

USDA

United States  
Department  
of Agriculture

CWS-0601-01

July 2001

Outlook



Electronic Outlook Report from the Economic Research Service

[www.ers.usda.gov](http://www.ers.usda.gov)

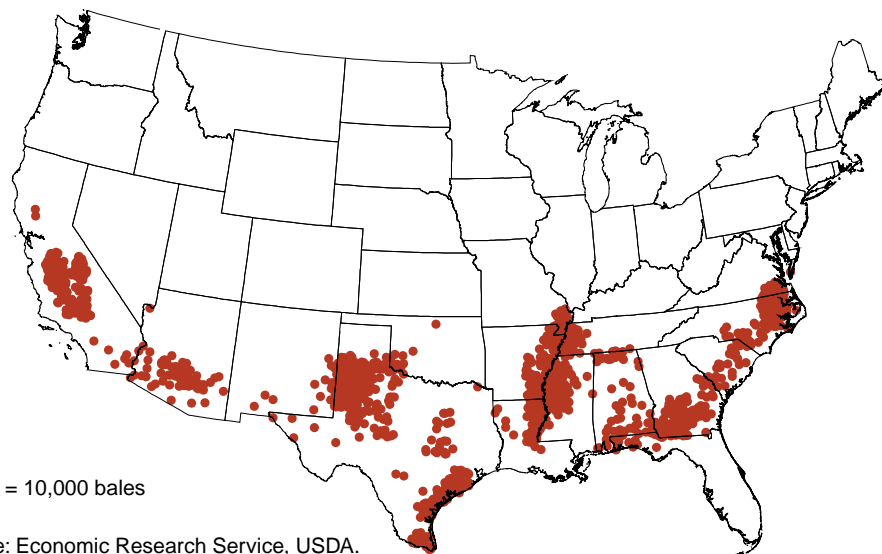
# Cotton: Background and Issues for Farm Legislation

**Leslie Meyer and Stephen MacDonald**

Since passage of the 1996 farm legislation, U.S. cotton production and demand have nearly equaled each other, keeping stocks virtually unchanged. However, U.S. cotton producers have experienced deteriorating product prices coupled with declining yields during this period. Farm prices for upland cotton dropped 40 percent from their recent peak in 1995/96 to 45 cents per pound in 1999/2000, prompting considerable concern for the industry as the new farm legislation debate develops.

As background for these deliberations, this report provides information on the structure of the U.S. cotton industry, supply, demand, and prices. A description of the major features of the U.S. cotton program is included, as well as a discussion of some of the proposed policy changes. The impacts of global and multilateral agreements on trade in cotton and textile and apparel products are also examined.

## U.S. cotton production, 1999/2000



Source: Economic Research Service, USDA.

# OVERVIEW OF THE U.S. COTTON SECTOR

## Industry Structure

Cotton is the single most important textile fiber in the world, accounting for 40 percent of all fibers produced. On average, the United States produces an estimated 20 percent of global cotton production, accounts for more than 10 percent of world cotton use, and is the leading supplier in the international market.

The U.S. cotton industry generates more than 400,000 jobs among the various sectors from farm to textile mill and accounts for over \$25 billion in products and services annually. Cotton is produced in 17 southern U.S. States—from Virginia to California—with major concentrations on the Texas Plains, in the Mississippi, Arkansas, and Louisiana Delta, California’s San Joaquin Valley, central Arizona, and southern Georgia.

The predominant type of cotton grown in the United States is known as American upland—which accounts for about 97 percent of U.S. production—with the balance commonly referred to as American Pima or extra-long staple (ELS). ELS cotton is produced chiefly in California, with small amounts also grown in southwest Texas, New Mexico, and Arizona, where it is well adapted to the arid conditions.

According to the 1997 Census of Agriculture, about 31,500 farms in the United States grew cotton, com-

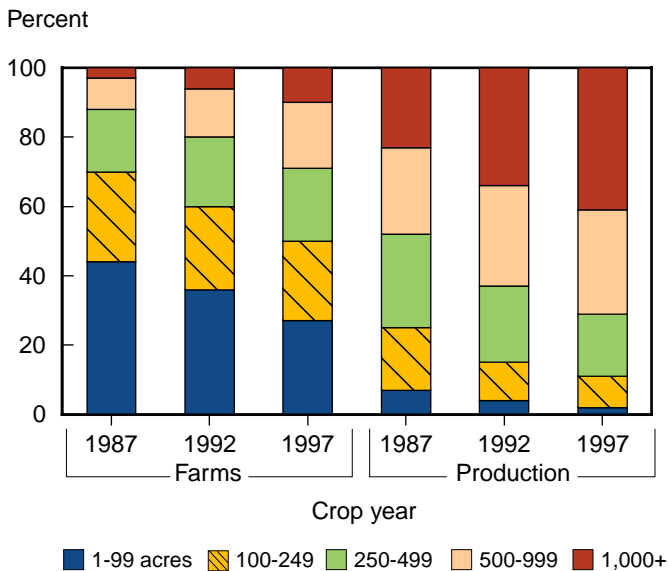
pared with 43,000 farms just a decade earlier. The trend to fewer but larger cotton farms has increased the average size by nearly 200 acres since 1987 to 420 acres of cotton per farm in 1997, the largest of any major field crop. As a result, an increasing share of U.S. cotton is produced on 500-acre or larger farms. In 1987, this category represented only 12 percent of the farms and less than half the production. By 1997, however, the 500-acre or larger farms accounted for 29 percent of all cotton farms and contributed 71 percent of U.S. production.

## Production

Cotton acreage in the United States rose modestly during the 1990s, averaging about 14 million acres. During this time, area expansion—once a westward shift—returned to the eastern half of the Cotton Belt. Significant gains occurred in the Southeast, where cotton acreage more than doubled over the past decade. Factors contributing to the reversal included the success of the boll weevil eradication program in the Southeast, making cotton more profitable, and water limitations in the West related to drought conditions.

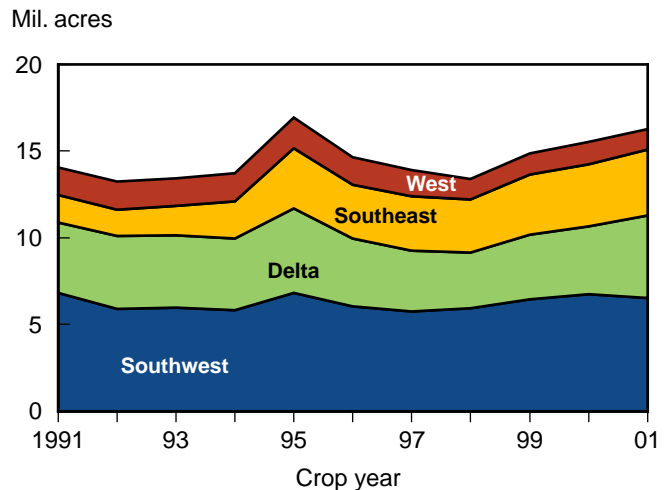
In addition, planting flexibility under the 1996 farm legislation permits producers to change their enterprise

### Distribution of U.S. cotton farms and production



Source: U.S. Census of Agriculture.

### U.S. cotton planted area by region



2001 is estimated.

Southwest includes TX, OK, and KS.

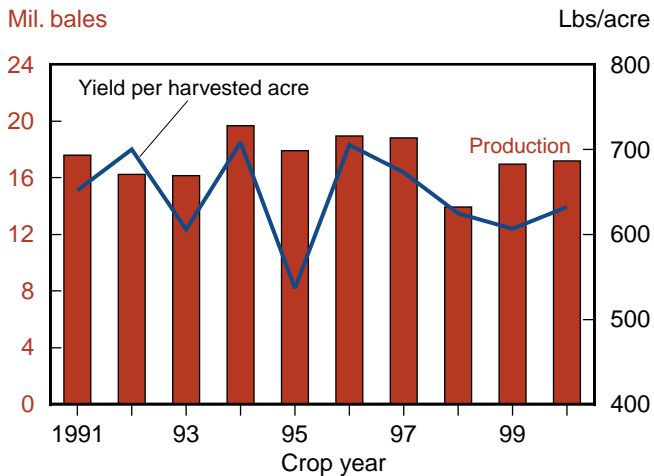
Delta includes MS, AR, LA, TN, and MO.

Southeast includes GA, NC, AL, SC, VA, and FL.

West includes CA, AZ, and NM.

Source: National Agricultural Statistics Service, USDA.

## U.S. cotton production and yield



Source: National Agricultural Statistics Service, USDA.

mix to maximize net returns. Benefits from the cotton marketing loan program have also kept cotton production attractive relative to competing crops such as soybeans, corn, or sorghum. In 2000, the lack of profitable alternatives pushed cotton area above 15 million acres for only the second time since the early 1960s. And, cotton area will remain above this mark for a second consecutive season as plantings of nearly 16.3 million acres were estimated for 2001. Key producing States and their percent of U.S. planted acreage for 2001 include: Texas (38 percent), Mississippi and Georgia (10 percent each), and Arkansas and North Carolina (7 percent each).

Biotechnology has also become an important factor in cotton production. Since their introduction in 1996, biotech cotton varieties (Bt and herbicide-tolerant crops) have been adopted rapidly by U.S. farmers seeking to reduce pest management costs. In 2001, adoption of biotech cotton increased to 69 percent of the acreage planted to cotton, up from 61 percent in 2000.

While government programs and prices of cotton and competing crops have influenced acreage, weather has been the chief determinant of yield variability. Since 1991, U.S. cotton yields have averaged nearly 645 pounds per harvested acre but have ranged from a record 708 pounds in 1994 to 537 pounds in 1995. During the past 3 years, however, cotton yields have remained below the average, and concerns about the focus of cottonseed breeding programs have developed.

During the past decade, production has varied from a record 19.7 million bales (1 bale = 480 pounds) in

1994 to only 13.9 million in 1998. In 2000/01, the United States produced an estimated 17.2 million bales of cotton, the most in 3 years. And, if average conditions are seen in 2001, U.S. cotton production is likely to exceed last season's crop at a time when demand has been dampened by the recent economic slowdown in many countries around the world.

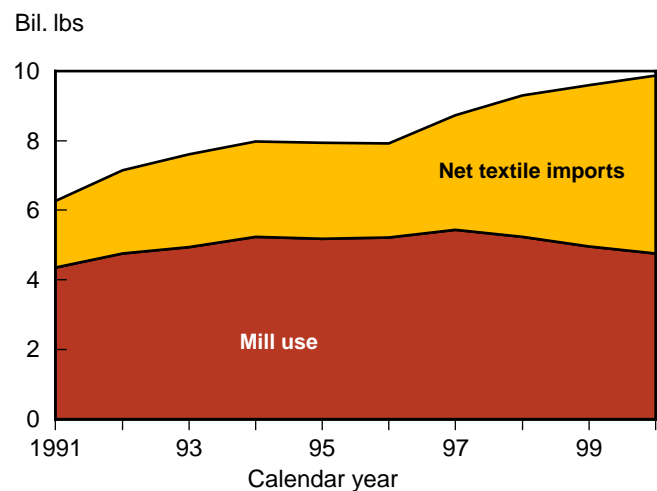
## Demand and Textile Trade

Cotton demand fluctuates annually and depends heavily on the strength of world economic conditions. Over the past decade, domestic mill use accounted for 60 percent of the total disappearance of U.S. cotton, while exports accounted for the remainder. However, exports are becoming more important as restructuring in the U.S. textile industry—due to lower trade barriers and lower labor costs outside the United States—limits mill use.

U.S. cotton mill use climbed steadily throughout much of the 1990s as consumer demand increased for natural fiber clothing, like denim. U.S. mill use peaked in 1997/98 at a near-record 11.3 million bales. However, competition from less expensive apparel imports—exacerbated by recent trade agreements and a strong dollar—has reduced domestic mill use since then, forcing some industry participants to limit output, relocate, or close operations.

With the continued liberalization of world textile and apparel trade, the U.S. cotton textile trade deficit

## U.S. cotton mill use and textile trade



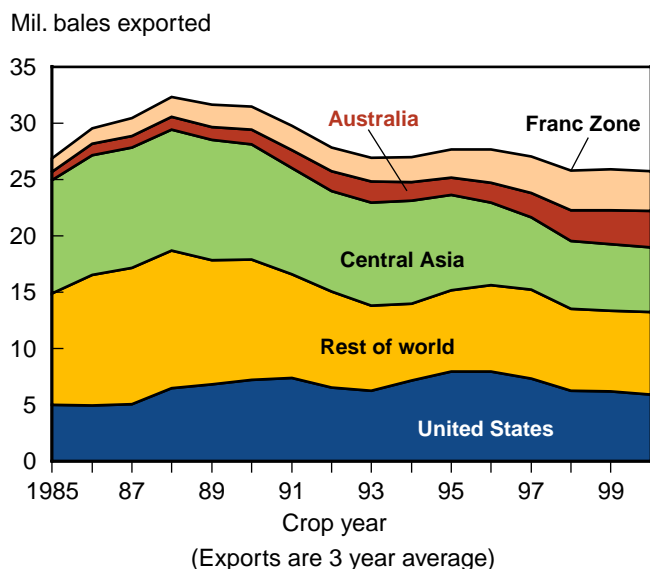
Volume of net textile imports is based on raw-fiber equivalent calculations by the Economic Research Service, USDA.

Source: Compiled from reports of the Bureau of Census.

(imports less exports of semi-processed and processed products) continues to expand. The North American Free Trade Agreement (NAFTA)—which became effective in 1994—along with the Caribbean Basin Initiative (CBI) accelerated the growth of U.S. cotton textile and apparel imports, which have seen significant gains over the last decade. In 2000, U.S. cotton textile and apparel imports rose for the 12th consecutive year, while exports improved for the 16th straight year.

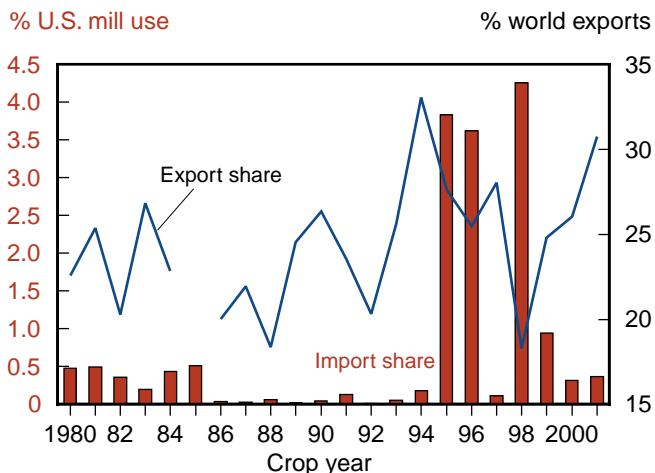
Also in calendar year 2000, the raw-fiber equivalent of cotton textile and apparel imports exceeded the quantity of cotton used by U.S. mills for the third consecu-

### U.S. export competitors shift



Source: Economic Research Service, USDA.

### U.S. share of world exports and import share of U.S. mill use



Source: Economic Research Service, USDA.

tive year. At the same time, however, more U.S. cotton is contained in these imported products than ever before, due largely to NAFTA and CBI. These agreements have provided a “home” for U.S. raw cotton and semi-processed cotton products used in apparel manufacturing, an outlet that might otherwise have been unavailable. This trend is likely to continue into the foreseeable future.

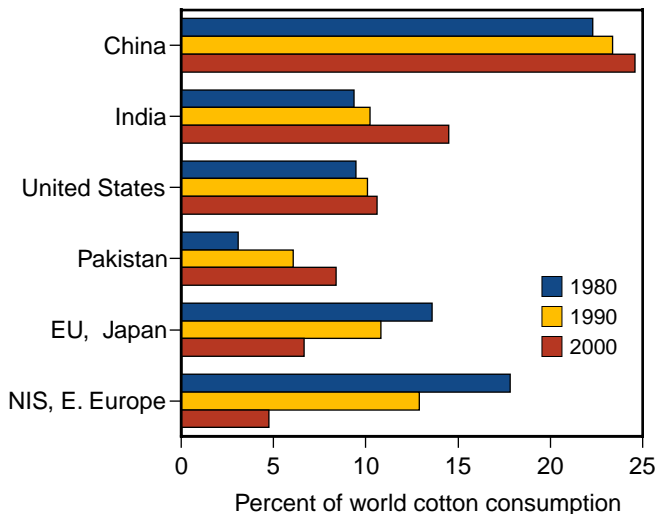
The United States, the largest cotton exporter in the world, has accounted for a 25-percent share of global cotton trade over the last 10 years despite profound changes occurring in the world cotton market. These changes involve global cotton consumption and its increasing concentration in a handful of producing countries, altering U.S. export destinations. Over the past decade, the leading markets for U.S. cotton have changed from China and Japan to Mexico and Turkey. In 2000/01, the United States exported an estimated 6.6 million bales of cotton—a 25-percent share of world trade—with nearly 30 percent of the total destined for Mexico.

### The Global Cotton Market

As the global cotton economy enters the first decade of the 2000s, global consumption of cotton is again trending upwards. The 1990s saw stagnation in world cotton consumption as the Soviet Union’s textile industry collapsed, polyester consumption soared in the late 1990s, and the Asian financial crisis sent a shock wave through the Asian-dominated textile industry. The 1990s were a period of stagnation for consumption in China and Pakistan, in particular, the two leading sources of increased consumption during the 1980s. China and Pakistan again led the world in the consumption rebound during the last 2 years. Furthermore, polyester consumption gains have slowed, cotton/polyester price ratios have returned to more average levels, and the longrun deterioration of cotton’s share of world fiber consumption has slowed.

Cotton consumption is growing in Russia, but even after 2 years of growth (through 2000/01), consumption is still expected to be 85 percent below its 1989/90 peak. Similarly, the transformation of South Korea, Taiwan, and Hong Kong into middle-income Newly Industrialized Countries (NICs) and the expansion of world trade in apparel have led to a continued decline in textile consumption of cotton fiber in the NICs, Japan, and the European Union (EU). As a group, these countries’ share of world consumption during 1999/2000 and 2000/01 is estimated at 10 per-

## World consumption shares shift to Asia



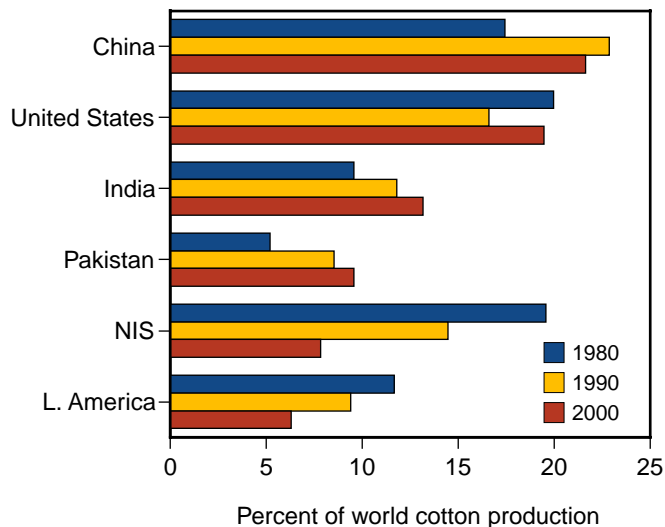
Source: Economic Research Service, USDA.

cent, compared with 16 percent 10 years earlier. This trend predates the 1990s, and reflects the growing importance of lower-income countries in the production of apparel and, more recently, textiles.

Debt problems and economic contraction throughout much of the developing world during the 1980s in part led India and much of Latin America to abandon the constraints that previously oriented their economies away from trade. The 1990s saw the results of this policy transformation, and India's cotton consumption soared as domestic economic growth and textile exports responded positively. India's cotton consumption rose 4.9 million bales during the 1990s (56 percent), and production rose 1.6 million. In contrast with India, liberalization in Latin America meant that many countries that formerly protected cotton growers from competition removed those barriers, and production fell despite rising consumption. Latin America's production fell as much as 3.2 million bales during the 1990s, even as consumption rose 2.5 million. More recently, the phenomenal potential of Brazil's Mato Grosso has helped Latin America's cotton output increase 1 million bales, although the region remained a net importer for the 9th consecutive year.

Liberalization in Central Asia has been much more limited, but cotton production has fallen 5.6 million bales since the region's independence from the Soviet Union. The limited nature of economic reform in Uzbekistan and Turkmenistan is arguably one reason cotton production and exports are falling: state marketing orders and monopolization of foreign trade have

## World production shares



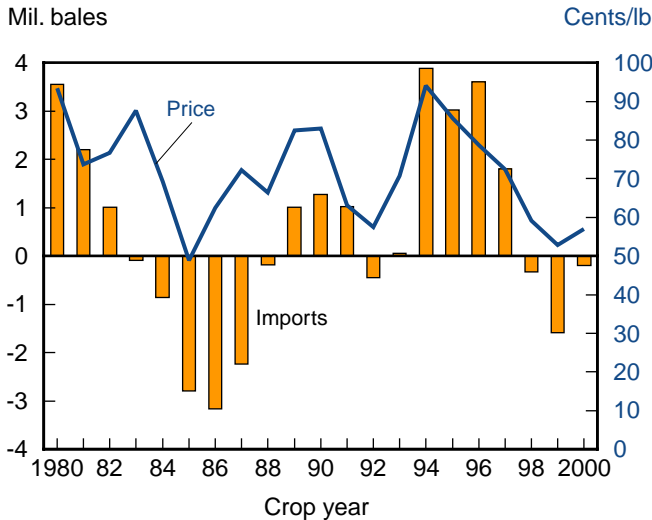
Source: Economic Research Service, USDA.

been used to transfer resources from agriculture to industry, including textile production. Environmental damage and food security concerns also helped cut area devoted to cotton in the region by about 30 percent since the late 1980s. While reduced, the region's exports are still second only to those of the United States, and WTO membership is a distant prospect for all but a few of the smaller republics.

In contrast, area has been rising in the Franc Zone countries of West Africa since the CFA Franc's devaluation in 1994, and both West Africa's and Australia's cotton area has been trending upwards for decades. Neither exporter consumes a significant portion of their production, although Sub-Saharan Africa holds perhaps the world's greatest untapped potential for apparel production. For the foreseeable future, institutional issues—like the ongoing privatization of the Franc Zone's cotton-trading parastatals—and restoration of civic and economic infrastructure in a number of formerly large cotton producers in the region remain unresolved.

Finally, China's sheer size and volatility affect every aspect of the world cotton sector, and are likely to do so for the foreseeable future. China, the world's largest producer and consumer of cotton, is believed to hold about 30 percent of world stocks and is the largest exporter of garments in the world. China's cotton production fluctuated substantially during the 1990s as the adjustment of government-set purchasing prices failed to keep pace with changes in agriculture and the economy. China's cotton area, imports, ending stocks,

## China's imports and world price



Source: Economic Research Service, USDA.

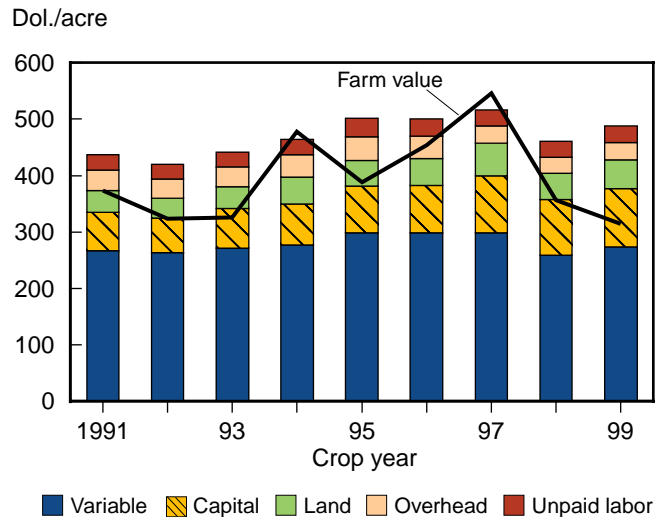
and exports ebbed and flowed as China's policymakers lowered and raised procurement prices, opened and closed import quotas, and offered and withdrew export subsidies. China was at times the world's largest importer (1994/95-1996/97), but in 1998/99 was the world's fourth-largest exporter.

During 1999/2000, China finally extended to its cotton producers limited rights to sell cotton to buyers other than the government's Cotton and Jute Bureau, and withdrew from attempts to fix domestic cotton prices. These changes came more than a decade after similar reforms for grains and oilseeds, and the impact on China's cotton sector remains unclear as cotton area first fell and then rebounded as the government auctioned millions of bales from old-crop stocks. With China's accession to the WTO, a TRQ that grows to 4.1 million bales by 2004 will be implemented, with an in-quota tariff of 1 percent.

## Costs and Returns and Prices

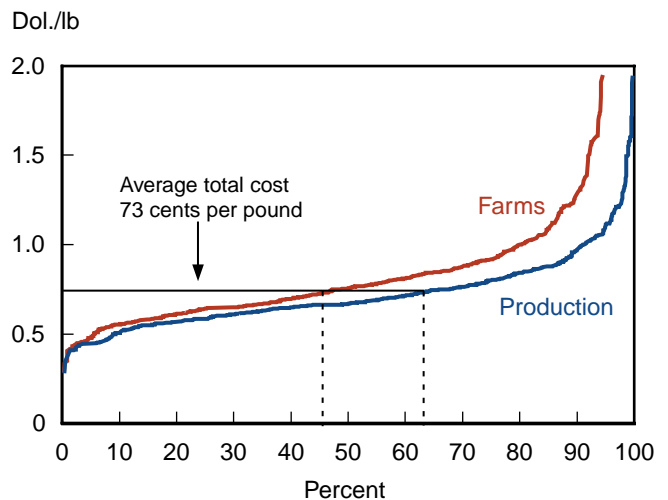
The financial viability of U.S. cotton farms varies greatly depending on costs of production, yield, the type of farm, prices, and other factors. Costs of producing U.S. cotton climbed steadily throughout much of the 1990s, largely the result of increased costs of fertilizers and chemicals. Cash receipts for cotton and cottonseed have not kept pace with the cost of production, however. During the 1991-99 period, the farm value of cotton did not cover all production costs, with the exception of the 1994 and 1997 crops. Returns from cotton production peaked in 1997 but have

## U.S. cotton costs and returns



Source: Economic Research Service, USDA.

## Cumulative distribution of total costs for cotton, 1997



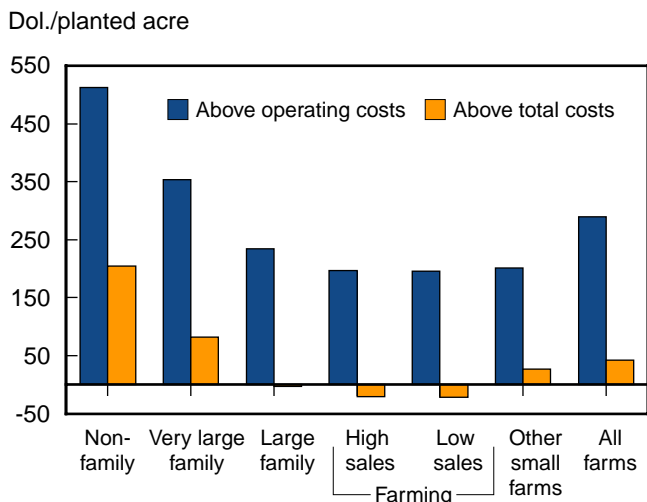
Source: 1997 Agricultural Resource Management Study, Cotton version and Economic Research Service, USDA.

dropped significantly since then to their lowest level during the 1990s. Consequently, government payments have been critical for cotton producers to show a profit during the past decade and particularly in the last several years.

Based on data from USDA's 1997 Agricultural Resource Management Study (ARMS survey), total economic costs for all cotton farms in 1997 averaged 73 cents per pound, with operating costs averaging 38 cents per pound. Based on the cumulative distribution of total costs, only 45 percent of the cotton farms, accounting for 62 percent of production in 1997, were



### Cotton production returns, by typology

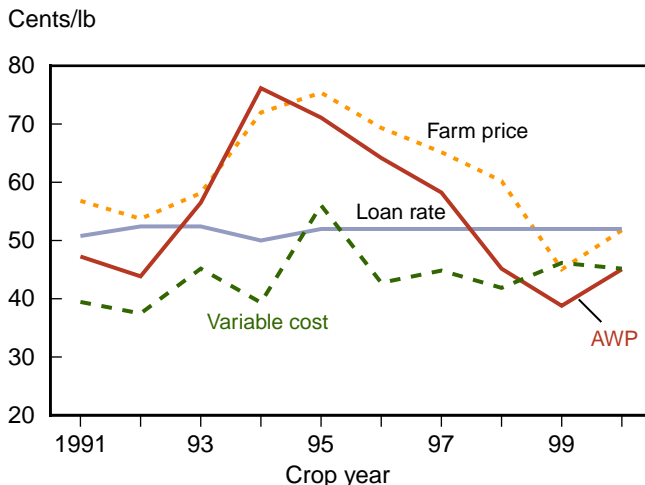


Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

at or below 73 cents per pound. On average, all cotton farms in 1997 provided a return above total costs of \$42 per planted acre.

However, returns can vary significantly depending on farm characteristics. In 1997, based on the ARMS survey, operating costs ranged from 35 cents per pound of lint production for farms with low sales (sales below \$100,000) to 40 cents for other small farms—those reporting major occupation other than farming, retired, or limited resources—and non-family farms. When total costs were examined, costs ranged from 68 cents per pound for non-family farms to 80 cents for farms with high sales (sales between \$100,000 and \$250,000). While returns adequately covered operating costs for all categories, returns above total costs showed a different picture. Returns above total costs were generally low or negative except for the non-family and very large family (sales above \$500,000) farm types.

### Upland cotton prices and cost of production



2000 average price for August 2000-May 2001. Variable cost is estimated.

Sources: National Agricultural Statistics Service, Farm Service Agency, and Economic Research Service, USDA.

U.S. upland cotton farm prices have varied significantly over the past decade, ranging from a high of over 75 cents per pound in 1995/96 to a low of 45 cents in 1999/2000. The upland cotton loan rate has remained constant since 1995/96 at 51.92 cents per pound, the maximum established in the 1996 farm legislation. Like farm prices, the variable cost of cotton production has varied, ranging from 38 cents per pound in 1992/93 to 56 cents in 1995/96—a year of low yields resulting from major pest damage. And, with the recent rise in energy costs, variable expenses are likely to rise in 2001/02. Since 1995/96, the farm price and the world price for upland cotton (AWP)—which is used to determine if some program benefits are applicable—followed a similar pattern. The AWP fell below the loan rate during 1998/99 and triggered program payments to cotton producers that have provided a significant portion of their income in recent years.

## GOVERNMENT PROGRAMS

U.S. farm policy affects the cotton market as well as producers' incomes. Many cotton producers benefit from the production flexibility contract (PFC) program, the commodity loan program, subsidized crop and revenue insurance, and market loss assistance. Cotton producers may also benefit indirectly from programs that increase cotton use through promotion and trade liberalization.

Total planting flexibility, introduced in the 1996 Farm Act, enabled many cotton producers who had participated in previous commodity programs to shift production to other crops such as corn or soybeans, while permitting producers of other crops to shift area to cotton without sacrificing program benefits. In 1996, approximately 16.2 million acres of cotton (99 percent of eligible acres) were enrolled in the program. For the 1996-2002 crops, producers who participate in the PFC program receive payments that are not linked to current production or prices—also known as “decoupled” payments. The 1996 Farm Act appropriated a fixed amount of money to be allocated among participating producers each year.

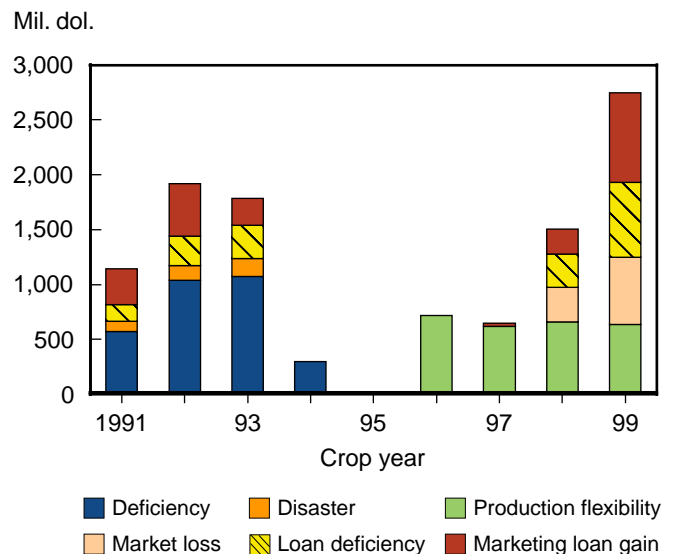
In addition, Congress authorized supplemental payments for the 1998-2000 crop years—known as market loss assistance (MLA) payments—as a result of low prices and severe weather. These payments made to eligible participants were proportional to the PFC payments, approximately 50 percent for 1998 and 100 percent for 1999 and 2000. Like the PFC program, the MLA payments are not linked to current prices, production, or resource use. As such, these payments, like the PFC payments, go to those holding cotton contract acreage and not necessarily to current cotton producers.

Another key policy tool for cotton producers is the marketing loan program to assist farmers when market prices are low. The program provides producers a combination of commodity loan program benefits and direct payments that guarantee a per-pound revenue floor. Nonrecourse loans are available to eligible cotton producers who pledge their production as collateral. These loans may be repaid through forfeiture of the cotton to the Commodity Credit Corporation (CCC) at maturity without penalty or they may be repaid at the current repayment rate—the lesser of the loan rate plus interest or the AWP—at or before maturity.

When the AWP for upland cotton falls below the loan rate, loan deficiency payments (LDPs) or marketing loan gains (MLGs) are triggered and available to eligible producers. From the 1994/95 season through most of 1997/98, the AWP was above the loan rate and no LDPs or MLGs were made. However, world prices have fallen since then and remain below the loan rate, triggering these benefits. During the 1999 crop year, upland cotton producers benefited significantly, receiving about \$700 million in loan deficiency payments and more than \$800 million in marketing loan gains. As a result of relatively low prices, these marketing loan program payments equaled about 40 percent of the 1999 market value for cotton.

Cotton producers also benefit from the U.S. crop and revenue insurance programs to guard against adverse weather, insect infestations, and other natural perils. USDA pays a portion of the contract premiums for producers' insurance policies and also pays some of the delivery and administrative costs of private insurance companies that handle policy sales. During the 1999 crop year, 90 percent (13.4 million acres) of the cotton area was covered by insurance, with participation concentrated in the High Plains of Texas and along the Mississippi Delta. Texas, Georgia, and Mississippi accounted for over 65 percent of the insured area.

### Government payments related to upland cotton



Source: Farm Service Agency, USDA.



Special program provisions also aim to keep U.S. cotton competitive on the world market. These competitiveness provisions are known as Step 1, Step 2, and Step 3. Step 1 allows for a further reduction in the upland cotton loan repayment rate. An adjustment may be made by the Secretary of Agriculture when the AWP is less than 115 percent of the upland cotton loan rate and the lowest U.S. Northern Europe price quotation exceeds the Northern Europe price quotation.

Step 2 is used chiefly to promote the use of U.S. cotton and is accomplished through the issuance of Step 2 payments to exporters and domestic mill users of U.S. upland cotton. These payments are issued in a week following a consecutive 4-week period in which the lowest U.S. Northern Europe price quotation exceeds the Northern Europe price quotation by more than 1.25 cents per pound. In addition, the AWP cannot exceed 134 percent of the U.S. loan rate. If these specified conditions are met, payments are made to domestic mill users on documented raw cotton consumption and to U.S. exporters on documented export shipments. Since the mid-1990s, approximately 60 percent of these payments have gone to domestic mill users. A similar competitiveness program is also available for ELS cotton.

Step 3 permits special import quotas for upland cotton. A quota is announced if, for any consecutive 4-week period, the lowest U.S. Northern Europe price quotation (adjusted for any Step 2 value in effect, unless U.S. supplies are extremely tight) exceeds the Northern Europe price quotation by more than 1.25 cents per pound. The quota equals 1 week's domestic mill use of upland cotton at the seasonally adjusted average rate during the most recent 3 months for which data are available. However, an import limitation of 5 weeks' consumption is based on the first quota established in the marketing year.

The form in which government payments and other benefits are provided to the cotton sector is important because of the obligations of the United States under the Uruguay Round Agreement on Agriculture (URAA). The total amount of support from all U.S. programs of certain types is limited to a specified

maximum amount under the URAA (\$19.1 billion in 2000). The covered programs are those considered to have the most potential for production and trade distortion, and are called "amber box" programs.

Examples of these programs for cotton producers include the loan deficiency payments, marketing loan gains, and other benefits related to the commodity loan program. In these cases, the amount of benefits for a producer of cotton depends on the current level of production and the current market price of cotton relative to the announced loan rate. Although the insurance programs are considered amber box programs, they are implemented using non-commodity-specific (generic) provisions. As a result, they would count toward the U.S. upper limit on agricultural support only if the total benefits from all non-commodity specific amber programs exceed 5 percent of the total value of agricultural production in the United States (the *de minimis provision*), something that has not yet happened.

On the other hand, "green box" programs are those considered to have the least potential for production and trade distortion. Benefits from these programs do not count toward the limits on total U.S. support levels. Examples include environmental, conservation, and resource retirement program payments in which producers agree to use certain production or conservation practices. The Conservation Reserve Program is included here. The PFC payments to cotton producers are also considered to be green box because the payments are "decoupled" and were predetermined by the 1996 farm legislation.

In contrast, while MLA payments—like PFC payments—are also based on past production and resource use, the MLA payments were legislated annually in response to recent market price declines. Consequently, the MLA payments may be assumed to be related to market prices after the PFC (or WTO) base period, making them ineligible for green box programs. As a result, the United States has notified the WTO that crop MLA payments mandated by recent emergency legislation are non-product-specific amber box payments.

## POLICY CHOICES

The current farm economy environment is much different today than during the farm bill debates leading up to the passage of the 1996 farm legislation. For the cotton industry in the early 1990s, U.S. cotton stocks were relatively tight, as a robust demand environment had developed. As a result, nominal farm prices for cotton were rising and had reached their highest level in over a decade. In contrast, the current environment includes very low commodity prices, rapidly rising costs, and strong international competition.

While some of the same concerns—like planting flexibility—will be addressed in this farm bill debate, the challenge for the next farm legislation will be to provide a better safety net for farmers that is budget-driven, environmentally responsible, enhances market access, and is within the guidelines of U.S. trade commitments. Historically, ideas fall into one of three views on policy choices. One view favors a combination of support programs with no supply controls; the second favors supply controls; and the third view favors a more market-oriented policy.

**Existing Support Programs.** Continuation of traditional support programs includes the Agricultural Market Transition Act (AMTA) payments or PFC payments. Planting flexibility, as introduced by the 1996 farm legislation, is also considered to be a vital component of the next farm bill. Allowing producers the option to change their enterprise mix from year to year to maximize net returns is seen as one of the successes of the current legislation. For upland cotton, planting flexibility has provided area ranging from 13.1 to 16.1 million acres since 1996. However, falling farm prices over this period have left producers' incomes vulnerable as AMTA payments are fixed and not related to current production or prices.

As a result, there is additional support for a stronger "safety net" program that provides supplemental income to producers to help offset crop revenue shortfalls due to poor yields and/or low market prices. This countercyclical support would preempt the need for the ad hoc emergency assistance provided over the last several years. A criticism of the PFC program's fixed payments has been the inadequate response during times of greatest need. Countercyclical payments, on the other hand, would be based on the difference between some current measure and a trigger level during a reference period. Some proposed triggers include

farm income, gross revenue, gross returns, or gross cash receipts.

Traditional support also includes maintaining the current marketing loan program with slight adjustments. This includes adjustment to the commodity loan rates to rebalance price relationships among covered crops. Also, elimination of payment limitations under the marketing loan program is advocated by some.

**Supply Controls.** A second view, which was quite popular from the 1930s to the early 1990s, recommends adoption of supply control programs to manage surpluses. However, supply controls overlook the response of foreign producers to expand output when U.S. prices rise, requiring tighter restrictions to maintain farm price levels. Imports have accounted for a larger proportion of U.S. mill use during the 1990s, and the growing need for reciprocal market access suggests U.S. imports should remain at least as open, and that imports will rise with U.S. prices. In addition, higher priced U.S. crops are likely to lose additional export market share, as in 1998 when the U.S. share of world trade plunged to 18 percent from 28 percent the year before. Australia's, Franc Zone Africa's, and Brazil's Mato Grosso cotton area have tended to increase steadily during the 1990s, and could expand even more rapidly if unilateral reductions in U.S. production support world prices.

**Market-Oriented Policy.** The more market-oriented view recommends ending the decoupled PFC payments and opposes countercyclical payments, arguing that they would be reflected in land prices and rents, forcing farm operations to grow larger to cover the increased costs. This view suggests that, instead of income support programs, similar funding be used for new programs focusing on risk management, trade expansion, rural development, and technical assistance to small farms.

Despite the wide range of differences on program direction, there is agreement on some issues. These include improved access to foreign markets and the exclusion of food from unilateral sanctions. In addition, proposals have been made for increased research in numerous areas, including biotechnology, food safety, disease prevention, and environmental quality. Also, there is a recognized need for programs to assist farmers in meeting conservation goals and environmental

mandates. Recommendations include increased technical assistance, cost-share programs, and incentive payments for use of environmentally friendly practices.

## WTO Issues

New multilateral trade negotiations under the World Trade Organization (WTO) were initiated for agriculture in 2000. International trade is particularly important for cotton, since 30 percent of the world's consumption of cotton fiber crosses international borders before consumption by textile mills, and, through trade in yarn, fabric, and clothing, much of the world's cotton crosses international borders at least once more before reaching its final consumers.

While export subsidies for cotton by WTO signatories have been negligible, and market access liberal, government policies governing the role of State Trading Enterprises (STEs) and support of local textile industries have affected cotton trade. While textile trade rules are not a subject of the current negotiations, they are an important multilateral trade issue affecting cotton, and significant changes in textile import barriers are mandated by 2005, under the Agreement on Textiles and Clothing (ATC). The removal of these import barriers could increase the vulnerability of both Mexico and the United States to apparel competition from outside of North America, slowing the integration of North America's textile industry, and diverting more U.S. cotton to other destinations.

Other WTO issues related to cotton trade include China's accession, the accession of Central Asian cotton exporters such as Uzbekistan, the role of STEs in these and other countries, and domestic support for agriculture.

Significant domestic support for cotton production is provided in the EU as well as the United States. Domestic support programs affecting cotton are also in place in China, Turkey, Egypt, Brazil, and Mexico. However, except in the EU and China, the level of

assistance these foreign countries provide to cotton producers is low. Domestic support provided by developed countries is a concern of many developing countries. For example, the EU notified the WTO of payments supporting cotton totaling 809 million ECU in 1997/98, an amount comparable to the value of the entire crop.

Restrictions on market access for raw cotton around the world have traditionally been limited, since importers were generally countries lacking the natural resource endowments necessary to grow cotton. Thus, the most commonly applied tariff level is 0 percent. Similarly, non-tariff barriers to cotton by major importers are uncommon, and there have been few instances of tariff-rate quota creation since the signing of the URAA: only by the United States, South Africa, and Colombia. Generally, cotton-producing countries have higher than average tariffs and account for most of the high bound tariffs and all the TRQs. Cotton producers are increasingly importing, so market access is increasingly important to world cotton trade. In 1989, 12 percent of world cotton trade was imported by countries producing more than half of their cotton needs, and by 1999 this share had risen to 25 percent—a total that rises to 33 percent if former large producers like Mexico are included.

### U.S. cotton import quotas, average amounts and fill rates, marketing years 1995-99

Quota type	Amount	Fill rate	Annual rate maximum
	<i>Metric tons</i>	<i>Percent</i>	<i>Percent</i>
Step 3*	521,807	9.9	35
WTO	53,304	12.4	28
NAFTA	11,128	15.1	43
Limited global	0	0.0	0

\*Step 3 quotas can vary weekly. This is an average of available quota in any given week, 1995-99. This may understate effective quota since the seasonality of the quota trigger and the probability of imports are positively correlated. During 1998, when the 35 percent fill rate calculated above occurred, available quota during the last 3 months of the year was 2 to 4 times the marketing year average.