INTERNATIONAL COTTON FLOWS: CHANGING STRUCTURE AND PROSPECTS FOR THE FUTURE

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Abstract

International cotton trade has experienced an upward trend during the period from 1980/81 to 1997/98. The stability of cotton trade was interrupted by a number of shocks caused mainly by the policy changes in major exporting countries (China, the U.S., and Former USSR). The position of China in the world market has changed significantly throughout these years, reflecting the imbalance in domestic supply and demand conditions. Among the major exporters, increasing market shares stimulated by the increased production can be observed in countries of Francopone Africa, Australia, Argentina, Paraguay, Greece, and Syria. In traditional importing countries, there has been a decreasing trend in Japan, Germany, and France. A similar declining trend was less pronounced for Hong Kong, Taiwan, and South Korea. Indonesia, Thailand, Mexico, and Brazil have all experienced growth in imports.

Cotton Trade Trends

This study reviews the changes in the world cotton trade during the period 1980/81 to 1997/98. The volume of cotton trade during this period exhibits a strong upward trend, increasing from 4.4 million metric tons in 1980/81 to almost 6 million metric tons in 1997/98. The trend was supported by steadily growing consumption that was driven by a growing population and two decades of favorable economic conditions. The recent slowdown in economic growth is likely to put some downward pressure on this trend reducing world exports to 5,494 thousand tons in 1998/99. According to ICAC forecast, as world economic conditions improve, cotton trade should rebound rising to 5.7 million tons in 1999/00, and continuing its growth into the future.

Shocks in the World Cotton Trade

The stability of cotton trade has historically been interrupted by shocks that caused substantial volatility world cotton trade volume (Figure 1.). Examination of world trade data during the period of study reveals a sharp increase in world exports in 1986/87. This shock was caused by large world production that drove prices down, and thus, triggered a pronounced escalation in trade. This was also the year of the U.S. Inventory Protection Certificates, when the U.S. essentially placed its accumulated stocks to the market. In the early 1980s, U.S. domestic prices were much higher than world prices (under the provisions of the 1980 Farm Bill), therefore the U.S. had accumulated significant stocks. Under these conditions, the principal goal of the 1985 Farm Bill was to make American cotton more price competitive in the world market, and thus, discontinue its role as world's residual supplier. This was accomplished via the introduction of the marketing loan provision that went into effect August 1, 1986. Due to this policy change, U.S. exports in 1986/87 increased to 1.4 million tons from 427 thousand tons in the previous year and have averaged 1.5 million tons over the last 12 years (Figure 2.). Other factors that contributed to the increase in the world trade in 1986/87 were the 690 thousand metric tons of exports from China, which were encouraged by a government policy to promote exports following large crops in 1983-1985. Low prices and good crops in Australia and Pakistan also added significantly to the world cotton trade during 1986/87.

The next shock in world cotton trade was observed in 1988/89 when world exports rose to 5.7 million tons. The principal change that year was that China, after a four-year span of exports, once again became a net importer. This was a year of record export levels from Pakistan, 831 thousand tons. The expansion of market shares by smaller exporters also marked 1988. Australia, Argentina, Paraguay, Greece, and Francopone Africa all increased their presence in the market by exporting increasing volumes of cotton. Strong demand, supported by robust economic growth, coupled with the ending of the debt crisis, the abundance of cotton on the market, and moderate prices all contributed to the increase in the cotton trade in 1988/89 crop year.

The 1991/92 shock resulted from the breakup of the Soviet Union and the emergence of the Newly Independent States as new members of the world market. However, this shock was mostly statistical as world trade actually fell from 5,081 thousand tons during the previous year to 4,728 thousand tons in 1991/92. This shock resulted from recording domestic consumption of the Former Soviet Union as exports, which changed the basis of world trade accounting. The actual impact of the breakup of the Soviet Union was recorded a year later. In 1992/93 Uzbekistan dumped 1.3 million tons of cotton on the world market, selling off its accumulated stocks and driving down prices.

The most recent "shock" in the world trade took place in 1994/95 when China imported 884 thousand tons of cotton. This boost in trade was enjoyed mainly by the U.S. as it supplied more than 65 percent of Chinese imports that year. The remaining share went to other major exporters such as Argentina, Sudan, Francopone Africa, and Central Asia.

China's Role in the Cotton Market

Three of the four previously described shocks were influenced greatly by China (Figure 3.). China's impact on

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the market is extremely important mainly because of its size. China produces about 20 percent and consumes about 25 percent of the world cotton output. This, coupled with the fact that China is a planned economy and does not operate in the same manner as market economies, emphasizes the importance of China to the world trade. China's government develops economic plans annually and reviews them quarterly. Factors that affect China's trade policy are mostly the variables of domestic supply and demand during previous seasons, not world market factors. Thus, about 60 percent of the variation in Chinese net imports during 1980-1998 can be explained by the ending stocks two years prior and domestic consumption in the previous year.(Table 1.) Thus, lagged response has been the best way to characterize Chinese decision making. Colby and MacDonald point out the lag in adjusting the domestic procurement prices to the world market prices (Colby and MacDonald, 1998). They also noted a correlation between China's net trade in cotton and trade in other commodities, such as soybeans, corn and rice (73, 41, and 47 percent respectively). This suggests that cotton trade policy in China is subject to general agricultural trade policy.

The factors formulating China's decision making underlie the recent change in Chinese trade policy towards increasing exports. The main reason for this change is the accumulation of very large stocks that reached an estimated 87 percent of annual domestic consumption at the end of 1997/98. The growth in consumption is slowing as the Chinese government reinforces efforts to destroy inefficient and obsolete spindles. However, Chinese exports may be restrained by low world prices. China accumulated stocks at prices higher than the current world price, therefore unsubsidized exports would be impossible. The direction of China's trade policy toward exports is expected to continue for the next several years. In general, if trade can be viewed as the residual of the production minus consumption, than China's trade accounts for about a quarter of the world's residual and therefore extremely volatile. Other cotton trading countries in the world have kept a more stable status of importing or exporting.

Major Exporters

One of the important features in world cotton trade is that the export sector is highly concentrated (Figure 4.). In 1980/81, the four largest exporters accounted for over 60 percent of total exports, in 1997/98, their share increased to 72 percent. The largest exporter in the world has historically been the U.S.,which has maintained its market share in the range of 29 percent (except 1985/86 when American cotton was not price competitive in the world market). Market share of U.S. exports is expected to decline sharply (almost 45 percent) in 1998/99 because of the tight supplies subsequent to production problems. This decrease in U.S. exports, however, should not bring stress to the world market as it will be compensated by the foreign suppliers, particularly China with its expected increase in exports. The production difficulties in the U.S. cotton industry were mostly due to the weather conditions. They are not expected to continue and U.S. exports will probably rebound next season.

Since gaining its independence in 1991, Uzbekistan has been competing with the United States for leadership in the cotton export market (Figure 5.). Uzbekistan's share of the world market surged in 1992 to over 23 percent of total exports as the country was selling its accumulated stocks. The excess stocks ran out in 1994 and since then the country's share has leveled off at around 17 percent. Uzbek exports are not expected to grow in the near future, as the country's cotton industry is experiencing production problems due to transition changes in infrastructure. However, no significant improvements have been made so far.

Countries of the Francopone Africa are expected to be the third largest exporter in 1998/99 (Figure 6.). This region of the world has seen a steady growth in cotton production and exports over the last two decades because of increased area and improvements in yields. A big stake in this growth belongs to the French company CFDT that brings research and extension to the cotton industry in this part of the world. Under pressure from the World Bank and the IMF the monopoly of CFDT in this region's cotton industry is not expected to continue. Added competition from other companies is expected to further improve production and exports in these countries. Another factor that contributed favorably to Francopone cotton exports is the devaluation of CFA franc in January 1994. These countries exports have surged since this event ha made their cotton became cheaper in the world market.

Australia has also experienced tremendous growth in cotton production and exports (Figure 7.). Australian market share was estimated at 10.2 percent in 1998/99 up from 1.2 percent in 1980/81. The major factors that underlie this growth are increased planted area, up from 85,000 Ha in 1980 to 388,000 Ha in 1997, and high yields that have averaged 1611 Kg/Ha (which is about 3 times the world average). Australia has one of the most technologically advanced cotton industry in the world. The country's outlook for cotton exports is very favorable at present because of the availability of supply and the declining value of its currency.

The smaller exporters, Argentina, Greece, and Syria, have all experienced growth in the market share due to the increased production and sluggish domestic consumption. Turkish exports decreased, especially in the 1990s, because of growing domestic textile industry. Exports from Pakistan, after the peak in 1988, have declined due to production problems caused by the leaf curl virus and bollworm infestation that have yet to be overcome. India also had been experiencing problems with pests. With consumption growing faster than production, its share of the world export market is expected to continue to decrease.

Major Importers

The world cotton sector is much less concentrated than the export sector. In 1980/81, ten major importers accounted for 64 percent of the world total. By 1997/98 this figure had fallen to 59 percent (Figure 8.). Over the last twenty years, there has been some redistribution of consumption, and hence imports among different countries. One of the observed tendencies was that mill use has decreased in some developed countries. High labor costs put these countries at a competitive disadvantage which has forced the movement of mills to countries with lower wages and/or import cotton yarn and fabric for their textile industry. This pattern became most pronounced after the low-price season of 1986/87. Since then, Japanese imports of raw cotton fell almost 65 percent (Figure 9). Hong Kong's, Taiwan's, and South Korean cotton imports have also declined since 1986. However, imports by these countries have leveled off at the previous volumes. Yet, as wages rise in these countries, imports will further decrease reflecting lower cost competitiveness. A similar trend can be noticed in the traditional cotton importing countries of Western Europe during this period, where imports fell in all countries except Italy (Figure 10.). The ability of Italy to sustain its textile industry is mainly due to the developed fashion industry that requires special types of yarn that are manufactured domestically.

Almost a mirror image of this development is the increase in imports in developing countries that have replaced import share relinquished by traditional importers. The largest emerging importers in the Eastern Hemisphere are Indonesia and Thailand, and in the Western Hemisphere; Brazil and Mexico (Figure 11.). These countries benefit from comparatively cheap labor, favorable exchange rates, and foreign investment in their textile industries. They also benefit from trade treaties with Mexico becoming the biggest market for the U.S. cotton (NAFTA). Brazil is collecting most of the export expansion from Argentina (MERCOSUR). Indonesia and Thailand are enjoying proximity to Australian production growth (ASEAN).

Another tendency in the world cotton market is for textile mills to move towards cotton producing countries. Spinning is a very capital intensive process and is becoming more and more competitive with the introduction of new technology. One of the ways to reduce cost for the textile manufacturers is to reduce the cost of shipment. Therefore, consumption is increasing for several traditional producers, such as Pakistan, India, and China, where an increasing percentage of textile production is destined for the export market. Turkey is following a similar path by importing cotton in addition to expanding domestic production to support consumption growth, a growing portion of which goes into textile exports.

Imports, like consumption are strongly affected by general economic factors. Therefore a slowdown has been observed in East European and Russian cotton imports (Figure 13.). Imports will continue to decrease in Russia, after a brief rebound in the mid 1990s because of the deteriorated economic situation. The impact of the financial crisis in Southeast Asia was not as severe as expected because of the strong export demand for textile products and the ability of banks to provide financing in difficult conditions. Another country that suffered from financial problems in 1997/98 is Brazil as economic problems triggered inflation and consumption could not keep pace with growing production. Financial problems tend to have only temporary effect in importing countries, as they make textile exports more attractive in the world market. In general, developing countries and cotton producing countries have prominent positions in the cotton import markets.

Summary and Conclusions

International cotton trade has experienced an upward trend during the period from 1980/81 to 1997/98. The stability of cotton trade was interrupted by a number of shocks caused mainly by the policy changes in major exporting countries (China, the U.S., and Former USSR). The position of China in the world market has changed significantly throughout the years, reflecting the imbalance in domestic supply and demand conditions. About 60 percent of the variation in Chinese net imports during 1980-1998 can be explained by the ending stocks two years prior and domestic consumption in the previous year. China's trade policy can best be characterized by the delayed response to internal economic factors rather than the reaction to the world market situation.

Among the major exporters, increasing market shares stimulated by the increased production can be observed in countries of the Francopone Africa, Australia, Argentina, Paraguay, Greece, and Syria. In traditional importing countries, there has been a decreasing trend in imports to some of the developed countries, such as Japan, Germany, and France. A similar declining trend was less pronounced for Hong Kong, Taiwan, and South Korea. However, several developing countries (Indonesia, Thailand, Mexico, and Brazil) have all experienced growth in imports due to benefits provided by the comparatively cheap labor, favorable exchange rates, liberalized trade via treaties and foreign investment in their textile industries. Another tendency in the world cotton market that has been driven by the increasing competitiveness of the spinning industry, is that mill use is growing faster in cotton producing countries. This pattern explains a decrease in exports and increase in consumption in countries like Pakistan, India, and Turkey. These countries also exhibit a proportional growth in textile exports.

Overall, changes in the international cotton flows over the last two decades indicate greater competition in the world cotton industry. Thus, countries that have a competitive advantage in producing cotton will maintain and probably increase their market shares. Countries that are less competitive, will be driven out of the market through price signals. In import markets, developing countries and cotton producing countries will have a strongest position.

Acknowledgments

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Table 1. Factors Affecting China's Trade Policy Over the 1980-1998 Period.

TRADE = -79.347 - 1.964 STOCKS(-2) + 12.029 CONS(-1)
(-4.065) (-5.149) (4.570)

where,

TRADE = Net Imports to China,

STOCKS(-2) = Chinese Ending Stocks two periods before.

CONS(-1) = Chinese Consumption one period before.

Numbers in parenthesis are t-values.

All variables are in logarithmic form, therefore coefficients represent elasticities.

$R^2 = .62$

Adjusted $R^2 = .58$

F-statistic = 13.27

Durbin-Watson statistic = 1.39

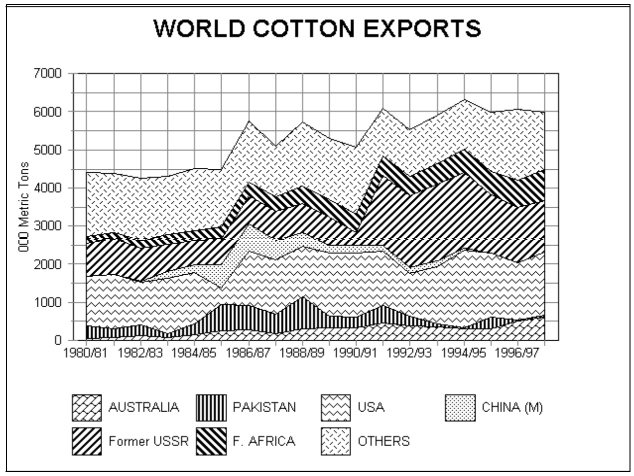

Figure 1. World Cotton Exports Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

Figure 2. Exports of Cotton from U.S. Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

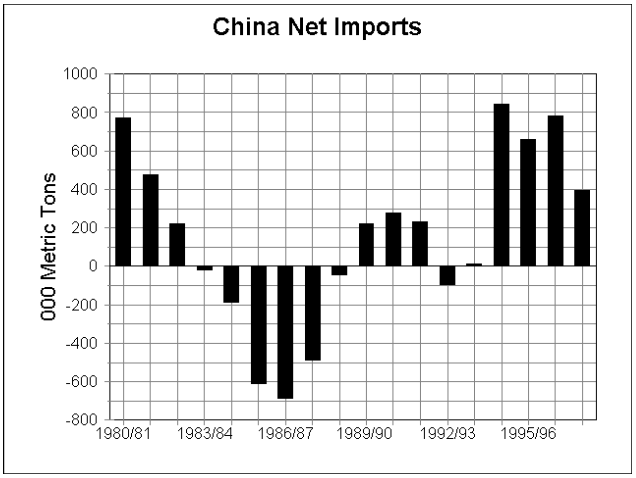

Figure 3. Net Imports to China Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

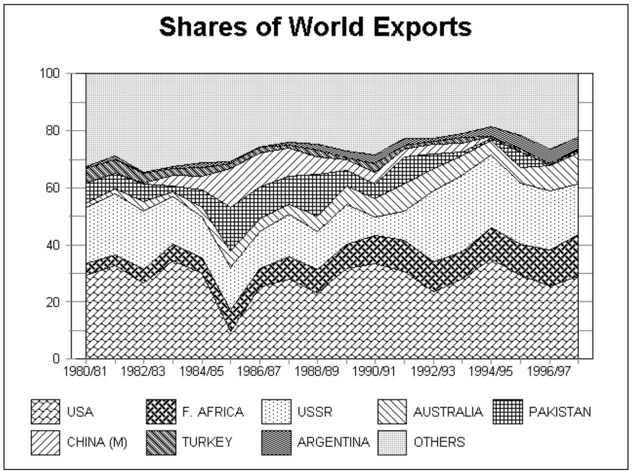

Figure 4. Shares of World Cotton Exports Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

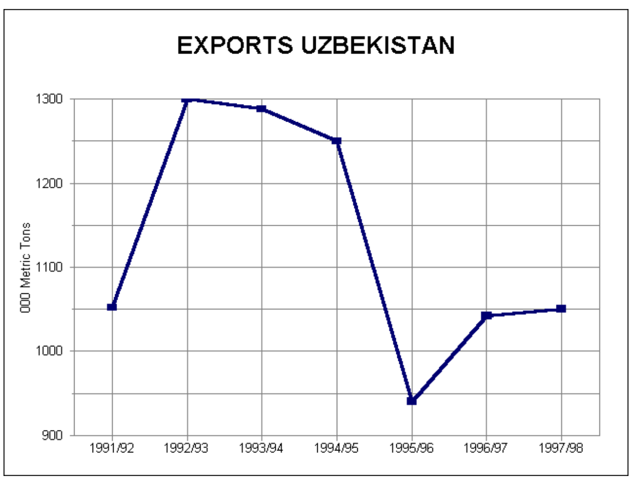

Figure 5. Exports of Cotton from Uzbekistan Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

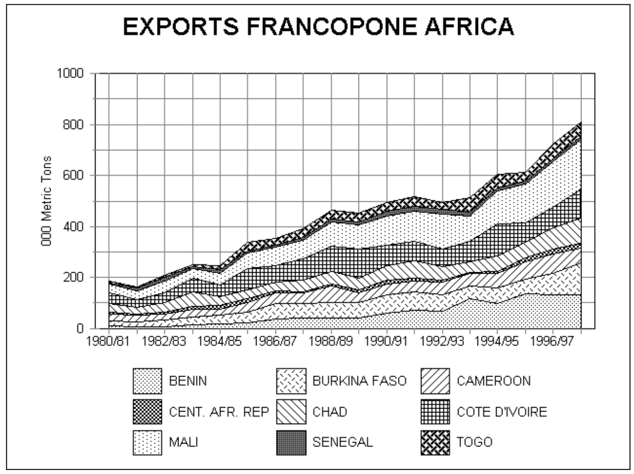

Figure 6. Exports of Cotton from Francopone Africa Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

Figure 7. Exports of Cotton from Australia Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

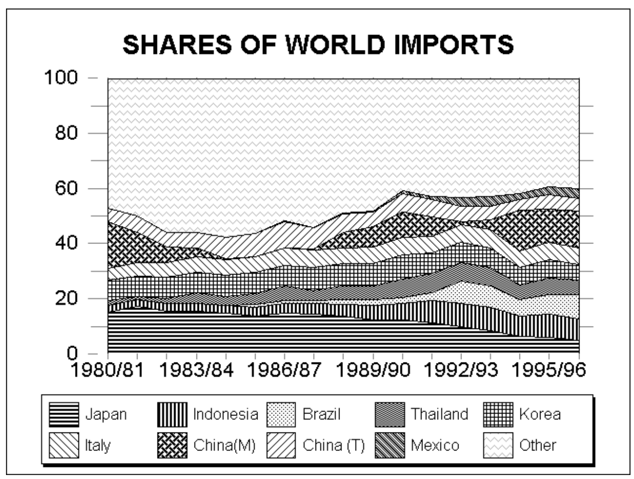

Figure 8. Shares of World Imports Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

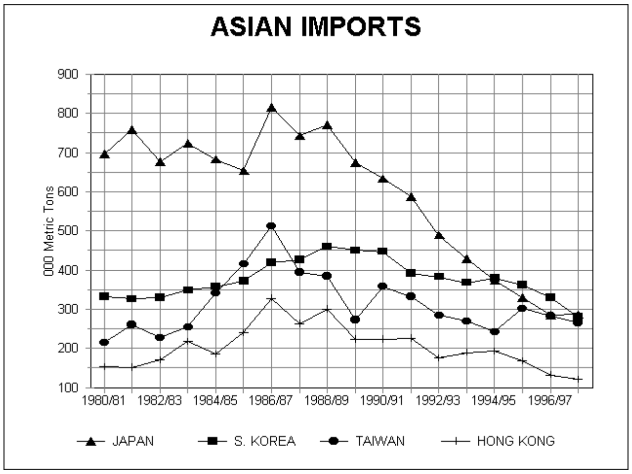

Figure 9. Imports of Cotton to Japan, Hong Kong, Taiwan, and South Korea Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

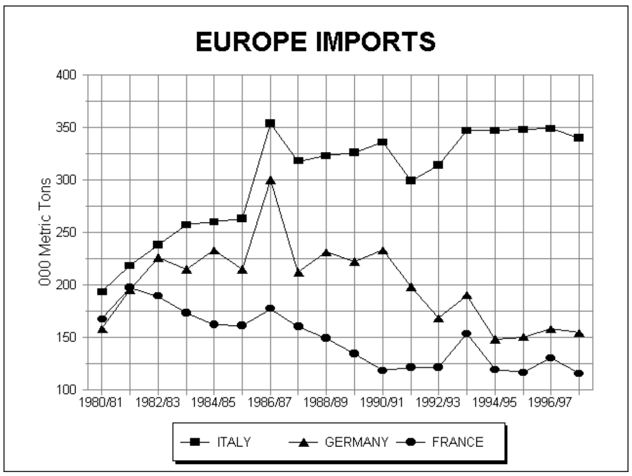

Figure 10. Imports of Cotton to Western Europe Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

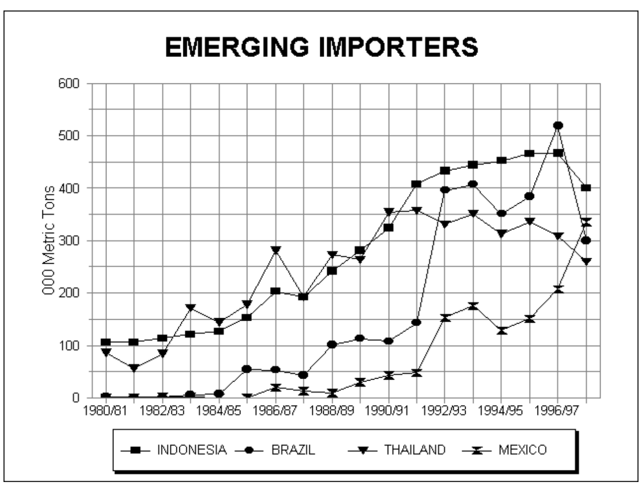

Figure 11. Imports of Cotton to Indonesia, Thailand, Mexico, and Brazil Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

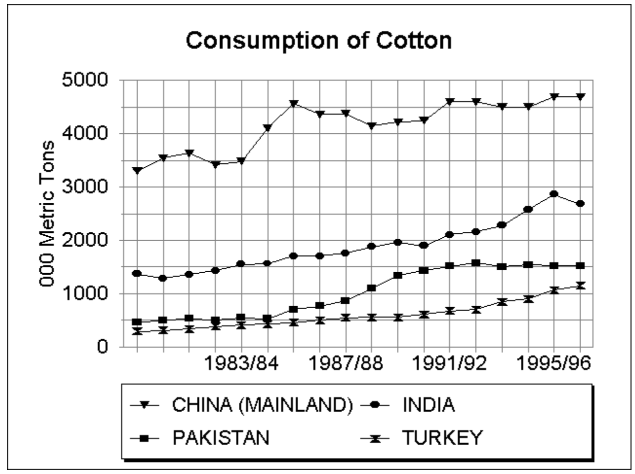

Figure 12. Consumption of Cotton in China, India, Pakistan, and Turkey Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.

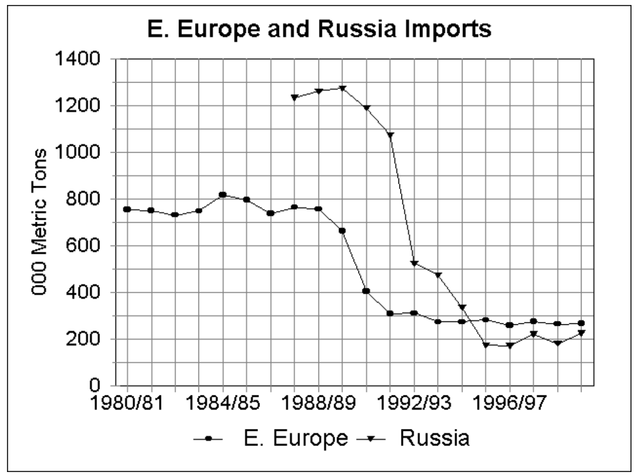

Figure 13. Imports of Cotton to East Europe and Russia Over the 1980/81-1997/98 Period. Source: ICAC, World Cotton Trade 1998/99.