

THE FUTURE OF U.S. COTTON EXPORTS: PROSPECTS AND UNCERTAINTIES

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Abstract

The cotton industry is one which is heavily reliant on international trade. The United States, while a large demander of the world's cotton, is also one of the world's largest producers of the crop making them heavily reliant upon exports to the rest of the world. In recent years, U.S. exports have been at record levels. Texas Tech baseline predictions have exports remaining at these levels but showing little growth in the next decade. From the Texas Tech baselines, some countries are predicted to compete with the U.S. in exporting cotton, while others are predicted as major importers of cotton. Net Exporters include the U.S., Australia, Brazil, and Uzbekistan. Net Importers include China, India, and Mexico.

U.S. Cotton Exports: An Overview

The United States cotton industry generates more than 400,000 jobs in the various sectors from farm to textile mill and annually produces over \$25 billion in products and services. Moreover, the cotton industry is heavily reliant on international trade and the United States is a large supplier of cotton to the global market. Thirty percent of the world's consumption of cotton fiber is traded internationally, before processing. This is a larger percentage than for wheat, corn, soybeans, or rice.

The U.S. is the world's second largest cotton producer, behind China. India and Pakistan rank third and fourth, respectively, in cotton production. Combined, these four countries account for approximately 60 percent of the world's production and consumption. Australia is also a significant producer of the world's cotton accounting for 2-3% of world cotton production. (See Figure 1)

The U.S. is the third largest cotton consumer in the world, behind China and India. The next three largest consumers are Turkey, Brazil, and Mexico. (See Figure 2) Even though the U.S. is the third largest consumer of cotton, U.S. imports account for less than 1% of worldwide imports. However, U.S. imports have grown in recent years. Prior to 1994, U.S. imports were virtually zero (ERS, 2003).

The continued long term sustainability of the U.S. cotton industry is heavily dependent on the industry's ability to compete in the export market. Six countries account for 40 percent of all world imports: the European Union, Indonesia, China, Brazil, South Korea, and Thailand. While the U.S. Exports to all of these markets, only a small share has been to the EU and Brazil. (USDA, 2003)

Moreover, in 2000 only one of these six markets (Indonesia) ranked among the top five importers of U.S. cotton. In 2000, the top five importers of U.S. cotton (ranked from largest importer to smallest) were Mexico, Turkey, Indonesia, Taiwan, and Japan. The landscape of the U.S. export market has changed significantly over the past two decades. (See Figure 3)

The last two years have seen a dramatic increase in the amount of U.S. cotton exported. In 2002 cotton exports reached a 21 year high of almost 12 million bales. In 2001 the level was approximately 11 million compared to about seven million in both 2000 and 2001. (See Figure 4)

One reason for the record export levels is clear. Australia, a large exporter of cotton, experienced severe drought conditions in 2001 and 2002. (See Figure 5) This has allowed the U.S. to develop a trade advantage in the S. Pacific and Asian markets in the absence of Australian cotton. However, Australia's cotton production has begun to recover, and it is uncertain whether the U.S. will remain competitive when Australia begins exporting an expected 3 million bales of cotton in the near future (FAS, 2003)

Another factor increasing cotton exports, has been the North American Free Trade Agreement (NAFTA) which expanded U.S. exports to Mexico. In 2002, Mexico was the largest importer of U.S. cotton, importing nearly 67% of their cotton imports from the U.S. Mexican imports accounted for 13% of all U.S. cotton exports in 2002. In 1990, before NAFTA, Mexico accounted for only two percent of U.S. cotton exports. Thus, it is likely NAFTA has significantly increased the cotton trade level between the two countries.

Current Concerns: World Cotton Export Market

Growing world demand for textiles coupled with minimal supply growth in key cotton producing countries has increased world prices and decreased world stocks in the last few years. Consistent with history, the stock-to-use ratio declined as

world price increased (See Figure 6). Stock scarcity has been the primary cause of elevated world prices. There is now a concern that future supply responses might be excessive, causing stock levels to rebound and world price to drop.

Another factor of concern is the impact of the Agreement on Textiles and Clothing (ATC), which stipulate the elimination of the Multi-Fiber Arrangement (MFA) in 2005, will have on cotton exports. Most quotas will be eliminated in the last quarter of the time allotted which is between 2002 and 2004. Textile and apparel industries in developed countries like the United States will lose import protection with elimination of MFA and textile firms are likely to relocate in developing countries with lower production costs. The outmigration of U.S. textile firms will reduce domestic cotton demand in the U.S.

The remainder of this report focuses on the likely impacts these concerns may have on net cotton exporters and net cotton importers. Baseline data generated from the Texas Tech University (TTU) Cotton Economics Center is used in this qualitative analysis.

Exporting Countries

Australia. Australian cotton production has recovered only slightly from several years of drought. The drought was far reaching and depleted irrigation supplies creating water shortages that are expected to persist in the short run. Australian production is not likely to fully recover in the short run, and exports are expected remain far below normal this year. Additionally, appreciation of the Australian dollar versus the U.S. dollar has limited exports and thus, grower returns, which has hindered the recovery of the Australian Cotton Sector (FAS, 2003)

Brazil. Agricultural production in Brazil is seeing dramatic changes. Traditionally, agricultural production was concentrated in the southern portion of the country. However, over the last decade, there has been considerable expansion of cotton production in the central portion of the country. (See Figure 7) This emerging region is better suited for farming and will continue to see investment in transportation, research, and agricultural development. To date, most agricultural production in this region has been devoted to soybeans. However, as world cotton demand continues to increase, Brazilian cotton is likely to quickly expand given the high cotton yields realized in this region relative to the U.S. (1.36 MT/H in this region relative to and average yield of 0.70 MT/H in the U.S.

Uzbekistan. Uzbekistan is another country to watch which could become a major exporter of cotton in the near future. Inclimate weather and insect pressure have limited production of Uzbekistanian cotton in recent years. As a result, short-term exports are expected to decline. However, the Uzbekistanian government has goals of reforming its cotton industry similar to its wheat programs of recent years. To accomplish such goals, Uzbekistan must improve cotton varieties and production, modernize cotton ginning and processing equipment, and improve accessibility and reactivity to information on the global markets. Accomplishing these goals will leave Uzbekistan in a position to export significant quantities of cotton to the world market.

Importing Countries

China. In the face of WTO pressure as well as domestic pressure, the liberalization of Chinese trade restrictions on cotton will have far-reaching effects on the global market. Large domestic supplies of cotton (among other agricultural products) coupled with mounting debts of the government's official cotton purchasing organization raise concerns in favor of a liberalization of trade policies. The relaxation of the government monopoly on cotton purchases will likely increase domestic production and increase Chinese cotton exports. However, cotton production will likely have to satisfy China's booming textile industry before becoming an aggressive exporter.

India. India imports much cotton to satisfy the demand of its domestic textile industry, given its limited farmland. India currently does not allocate much acreage to cotton because Indian cotton yield is among the lowest in the world due to a lack of irrigation, limited use of high quality seeds, and poor management practices. However, an increased use of BT cotton may improve yields, and reduce India's need to import for its textile industry. However, the impact of BT on cotton imports will depend on the degree of producer adoption. A widespread use of BT cotton would significantly increase yields and help the country respond to demand from its large textile industry. However, the amount of seed available is limited and the approved varieties are not suitable for all regions of the country. In recent years U.S. cotton has found its way into Indian Mills. Low prices have helped U.S. cotton compete with the lower freight charges and shorter delivery periods offered by countries such as Egypt, West Africa, the CIS countries, and Australia.

Mexico. NAFTA continues to play a key role in the trade agreements between Mexico and the U.S. Despite sluggishness in recent years, U.S. demand for Mexican textiles continues to boost Mexican demand for U.S. cotton. Moreover, marketing campaigns are increasing awareness of Mexican consumers on the advantages of cotton products. Higher world prices and improved government programs have increased Mexican cotton production, however, the increase is relatively insignificant in terms of reducing Mexican textile mill demand for U.S. cotton exports. Additionally, the impact of the ATC on Mexico's textile industry is uncertain. Their ability to maintain a comparative advantage in exporting to the United States will be the key.

Potential Impacts: Opportunities and Uncertainties for the U.S. Export Market

Texas Tech University (TTU) baseline U.S. cotton predictions have exports remaining at higher than traditional levels but show little growth over the next ten years. (See Figure 8) Many countries will compete with the U.S. to meet increased global demand for cotton. Two key competitors will be Australia and Brazil. A third country to watch is Uzbekistan.

TTU baselines predict a modest recovery in Australian cotton production. (See Figure 9) Thus, U.S. cotton exports should remain competitive in regions of the world historically reliant on Australian cotton. While Australia has begun the slow recovery from a period of extended drought, the recovery will remain slow until water supplies are replenished. The strong Australian dollar also continues to hinder the price competitiveness of Australian cotton.

Brazilian cotton production is anticipated to increase in the coming decade due to its comparative production advantages. (See Figure 10) Expansions of agricultural production to nontraditional regions will increase production of all crops, including cotton. If predictions hold for minimal domestic growth in consumption and little change in the level of imports, then Brazilian cotton exports will substantially increase. This is consistent with TTU baselines which predict considerable growth in exports of Brazilian cotton. With a nearly threefold increase, this prediction is conditional upon expected world cotton price, as cotton competes with soybeans for acreage in Brazil. Further, liberalization of trade restrictions in the Americas may help Brazilian cotton become more competitive in Central America.

While Uzbekistan has historically played a relatively small role in global cotton trade, TTU baseline predictions show that they are likely to become a net cotton exporter with an annual net trade balance of nearly 3.75 million bales within a decade. This is conditional upon a continued influx of foreign investment into Uzbekistan's cotton industry, as well as a continual government commitment to make its cotton industry globally competitive.

Several countries will play a large role in determining how much cotton is demanded globally. Key players in the demand of world cotton include Mexico, India, and China. TTU baselines predict continued growth in Mexican imports of U.S. cotton, though not at the rate seen in the last decade. (See Figure 11) However, the long-run accuracy of this prediction will be largely influenced by Mexico's response to the elimination of MFA in 2005. Given the world wide reduction in quotas as mandated by the MFA, Mexico's ability to maintain their competitive advantage in textile production, and thus textile exports to the U.S., will be the key factor in determining the level of future Mexican imports of U.S. cotton.

TTU baselines predict continued growth in Chinese cotton imports. (See Figure 12) Fueled by a strong textile industry, which will likely grow with elimination of MFA in 2005, China's demand for raw cotton will likely outrun domestic supply and China will become a significant importer of cotton in the global market.

India's situation is similar to China. Consistently poor yields have plagued the nation. With little land area available for expansion, the advance of BT cotton varieties holds potential to increase domestic production and partially meet the future needs of a growing textile industry. However, production increases will fall short of domestic demand and the TTU baseline predicts an increase in Indian imports following the elimination of MFA in 2005. (See Figure 13)

Conclusion

U.S. cotton exports are at record high levels. The long term sustainability of current export levels is questionable. It is conditional on many issues including weather and technology in other exporting countries. Further, it is conditional on production in countries with strong textile industries and the ability of their domestic production to continue to supply these booming industries. The liberalization of global trade restrictions will provide strong demand for textiles worldwide. The ability of countries who are not traditional exporters of cotton to respond to anticipated demand increases will likely determine the competitiveness of U.S. cotton in the export markets. Due to a lack of competitive advantage, the TTU baseline predictions show U.S. will remain at current levels, with very little growth over the next decade.

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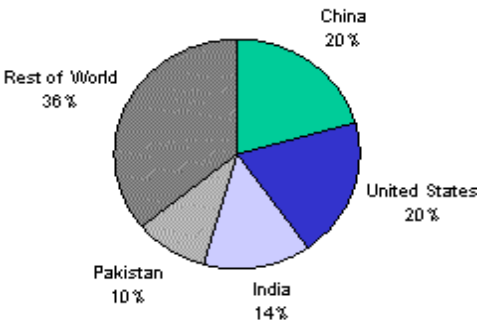
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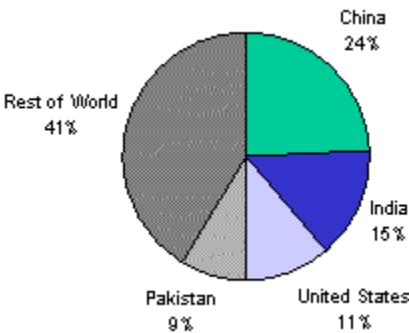
World cotton production



Source: Foreign Agricultural Service, USDA

Figure 1. World Cotton Production.

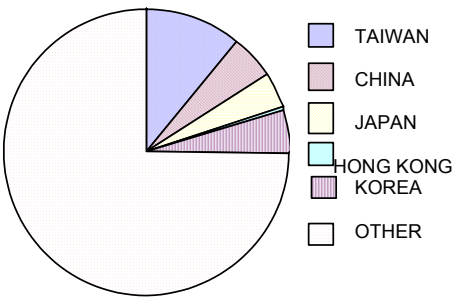
World cotton consumption



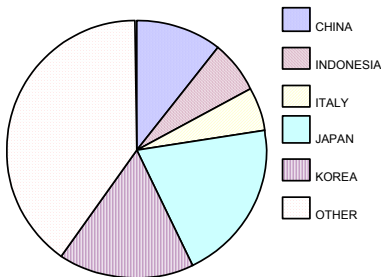
Source: Foreign Agricultural Service, USDA

Figure 2. World Cotton Consumption.

1980 US Cotton Exports by Destination



1990 US Cotton Exports by Destination



2000 US Cotton Exports by Destination

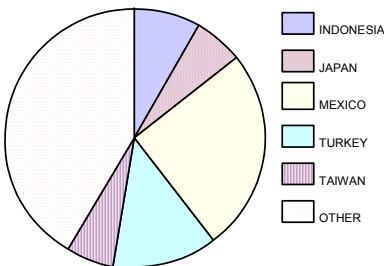


Figure 3. Structure of U.S. Cotton Export Market from 1980 – 2000.

U.S. Cotton Exports (Million Bales)

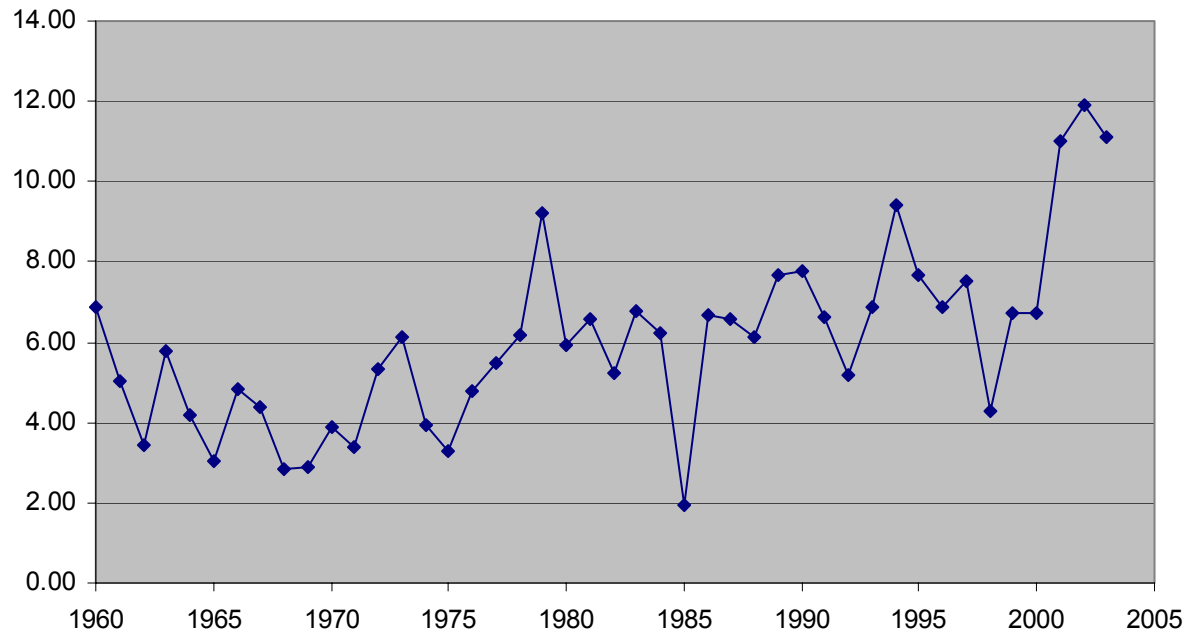


Figure 4. U.S. Cotton Exports from 1960-2003.

Australia Cotton Production (Million Bales)

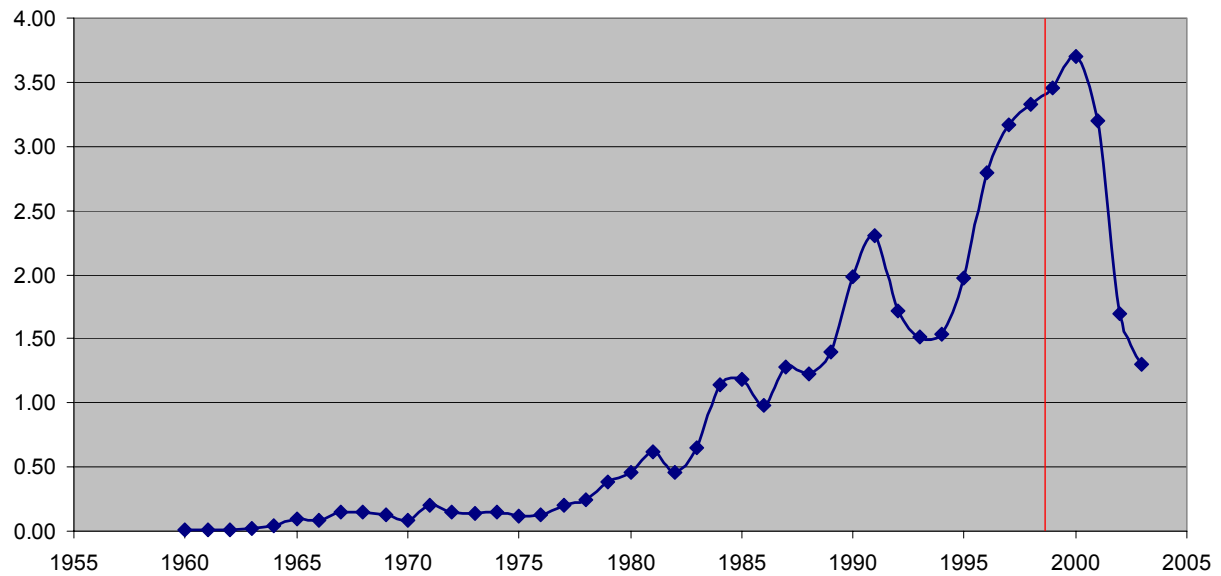


Figure 5. Australian Cotton Production from 1960-2003.

Year	STU (Stock-to-Use Ratio)	Price
91/92	72	0.35
92/93	65	0.32
93/94	52	0.42
94/95	58	0.52
95/96	75	0.55
96/97	80	0.48
97/98	88	0.42
98/99	95	0.35
99/00	82	0.32
00/01	78	0.35
'01/02	82	0.25
'02/03	65	0.32
'03/04	55	0.35

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Figure 7. Brazilian Agricultural Production Regions (Traditional and Expansion).

U.S. Cotton Exports (Million Bales)

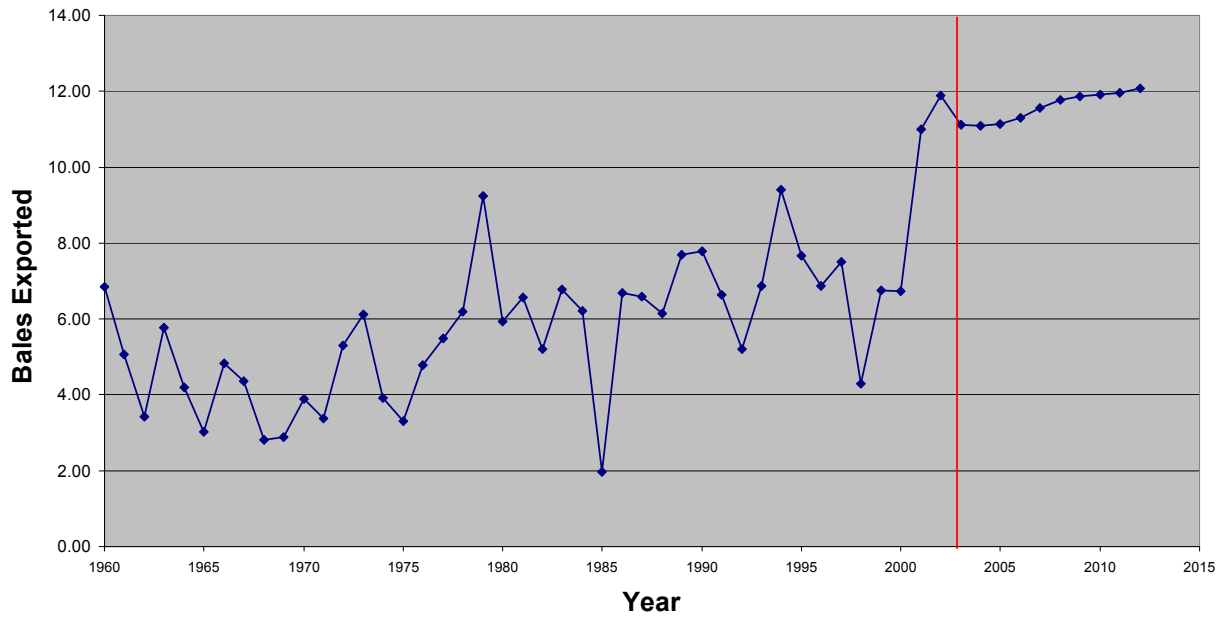


Figure 8. TTU Baseline Predictions for U.S. Cotton Exports.

Australian Cotton Exports (Million Bales)

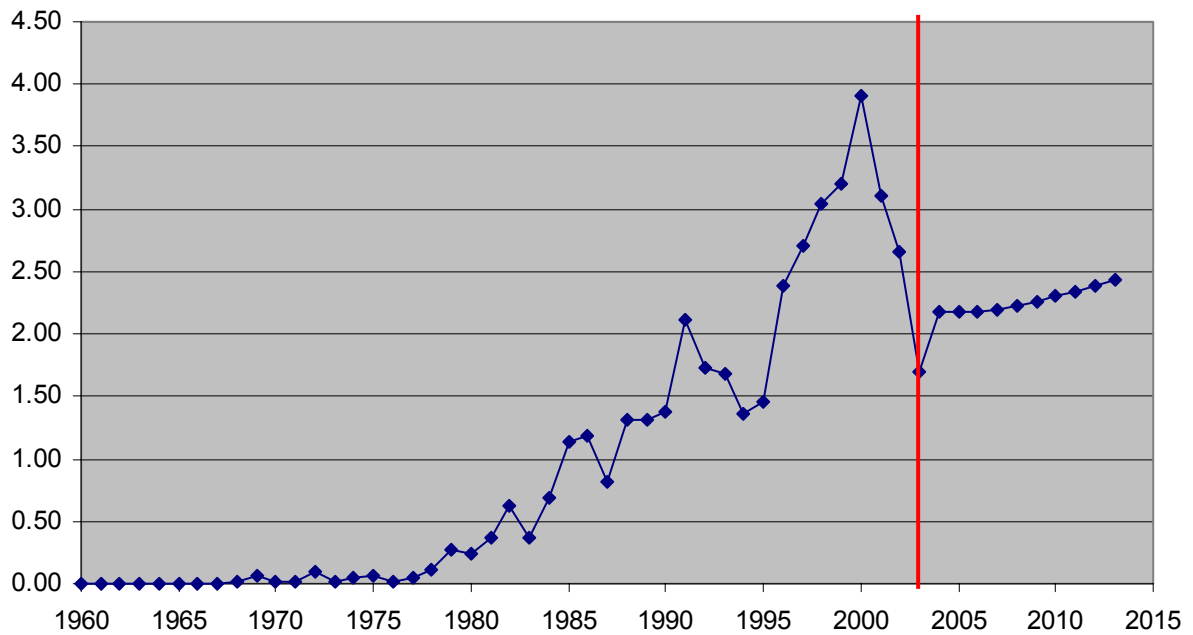


Figure 9. TTU Baseline Predictions for Australian Cotton Exports.

Brazilian Cotton Exports (Million Bales)

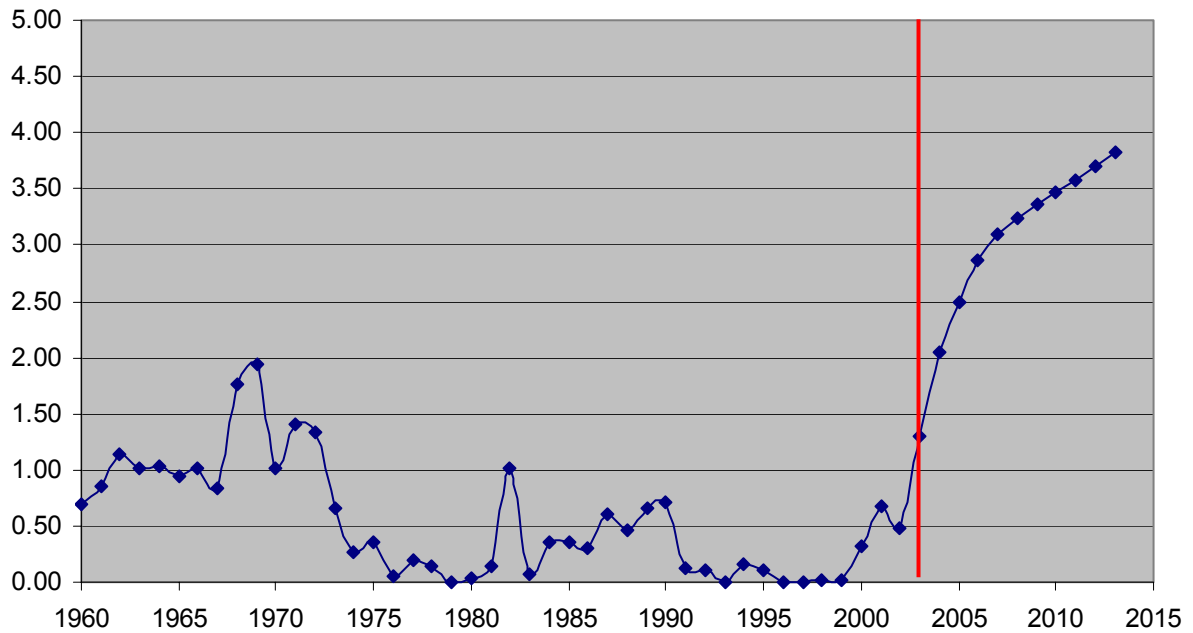


Figure 10. TTU Baseline Predictions for Brazilian Cotton Exports.

Mexican Cotton Imports (Million Bales)

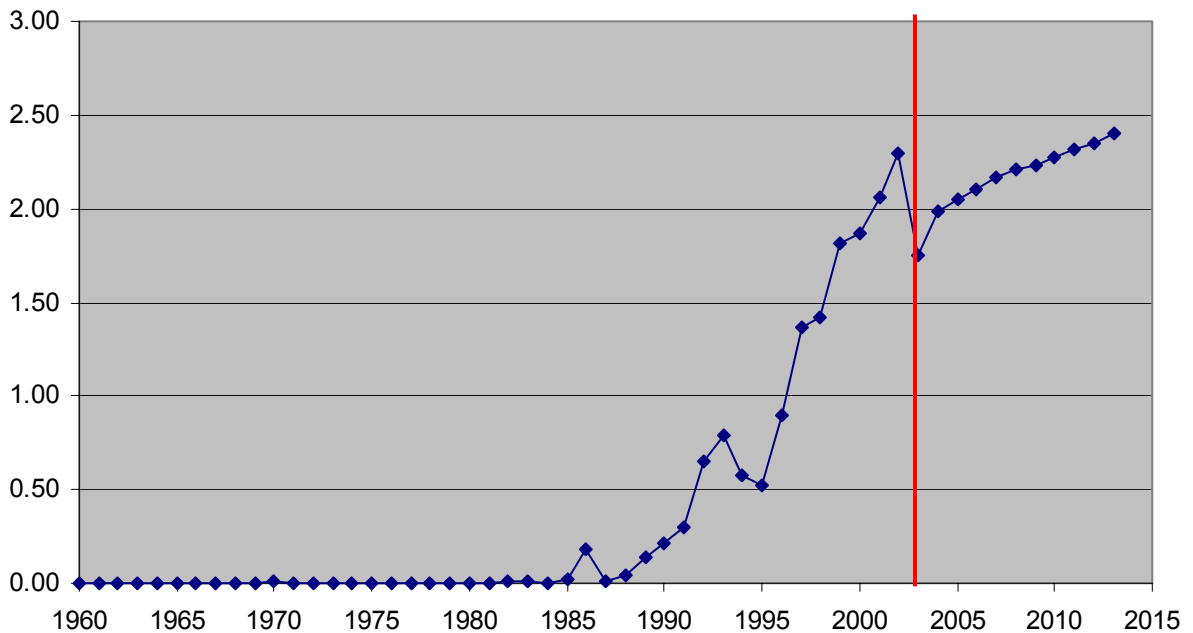


Figure 11. TTU Baseline Predictions for Mexican Cotton Imports.

Chinese Cotton Imports (Million Bales)

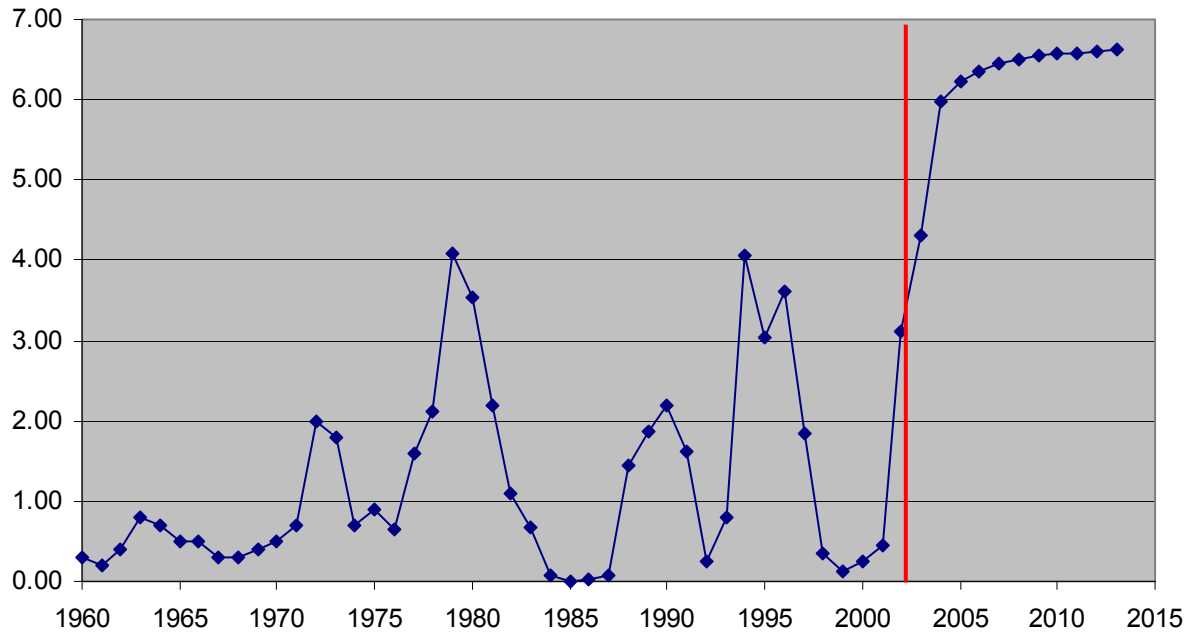


Figure 12. TTU Baseline Predictions for Chinese Cotton Imports.

Indian Cotton Imports (Million Bales)

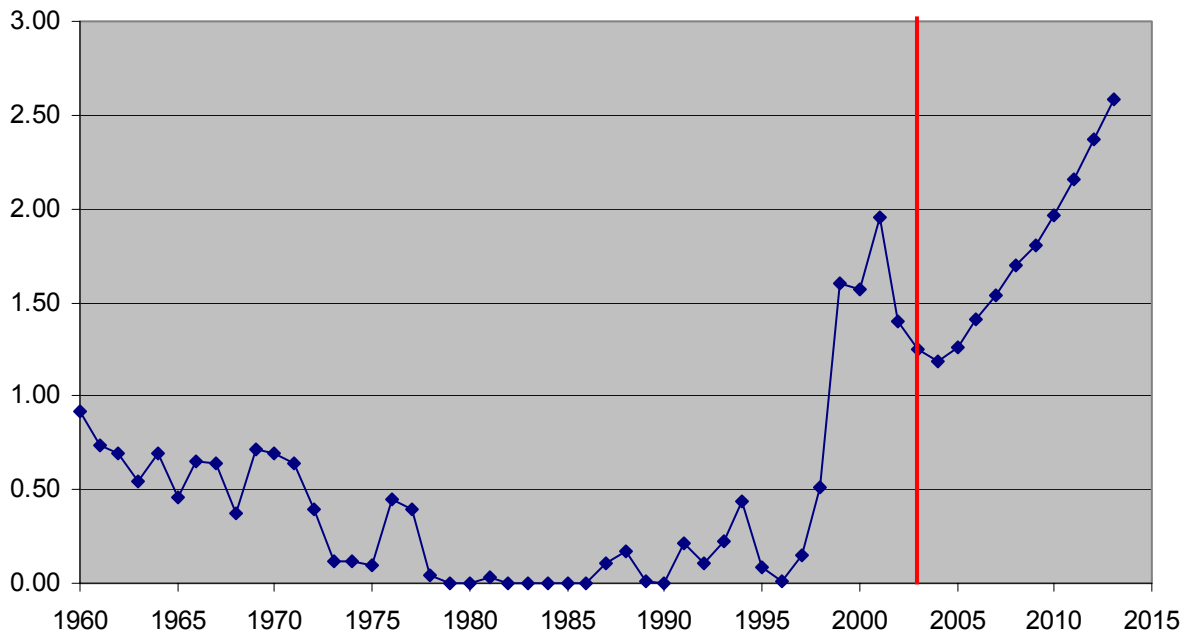


Figure 13. TTU Baseline Predictions for Indian Cotton Imports.