China's Cotton Reserves To Meet Shortfall, Avert Price Rise

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Highlights: Farmers are growing more cotton than was planned to fulfill orders from textile producers experiencing strong export growth. Textile and apparel exports rose 21 percent in 2000 to over $52 billion. Government policy-makers, voicing concerns about excess production, discouraged producers from expanding cotton acreage and sold stocks to stabilize prices. China's farmers have readily adopted genetically modified pest-resistant cotton, the first successfully commercialized product of China's genetically modified crop research efforts.

Rising textile exports in 2000 spurred demand for cotton, encouraging China's farmers to expand acreage devoted to the crop. Although it reduced its role after the 1999 liberalization of the cotton sector, the government continued to intervene by selling cotton stocks to avert price increases.

According to China's National Bureau of Statistics (NBS), cotton area rose to 4.0 million hectares in 2000, up about 275,000 hectares from 1999 (fig. I-1). However, cotton acreage was still about 450,000 hectares below the 1998 level, and far below the peak of 6.8 million hectares in 1992.

The government, under pressure to draw down large cotton stocks, sought to control cotton production while market signals were encouraging producers to expand. Following liberalization of the cotton market in 1999, the government no longer directly controls cotton prices and production. The government tries to guide the market by issuing production "forecasts," or targets. In January 2000, the government forecast a 10-percent decline in cotton acreage for 2000, but acreage actually rose over 5 percent. Reports of further increases in acreage in 2001 were contrary to government plans for reduced cotton plantings.

Cotton prices recovered in 2000 from steep drops in 1999, although prices were still below 1998 levels. Grain prices have been weak in recent years, increasing the relative profitability of cotton and encouraging expansion of cotton area. Some farmers delayed bringing their cotton to market in the hope that prices would rise further. Enterprises were also reported to have stockpiled cotton in anticipation of even higher prices.

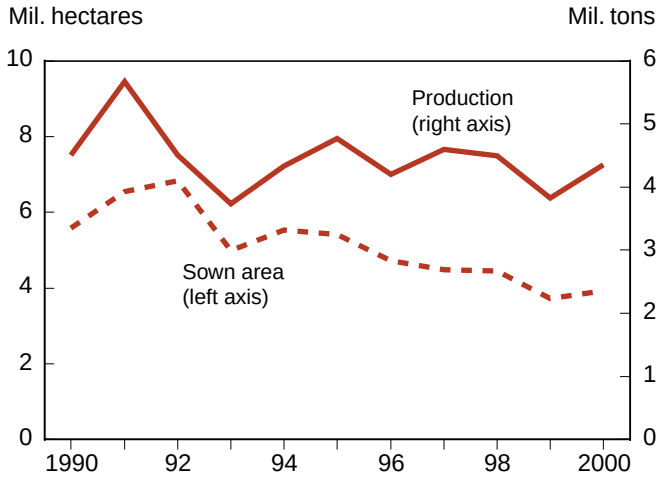
The government, still holding considerable cotton stocks accumulated during the 1990s, intervened in cotton markets by selling stocks to moderate price rises. The newly established China National Cotton Exchange has played the lead role in disposing of surplus stocks that accumulated in the mid- and late 1990s (see box). Since the exchange opened in April 2000, it has sold more than 2 million tons, about 10 percent of annual world cotton consumption.

During 2000, it was reported that 900,000 tons of cotton stocks were released on the market. In late 2000, officials signaled that China could sell an additional 400,000 tons in 2001.[1] In November 2000, an official of the State Planning and Development Commission estimated total demand for cotton would exceed expected production by about 1.2 million tons. However, officials continued to emphasize that China's stocks are sufficient to cover the difference between production and demand.

[1] Zhao Huanxin, "State Poised to Curb Lofty Cotton Prices," *China Daily*, November 28, 2000.

Figure I-1

Cotton production and sown area, 1990-2000



Source: *China Rural Statistical Yearbook.*

The Ministry of Agriculture (MOA) originally planned to cut the amount of cotton grown by 10 percent in 2000. The government's plan called for cotton output to be capped at 3.2 million tons—down 630,000 tons from 1999/00. However, production actually rose to 4.42 million tons in 2000/01 (table I-1). In February 2001, MOA announced that growth in cotton acreage would be limited to 333,300 hectares, for an expected cotton area of 4.2 million hectares and production of 4.25 million tons in 2001. This acreage would be an increase over 2000 but still less than 1998 cotton area.

U.S. Department of Agriculture (USDA) estimates of China's cotton ending stocks for 1991/92 to 1999/00 were revised in 2000. These changes reflect new information about cotton use in China's yarn production. USDA's consumption estimates for China account for both mill and nonmill use of cotton. The mill use category estimates are derived from monthly and annual yarn production data as reported by NBS. The nonmill use category includes wadding, military, medical, and on-farm use of cotton, plus an allowance for processing waste. From 1985 to 1991, USDA relied on data published in China's *Textile Industry Yearbook* to determine cotton's share of yarn production. In 1992, this share data series was discontinued and USDA analysts estimated the share, assuming a downward trend based on competitive prices from synthetic fibers. However, an official from the State Textile Industry Bureau and Bureau of Cotton and Jute indicated that further reductions were needed in the cotton share series beginning in 1992/93. The nonmill use estimate was been raised from 450,000 to 600,000 tons for 1992/93 through 1999/00, partially offsetting the reductions to the mill use category. The cumulative and combined effect of these changes raised 1999/00 beginning stocks by 0.8 million tons to 4.6 million tons.

Booming Textile and Apparel Exports

China's exports of yarn, fabric, and apparel were $52.1 billion in 2000, up 21 percent from 1999. Export growth was particularly strong during the first half of 2000, when textile exports jumped 41.8 percent over year-earlier levels (fig. I-2). The large jump in early 2000 may have affected farmers' planting decisions. Cotton imports were $13.9 billion in 2000, up 14.9 percent over 1999. Another favorable development for cotton fiber demand was the rise in petroleum prices, which made synthetic fiber more expensive, prompting Chinese textile producers to increase their use of cotton, putting additional upward pressure on cotton prices.

China was again a net exporter of raw cotton in 2000/01, as it was in 1999/00. This was a significant turnaround from most years of the 1990s, when China was a net importer of cotton (fig. I-3). Exports of raw cotton also rose for a third straight year in 1999/00, reaching 370,000 tons. Cotton imports were low for the second consecutive year, at 26,000 tons. An estimated export subsidy of 2,700 yuan ($325) per ton for

Table I-1—China's cotton production, trade, and stocks, 1997/98-2001/02

Item	1997/98	1998/99	1999/00	2000/01	2001/02
			Million tons		
Production	4.59	4.51	3.83	4.42	5.01
Imports	0.40	0.08	0.03	0.05	0.15
Domestic use	4.27	4.18	4.83	5.12	5.06
Exports	0.01	0.15	0.37	0.10	0.09
Stocks	4.35	4.60	3.26	2.51	2.52

Source: U.S. Department of Agriculture, *World Agricultural Supply and Demand Estimates*, October 12, 2001.

Organization and Operation of the China National Cotton Exchange

The Chinese government officially opened the China National Cotton Exchange (CNCE) in Beijing in April 2000. The CNCE is administratively under the All China Supply and Marketing Cooperatives (SMC), but there are 12 other government agencies that help supervise its operations. Through its headquarters in Beijing and its 20 branch offices, the exchange serves as an electronic cotton spot market and as the focal point for the government's stock disposal program. Trading on the exchange is by membership and there are currently about 125 members, most of whom are either SMC companies or textile mills. Each member has to commit to an annual trade volume of 15,000 tons and pay an annual membership fee of about $12,000, plus an initial trading-seat fee of about $24,000. Members may purchase cotton for a nonmember but are officially prohibited from making speculative purchases.

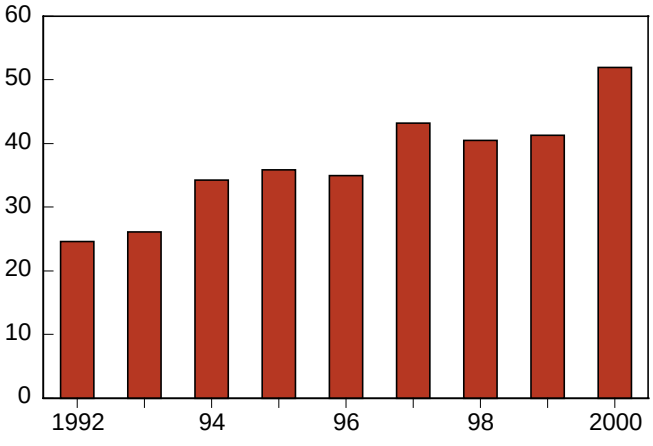
In principle, the CNCE provides three different procedures for trading cotton, including an open-auction and bidding system, a negotiated contract, and a contract for delivery stations at specific warehouse locations. However, in practice, the large sales of government reserve cotton have been accomplished using only the open auction and bidding system. The minimum bid prices are determined by applying a formula that takes into account the initial procurement price, storage, and other costs. The buyers are responsible for loading and transportation costs. The CNCE contracts are spot market sales, subject to immediate settlement. To ensure completion for each transaction, CNCE requires an earnest deposit. Before the day of delivery, the buyer must pay off the entire amount as specified in the contract.

The CNCE re-certifies cotton by lot only upon request because all cotton harvested in China is ginned and baled with a certification of classification and grade. However, cotton stored in remote areas or only traded in small volume is unlikely to be re-inspected and likely to retain the original grade at the time of ginning.

If a transaction cannot be fulfilled for some reason, the CNCE serves as a mediator to make adjustments. However, if nonperformance is due to a subsequent movement in market prices, CNCE has the right to confiscate the deposit from the party that breached the contract agreement and make compensation to the other party. CNCE also has the right to suspend members' trading rights for up to a month when necessary. The identity of repeat offenders will be made public to traders in the exchange.

Figure I-2

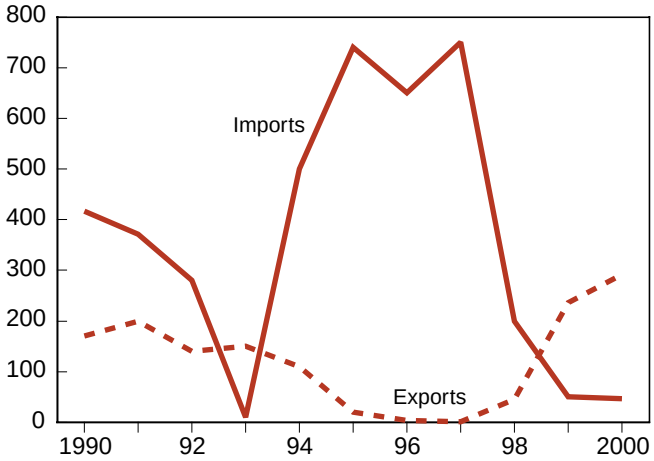
Textile exports grew sharply in 2000



Sources: *China Rural Statistical Yearbooks* and news reports.

Figure I-3

Cotton imports and exports, 1990-2000



Sources: *China Rural Statistical Yearbook* and news reports.

inventories of Xinjiang cotton produced in earlier years (i.e., prior to 1998 crops) was responsible for most of the calendar year 2000 exports. Subsidized exports are expected to continue at a substantially lower subsidy level of 1,000 yuan per ton in 2001 and will be eliminated once China becomes a member of WTO. Due to the need to sell its surplus stocks, China's government has restricted most imports of cotton since a series of government reforms were instituted in 1999. This policy has been effective in reducing the backlog of government-held stocks, but it has also boosted China's internal prices above world market-clearing levels.

The textile sector was one of China's fastest growing industries in 2000, earning a net profit of $3.5 billion in 2000, more than double the industry's 1999 profits. State-owned textile enterprises earned $840 million in 2000 after losing $9 million in 1999. However, it is reported that more than a third of state-owned textile enterprises are still losing money. Plans to downsize inefficient textile plants led to worker protests in Anhui and Guangxi provinces in late 2000 and early 2001. Nonstate-owned enterprises tend to perform better than state-owned enterprises. Nonstate-owned enterprises accounted for more than three-fourths of textile industry profits in 2000, and their profits were up 79 percent over 1999.

The performance of textile enterprises varied geographically and across subsectors. Profits earned in western and central China were much lower than those earned in the eastern China. Of the 31 provinces and self-governing municipalities, 10 had textile enterprises that were not profitable. Nine of those 10 were in western and central China. Profits earned in various industries in the textile sector differed considerably, with the garment industry totaling 3.1 billion yuan, the cotton textile industry totaling 3 billion yuan, and the chemical fiber industry totaling 2.6 billion yuan.

China's State Textile Industry Bureau (STIB) has expressed concern that an overzealous increase in production capacity could lead to overproduction and future problems for the industry. Imports of textile-spinning machinery rose 93 percent to $351 million in 2000, indicating a rapid increase in capacity. In 1996, the State Council issued a regulation to control expansion of the textile industry in accordance with market demand. The regulation requires textile machinery producers and purchasers to have permits from the STIB before setting production targets and arranging any purchase orders of machines. Key parts of cotton-spinning frames must be labeled with producers' names as well as product types and dates of production. Companies found in violation of the regulation can have their machines and incomes confiscated and their business licenses revoked. The State Council also instructed trade departments to strictly monitor imports of cotton textile machines, especially spinning frames. Companies caught illegally importing textile machinery can lose their rights to import and face severe penalties. Companies must also register textile machinery production for export with the STIB. Producers who sell textile machines made for export on the domestic market can lose their export rights.

China's textile and apparel industry is expected to grow substantially in the coming years. In fact, textiles and apparel may benefit more than any other industry from China's accession to the WTO. In February 2001, China's textile industry representatives set a growth target of 6.5 percent per year between 2001 and 2005 to reach an output of $132.5 billion with exports of $65 billion.[2] Increased textile exports may stimulate the domestic demand for cotton. China's accession to the WTO, however, will also open the country's market to imported cotton, intensifying competition for domestic cotton producers because domestic cotton prices currently exceed international levels.

While an expanding textile industry suggests greater demand for cotton, the targeted areas of growth are largely in value-added processing and in textile products that use other inputs besides natural fibers. The industry anticipates needs for improved science and technology, more efficient energy use, and changes in product mix and industrial structure. Government planners are encouraging producers to shift to products with higher value added, improve design capabilities, and increase production of chemical fabrics and decorative and industrial textiles.

Textile industry officials have emphasized the need to continue restructuring the industry. Inefficient, unprofitable state-owned enterprises are being phased out. Regional specialization in textile production is planned. Enterprises in eastern China are expected to focus on producing branded products for export, while enterprises in inland China will primarily supply the domestic market or make ethnic specialty products.

[2] Dai Yan, "Output Target Set For Textiles," *China Daily*, February 3, 2001.

GMO Cotton Expanding Rapidly

Cotton has been the first major beneficiary of China's investment in genetically modified (GM) crop research. GM crop production is an emerging issue in China. Consumer environmental and safety concerns are not at the level seen in many Western countries. China's government views GM crops as a potential boon to the country's impoverished farmers, but the government is being cautious in its approach to GM crops. In June 2001, the government issued regulations that required companies and research institutes involved in GM research to register with the government and required labeling of products containing genetically modified organisms. The impact of these new regulations has not yet been evaluated.

The Chinese government has sponsored a considerable amount of GM crop research since the late 1970s, but only a handful of GM plants have been given licenses for commercial promotion by MOA. Of those, two types of cotton are the only GM crops that have been widely adopted by Chinese farmers. A local variety developed by the Chinese Academy of Agricultural Sciences (CAAS) and an American variety developed by the Monsanto company were both approved for use in 1997. These cotton varieties were genetically engineered to produce a toxin that kills boll worms, a troublesome pest that is a major threat to cotton production. The two seed types are now competing with each other to capture China's cottonseed market.

Monsanto China has invested heavily in promoting its BollGard cotton in northern China. By entering a joint venture with the seed company of Hebei province (north China plain area), Monsanto secured a majority share of the seed market in that province. Farmers have been eager to adopt the GM seeds because they help ensure a stable output of quality cotton and reduce the labor requirements and cash expenses needed for insect control. In many areas, GM varieties account for nearly all cotton production.

CAAS GM crop research focused on developing a high-yielding, pest-resistant plant in a country long plagued by food and cotton shortages. Now, CAAS estimates that its seeds were used on about 366,670 hectares, roughly 9 percent of total sown area, of cotton fields across China in 2000. CAAS researchers have developed four subtypes of these cotton varieties to meet the different weather and soil conditions in different regions. CAAS estimates that farmers could save as much as 3,750 yuan ($451) per hectare by reducing use of pesticide and labor in preventing boll worms.

Both GM brands are more expensive than ordinary cottonseeds. BollGard seed is about 100 yuan ($12) per kilogram, while the CAAS brand is about 50 yuan. Ordinary cottonseed is about 10 yuan per kilogram. The high prices of the GM brands do not seem to bother cotton growers. Farmers feel that the cost savings associated with the GM seeds (in reduced pest control) and lower risk associated with medical expenses from applying chemicals justify the higher price of seed.

While GM initiatives in other countries have faced opposition on ethical and ecological grounds, the CAAS GM program has faced mainly financial pressures to recover the substantial investments made by the government in GM crop research. China does not require labeling of GM cotton, but GM crops must pass an assessment by MOA's Committee of Genetics Engineering Safety before being approved for commercial application.

Besides GM cotton, China has developed naturally colored cotton, which requires no bleaching and dying, thus reducing pollution produced in the treatment process. Government bureaus concerned with environmental protection, quality, inspection and foreign trade are exploring ways to label naturally colored fibers as environmentally friendly to facilitate sales to countries with "green" trade barriers. Colored cotton can be sold for two or three times the price of ordinary cotton. Multicolored cotton has been introduced in many provinces but is so far best suited for Xinjiang. Currently, about 4,000 hectares of brown, green, and light-tan cottons are available in Xinjiang and sown area is expected to expand to more than 30,000 hectares in 2001/02.

References

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