinant of how agricultural sectors evolve after a policy change. The experience of the peanut and tobacco sectors demonstrates that adaptation to policy changes can occur quickly and that a stronger market orientation supports more cost-competitive production and greater responsiveness to changes in demand.

Appendix Tables

Appendix table 1

Characteristics of peanut farms, 2001, 2002, 2004, 2006, and 2007

Item	2001 (A)	2002 (B)	2004 (C)	2006 (D)	2007 (E)
Farm size (<i>acres per farm</i>):					
Operated	*860	907 E	*894 E	1,054	1,525 BC
Owned	*356	398	^a 437	524	*726
Peanut acreage and yield:					
Harvested (<i>average peanut acres per farm</i>)	*120 E	137 E	156 E	182 E	227 ABCD
Yield (<i>pounds per acre</i>)	2,605	2,352 CDE	3,022 B	2,980 B	3,148 B
Percent of peanut production value under marketing contracts	^a 24 CDE	38 CDE	81 ABDE	63 ABC	57 ABC
Other crop acreage (<i>average per farm</i>):					
Cotton	*161 DE	231	193 DE	308 AC	300 AC
Corn for grain	*76	38 E	53 E	50 E	*158 BCD
Soybeans	*26 DE	41 E	43 E	54 A	*94 ABC
Wheat	*19 E	*48	*24	23	*86 A
Tobacco	^a 2 BE	*6 A	^a 7	*4	*7 A
Production specialty ¹ (<i>percent of farms</i>):					
Peanut	*53 E	41 DE	41 E	27 B	*18 ABC
Cotton	^a 24	*12 D	*14 D	35 BCE	*19 D
General crop	^a 9 CE	*25	26 A	18 E	32 AD
Tobacco	^a 4	^a 9	^a 8	*2	*2
Cattle	^a 1	^a 5	^a 4	*5	^a 6
Sales class (<i>percent of farms</i>):					
\$500,000 or more	*8	^a 14	15	22	33
\$250,000-\$499,999	*12	*15	*27	26	26
\$100,000-\$249,999	*38	*20	*20	20	16
\$40,000-\$99,999	^a 22	*29	*24	14	*17
\$39,999 or less	^a 19	*21	*14	17	^a 8
Regions ² (<i>percent of farms</i>):					
Mid-Atlantic	^a 24	19	10	10	13
Southeast	*45	67	69	84	75
Southwest	^a 30	*11	*20	^a 6	*12

¹ The production specialty refers to the commodity that accounted for 50 percent or more of the farm's value of production. General crop farms did not have a single commodity that met this criterion.

² The Mid-Atlantic region consists of Virginia and northeastern counties in North Carolina. The Southeast region includes the southeastern counties in North Carolina and all of South Carolina, Georgia, Alabama, Mississippi, and Florida. The Southwest region includes Texas and Oklahoma. Coefficient of Variation = (Standard Error/Estimate) x 100.

*Indicates that CV is greater than 25 and less than or equal to 50.

^a indicates that CV is above 50.

Letters A, B, C, D, and E indicate significant column difference tests based on t-statistics at a 90-percent confidence level or higher.

Rounded percents may not add precisely to 100.

Source: 2001, 2002, 2004, 2006, and 2007 Agricultural Resource Management Survey (ARMS), National Agricultural Statistics Service, and ERS, USDA.

Appendix table 2

Characteristics of peanut farms after the peanut buyout for selected years

Item	2002 (A)	2004 (B)	2006 (C)	2007 (D)
Number of peanut farms	8,086 D	8,608 D	6,386 D	5,134 ABC
Percent with a peanut marketing/production contract	40 BCD	79 AC	55 AB	65 A
Peanuts as percent of value of production	28	32	25	28
Peanut acres per farm	137 D	156 D	182 D	227 ABC
Operated acres per farm	907 D	*894 D	1,054	1,525 AB
Owned and operated	*387	^a 423	497	*707
Rented	520 D	427 D	556 D	816 ABC
Cropland acres	676 D	606 D	798 D	1,050 ABC
Operator occupation (<i>percent</i>):				
Farming	85	79	82	87
Nonfarm	a7	14 C	^a 2 BD	*13 C
Retired	a8	*7 CD	0 B	0 B
Operator age (<i>mean</i>)	50	53	55 A	54
Less than 50 years (<i>percent</i>)	52 CD	40	32 A	29 A
65 or more (<i>percent</i>)	24	*20	19	*18
Operator education (<i>percent</i>):				
Completed high school	90	87 D	95	97 B
Completed college	*19	*24	25	28
Farm organization (<i>percent</i>):				
Sole/family proprietor	80	86 A	82 A	84 A
Partnership	*12	^a 8	9	12
Family corporation	^a 5	5 C	*1 BD	*5 C
Number of commodities per farm	3.7 D	3.5 D	3.4 D	4.9 ABC
Percent of farms raising:				
Corn	38 D	41 D	32 D	59 ABC
Hay	*32	27	25	33
Cotton	57	55	61	62
Soybeans	23	21 D	22	31 B
Cattle	42	44	36	38
Household income/farm family (<i>dollars</i>)	76,643	*109,938	117,878	*110,912
Farm income/farm family	^a 21,264 BC	*74,224 A	62,088 A	*65,427
Off-farm income/farm family	55,380 B	35,714 A	*55,790	45,485
Average value in dollars per farm:				
Farm assets	*937,706 CD	*1,173,570	1,673,032 A	2,128,666 A
Farm debt	*162,009	*140,065	133,057	184,620
Farm business net worth	*775,697 CD	*1,033,505	1,539,976 A	1,944,046 A
Business debt/asset ratio	17 CD	*12	8 A	9 A

Coefficient of Variation = (Standard Error/Estimate) x 100.

*Indicates that CV is greater than 25 and less than or equal to 50.

a indicates that CV is above 50.

Letters A, B, C, and D indicate significant column differences based on t-statistics at a 90-percent confidence level or higher.

Source: 2002, 2004, 2006, and 2007 USDA Agricultural Resource Management Survey (ARMS), National Agricultural Statistics Service, and ERS, USDA.

Appendix table 3

Comparison of burley tobacco farms before and after tobacco buyout¹

Item	2004 (A)	2005 (B)	2006 (C)	2007(D)
Number of tobacco farms	39,215 BCD	19,233 A	13,443 A	*12,973 A
Percent with a tobacco marketing/production contract	31 BC	78 AD	71A	49 B
Tobacco as percent of value of production	43	^a 21	33	39
Operated acres per farm	191 C	215	328 A	247
Owned and operated	116 CD	138	169 A	190 A
Rented	*70	*56 C	*136 BD	^a 44 C
Cropland acres operated	106 C	*133	215 A	124
Tobacco acres per farm	5.0 C	*6.3	10.1 A	*10.5
Percent of total labor expenses:				
Operator and unpaid labor ²	84 BC	69 A	59 A	79
Operator occupation (<i>percent</i>):				
Farming	41	*50	42 A	*34
Retired	*18 CD	^a 16 CD	0 AB	0 AB
Operator age (mean)	57 CD	55	49 A	50 A
Less than 50 years (<i>percent</i>)	37	46	*37	47
65 or more (<i>percent</i>)	34 CD	*23	^a 8 A	^a 8 A
Operator education (<i>percent</i>):				
Completed high school	68 CD	84	97 A	88
Completed college	^a 9 B	0 AC	*6 B	^a 7
Farm organization (<i>percent</i>):				
Sole/family proprietor	92	97	95	86
Partnership	^a 8	*3	^a 4	^a 14
Number of commodities per farm	2.8 D	2.3 D	2.8 D	4.1 ABC
Percent of farms with one	*12 BD	*32 AD	^a 16	0 AB
Percent of farms with two	27	33	^a 29	*19
Percent of farms with three	42 B	*18 A	^a 38	*39
Percent of farms with four or more	18	17	18	41
Percent of farms raising:				
Corn	*16	*18	*17	*26
Hay	72	57	78	73
Soybeans	*4 C	*9	*13 A	^a 8
Cattle	59	*35	*52	*43
Household income/farm family (<i>dollars</i>)	53,597	54,495	80,436	60,175
Farm income/farm family	*10,414 C	*20,022 C	47,414 ABD	^a 8,741 C
Off-farm income/farm family	43,183	34,474 D	33,022 D	51,434 BC
Average value in dollars per farm:				
Farm assets	465,056 C	557,464	802,981 A	651,486
Farm debt	37,068	*19,488 C	*79,395 B	^a 43,254
Farm business net worth	427,988 CD	537,976	723,586 A	608,233
Business debt/asset ratio	8 B	*3 AC	*10 B	^a 7

¹Tobacco quotas and price supports ended after 2004 when the tobacco buyout program began. Table includes all farms raising tobacco in the traditional burley tobacco production region. Most of these farms grow only burley tobacco, but some may also grow dark or flue-cured tobacco.

²An imputed wage rate is used to value unpaid labor hours.

Coefficient of Variation = (Standard Error/Estimate) x 100.

*Indicates that CV is greater than 25 and less than or equal to 50.

^a indicates that CV is above 50.

Letters A, B, C, and D indicate significant column differences based on t-statistics at a 90-percent confidence level or higher.

Source: 2004–07 Agricultural Resource Management Survey (ARMS), National Agricultural Statistics Service, and ERS, USDA.

Appendix table 4

Comparison of flue-cured tobacco farms before and after tobacco buyout¹

Item	2004 (A)	2005 (B)	2006 (C)	2007 (D)
Number of tobacco farms	11,062 BCD	3,766 A	3,469 A	*2,639 A
Percent with tobacco marketing/production contract	47 BCD	88 A	76 A	83 A
Tobacco as percent of value of production	45	37	47	47
Operated acres per farm	566 D	690	662	906 A
Owned and operated	*275	222	218	272
Rented	275 BD	456 A	428	615 A
Cropland acres operated	355 BD	547 A	489	694 A
Flue-cured tobacco acres per farm	32.6 CD	46.9 D	59.7 AD	84.2 ABC
Percent of total labor expenses:				
Operator and unpaid labor ²	50 CD	43 D	35 AD	28 ABC
Operator occupation (<i>percent</i>):				
Farming	81 C	92	97 A	94
Nonfarm	*11 BC	^a 2 A	^a 1 A	^a 6
Retired	^a 8 CD	^a 6	0 A	0 A
Operator age (<i>mean</i>)	54	53	53	52
Less than 50 years (<i>percent</i>)	*33	34	*25	38
65 or more (<i>percent</i>)	*14	*17	*9	^a 16
Operator education (<i>percent</i>):				
Completed high school	83 D	86 D	93	95 AB
Completed college	*11 B	0 ACD	*21 B	*16 B
Farm organization (<i>percent</i>):				
Sole/family proprietor	89	81	85	82C
Partnership	*7	*15	*5	^a 9
Family corporation	*4 BC	^a 1 AD	^a 1 AD	*8 BC
Number of commodities per farm	3.3 D	3.7 D	3.4 D	4.6 ABC
Percent of farms raising:				
Corn	32	38	39	*48
Hay	*32	35	*29	*24
Cotton	*28	14	22	*22
Soybeans	44 B	65 A	60	62
Peanuts	*13	9	10	*11
Cattle	*34	26	*24	*21
Household income/farm family (<i>dollars</i>)	103,024	133,002	*111,662	139,934
Farm income/farm family	64,243 B	104,272 A	*78,265	109,740
Off-farm income/farm family	38,781 B	28,720 A	*32,397	30,193
Average value in dollars per farm:				
Farm assets	927,587	1,208,370	1,201,051	1,574,797
Farm debt	*88,030	77,606 D	91,900	138,104 B
Farm business net worth	839,556	1,130,764	1,109,151	1,436,693
Business debt/asset ratio	*9	6	8	9

¹Tobacco quotas and price supports ended after 2004 when the tobacco buyout program began. Table includes all farms raising tobacco in the traditional flue-cured tobacco production region. Most of these farms grow only flue-cured tobacco, but some may also grow dark or burley tobacco.

²An imputed wage rate is used to value unpaid labor hours.

Coefficient of Variation = (Standard Error/Estimate) x 100.

*Indicates that CV is greater than 25 and less than or equal to 50.

a indicates that CV is above 50.

Letters A, B, C, and D indicate significant column differences based on t-statistics at a 90-percent confidence level or higher.

Source: 2004–07 Agricultural Resource Management Survey (ARMS), National Agricultural Statistics Service, and ERS, USDA.

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Bureau of Labor Statistics (BLS) (<http://data.bls.gov/PDQ/outside.jsp?survey=ap.>).

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(<http://www.ers.usda.gov/data/FATUS/>). Provides U.S. agricultural exports and imports, volume and value, by country, by commodity, and by calendar year, fiscal year, and month, for varying periods, such as 1935 to the present or 1989 to the present. Updated by month and by year.

Production, Supply and Distribution (PSD) (<http://www.fas.usda.gov/psdonline/psdHome.aspx/>). Contains official USDA data on production, supply, and distribution of agricultural commodities for the United States and major importing and exporting countries. The database provides projections for the coming year and historical data for more than 200 countries and major crop, livestock, fishery, and forest products.

WTO Agricultural Trade Policy Commitments Data Base

(<http://www.ers.usda.gov/db/wto/>). Contains data on implementation of trade policy commitments by World Trade Organization member countries. Data on domestic support, export subsidies, and tariffs are organized for comparison across countries. This queriable database offers various options for viewing and downloading data.

Quick Stats: Agricultural Statistics Data Base

(<http://www.nass.usda.gov/QuickStats/>). Offers U.S., State, and county-level agricultural statistics (including price, production, and yield) for many commodities and data series. Quick Stats offers the ability to query by commodity, State, and year. The dataset can be downloaded for easy use in a database or spreadsheet.

Farm Program Acres (<http://www.ers.usda.gov/data/baseacres/>). Allows downloading and mapping of county-level farm program and planted acreage data for nine major program crops (corn, grain sorghum, barley, oats, wheat, rice, cotton, peanuts, and oilseeds).

Farm Programs, Price Supports, Participation, and Payment Rates

(<http://www.ers.usda.gov/publications/agoutlook/aotables/jul2003/aotab19.xls>). Contains program parameters for individual commodities.

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