



THE WORLD COTTON MARKET: A LONG-TERM OUTLOOK

Carlos A. Valderrama Becerra
Head Economist
International Cotton Advisory Committee

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Introduction

The world cotton market has experienced dramatic changes over the last five decades. Consumption of cotton more than doubled from 7.6 million tons in 1950/51 to 18.5 million in 1998/99. The industrial processing of cotton fiber rapidly concentrated in developing countries. While in 1950/51, 28% of world mill consumption of cotton took place in developing countries; by 1998 the share had increased to 77%. Cotton production increased along with consumption, and the increase was the result of gains in yields, combined with an area dedicated to cotton fluctuating within a rather narrow range of 28 to 36 million hectares.

Over the last four years cotton consumption increased by 2.7 million tons, an average increase of 3.4% per year, after ten years of stagnation at around 18.5 million tons. The rapid increase in cotton consumption has only been matched by increases in the early 1980s and is mainly the result of low cotton prices relative to prices of competing fibers. Over the next seven years, cotton consumption is expected to expand at an annual rate of 1.2%. Despite low prices, world cotton production reached a record 21.5 million tons in 2001/02 and is expected to maintain the pace of consumption growth in the next seven years. Three main factors have promoted increases in cotton production since the mid-1990s: new technologies, the incorporation of new area dedicated to cotton and government measures. These factors are expected to continue to support cotton production in the next seven years, without exceeding the large accumulation of stocks registered in the second part of the 1990s. Consequently, world stocks, which averaged 52% of consumption between 1994/95 and 2000/01, are expected to average 41% of consumption over the next seven years.

Another influence on prices is the trade of raw cotton between China (Mainland) and the rest of the world. China (Mainland) is the largest producer and consumer of cotton. The very rapid increase of mill consumption of cotton in China (Mainland) was supported in the late 1990s by large stocks in that country. However, with depleted stocks, the strength of the Chinese textile industry has had to resort to imports of raw cotton in the last two years. It is expected that imports of raw cotton by China (Mainland) will average 1 million tons a year over the next seven years, equivalent to 15% of world trade in raw cotton.

International cotton prices, as measured by the Cotlook A Index, have declined overtime due to more efficient production practices. During the ten years to 1985/86 international cotton prices averaged 75 cents per pound; between 1985/86 and 1994/95, prices averaged 70 cents per pound; and in the eight years to 2002/03 prices

averaged 63 cents per pound. It is expected that international cotton prices will average 60 cents per pound over the next the seven years.

Demand

Final Demand for Textile Fibers

World textile fiber consumption increased at an impressive pace since the 1950s. From 7.6 million tons in 1950, textile consumption increased to 52 million tons in 2002. While about 50% of the increase was the result of population growth, the remaining 50% was the result of higher income per capita levels, declines in real textile prices, and competition among fibers which generated new uses for textile fibers. However, the pace of growth of textile consumption has decelerated gradually. The average annual rate of growth of textile consumption was 3.7% during the 1960s, 3.1% during the 1970s, 2.5% during the 1980s and 2.7% during the 1990s. Indeed, the growth of the two major economic variables that determine textile consumption, income and population, has also decelerated.

During the 1990s, consumption of textile fibers in developing countries continued to increase above world average rates and most of this growth was concentrated in Asia. In 1990, 28% of world textile fiber consumption took place in Asia, and the share increased to 33.6% by 2002. Gains in share of world textile fiber consumption in other developing country regions during the same period were not significant, from 3.8% to 4.2% in the Middle East, from 6.2% to 7.3% in Latin America and the Caribbean and from 3% to 3.4% in Africa. The share of industrial countries of world textile consumption increased by just one percentage point during the twelve-year period to 46% in 2002. These gains in industrial and developing countries occurred at the expense of declines in Eastern Europe and the former USSR, where textile fiber consumption as a share of world consumption declined from 14% to 5.6% between 1990 and 2002.

Long term projections of world GDP and population growth suggest that world textile fiber consumption can expand at an annual average rate of 2.3% over the next seven years to reach 62 million tons in 2010.

In contrast to overall textile fiber consumption, cotton consumption at the end-use level continued to concentrate rapidly in industrial countries during the 1990s, essentially in the United States and Canada. While industrial countries accounted for 38% of world cotton consumption in 1990 and 44% in 2002, developing countries accounted for 48% in 1990 and 52% in 2002. Eastern Europe and the former USSR captured 14% of world cotton consumption in 1990 and 4% in 2002.

World cotton consumption increased by 2.6 million tons between 1998 and 2002, a four-year rally last registered in the early 1980s. Between 1982 and 1988, world cotton consumption increased by 4 million tons, and then stagnated between 1989 and 1997, fluctuating around 18.5 million tons.

Without any doubt, the strong increases in cotton consumption since 1998 have mainly been the result of lower cotton prices. Indeed, the Cotlook A Index, a measure of international cotton prices, averaged 54 cents per pound between 1998 and 2002, sloping down almost continuously over the period. Further, the bulk of cotton sales occur between October and December in any year, as production in the northern hemisphere, which accounts for 90% of world output, is ginned and marketed. The

average price between October and December in the years 1998 to 2002 was 51 cents per pound. In contrast, prices of polyester in the U.S. market averaged 58 cents per pound and, most importantly, sloped upwards over the same period. Further, polyester prices in Asia, where most cotton is processed, have also trended upwards. Polyester prices in China (Taiwan), as reported by Cotlook Limited, increased from 37 U.S. cents per pound in 1998 to 43.4 cents per pound in 2001. Taiwanese polyester prices declined to 39.5 cents per pound in 2002, only to increase to 51 cents in April 2003. As a result of these trends the annual average relative price of cotton declined by 30% between 1998 and 2002.

World cotton consumption reached 21 million tons in 2003 and is projected to expand at an annual average rate of 1.8% to reach 23.6 million tons in 2010. Cotton's share of the world textile fiber market is projected to decline from 39.7% in 2002 to 38% in 2010.

Mill Consumption of Cotton

Mirroring end-use consumption, world mill consumption of cotton was stagnant during the first half of the 1990s, growing by only 0.6% between 1990 and 1997, but increasing rapidly thereafter. In the early 1990s, mill consumption of cotton declined dramatically in Eastern Europe and the former USSR from 2.5 million tons in 1990/91 to 730,000 tons in 1998/99, offsetting gains elsewhere in the world. Mill consumption of cotton recovered in that group of countries since 1998, increasing to over 900,000 tons in 2002/03. Mill consumption of cotton in industrial countries remained at about 4 million tons during the early 1990s, but declined rapidly since 1998/99. In contrast, mill consumption of cotton in developing countries increased at an annual rate of growth of 2.9% during the 12 years to 2002/03. As a result, the processing of cotton continued to concentrate in developing countries, and their share of world mill consumption rose from 67% in 1990/91 to 83% in 2002/03, compared to 46% in 1970/71 and 60% in 1980/81.

The declines in mill consumption of cotton experienced between 1990/91 and 1998/99 in Eastern Europe and the former USSR prevented world cotton and textile consumption from achieving greater growth during the first half of the 1990s. Mill consumption of cotton in this group of countries in 1998/99 was less than a third of the level of mill consumption in 1990/91. Imports of cotton manufactures mitigated the decline in mill consumption but consumption of cotton at the end use level registered similar declines. The dramatic declines in both mill and end-use consumption of cotton in Eastern Europe and the former USSR during the 1990s were the result of similarly dramatic declines in economic activity, which in turn caused incomes to decline. According to data from the International Monetary Fund, GDP in that group of countries contracted every year between 1990 and 1995 in a range of -0.2% to -12%. Had consumption of cotton in Eastern Europe and the former USSR remained at the level of 1989, the world would be consuming now 22.8 million tons of cotton.

Mill consumption of cotton in industrial countries increased from 3.2 million tons in 1980/81 to 3.9 million in 1990/91, fluctuated in a narrow range of 3.9 to 4.1 million tons between 1990/91 and 1997/98, and declined rapidly to 2.8 million tons in 2002/03. The declines reflect the increasing concentration of cotton processing in developing countries that has occurred during the last five decades. High labor costs and increased competition of imports from developing countries have caused the cotton textile industries in many industrial countries to decrease production levels since 1998/99.

Mill consumption of cotton in developing countries increased at an annual rate of 3.9%, from 8.5 million tons in 1980/81 to 12.3 million tons in 1990/91. Growth of mill consumption decelerated during first seven years of the 1990s to an average annual rate of 2.7% reaching 14.3 million tons in 1997/98, but regained strength since 1998/99, growing at an average annual rate of 5.5% to reach 17.5 million tons in 2002/03. The bulk of the increase since 1998 occurred in China (Mainland), but important expansions were also registered in Pakistan and Turkey.

For the past five years, China (Mainland) has been the driving force of the world textile industry. Between 1998/99 and 2002/03, additional mill consumption of cotton in China accounted for 83% of additional consumption worldwide. The Chinese industry processed 6.5 million tons of raw cotton in 2002/03, an increase of 2.2 million tons since 1998/99. The textile industry in China (Mainland) is highly dependent on the export market, and can be sensitive to world affairs. Nonetheless, low labor costs and Chinese policies have improved the country's competitiveness vis-à-vis other textile exporting developing countries, and China (Mainland) has increased its share of world textile and apparel exports in the last four years. China (Mainland), which surpassed Mexico as the second largest source of U.S. textile imports in 2001, surpassed Canada in 2002 and became the leading supplier of textile manufactures to the U.S. market.

In India, the second largest cotton processing country, mill consumption of cotton between 1990/91 and 1997/98 increased at an average annual rate of 4.3%, or seven times more rapidly than world consumption growth. Demand for Indian textile products has been supported mainly by very strong exports, in particular exports of cotton yarn, which increased from 60,000 tons in 1990 to 450,000 tons in 1997. Taking advantage of relatively low costs of cotton processing, Indian exports to other Asian markets increased faster than to other destinations between 1990/91 and 1997/98. In addition, promotion of exports to the United States, Canada and Mexico, as well as to Latin American countries has been developed since 1996. Nonetheless, Indian mill consumption of cotton has remained at 2.9 million tons since 1998/99, as it lost its export markets in Asia due to the Asian financial crisis of the late 1990s.

Driven by increasing exports of yarn and fabric over the last four years, Pakistan surpassed the USA as the third largest cotton processing country in 2001. Currently, the Pakistani textile industry is in a drive to add value to exports, and is modernizing its infrastructure as part of the goal of expanding exports of manufactured products. Mill consumption of cotton in Pakistan increased from 1.3 million tons in 1990/91 to 1.5 million tons in 1998/99 and 2.1 million tons in 2002/03.

Excluding China (Mainland), India, and Pakistan, mill consumption of cotton in East and South Asian developing countries declined at an average annual rate of 1.2% between 1990/91 and 1997/98. Increases in Indonesia, Bangladesh, Malaysia, Sri Lanka, the Philippines and Vietnam were more than offset by declines in other countries in the region, particularly in China (Hong Kong), China (Taiwan), and the Republic of Korea. Increases in labor costs in countries where textile production had prospered during the 1980s caused a shift of textile capacity to lower-cost countries in the region. Due to currency devaluations forced by the Asian financial crisis in 1997, mill consumption of cotton in East and South Asian developing countries excluding China (Mainland), India, and Pakistan, increased at an annual average rate of 5.1% since 1997/98 to reach 2.2 million tons in 2002/03.

In Turkey, mill consumption of cotton increased at an average annual rate of 10% between 1990/91 and 1997/98, reaching one million tons. Turkey has benefited from rapid expansion of exports of cotton products to the former USSR and Europe. However, despite sharp devaluations of the Turkish currency in the last five years and access to the European market as the country became a member of the EU Customs Union, mill consumption of cotton in Turkey increased at an average annual rate of 2.6% in the last five years, as exports to the former USSR greatly diminished and exports to the EU faced greater competition from China (Mainland).

In Latin America and the Caribbean, mill consumption of cotton increased at an average annual rate of 2.8% between 1990/91 and 1997/98. The bulk of the increase took place in Mexico, with small increases in some countries being offset by declines elsewhere in the region. The largest processor of cotton in Latin America and the Caribbean is Brazil, where mill consumption fluctuated between 720,000 and 830,000 tons during the period because of a reduction in cotton's share of fiber use and increased textile imports. Cotton's share of mill consumption of textile fibers in that country fell from 65% in 1990 to 59% in 1997. Brazil became a net importer of textile products in 1992 and has remained a net importer. In contrast, in Mexico, the second largest processor of cotton in the region, mill consumption of cotton increased at an average annual rate of 13% between 1990/91 and 1997/98. Mexico registered the fastest expansion of any cotton textile industry in the world during the mid-1990s, as it became a member of the North American Free Trade Agreement, which was implemented in January 1994 with access to the U.S. and Canadian markets. Mill consumption of cotton in Latin America and the Caribbean continued to increase through the end of the 1990s due to a recovery in Brazil, only to decline below the levels of the mid-1990s in the last three years, as Mexican mill consumption declined due to competition from Chinese products in North American markets.

Mill consumption of cotton in Africa declined at an average annual rate of 2.1% between 1990/91 and 2002/03, reaching 577,000 tons at the end of the period. Declines took place in the two largest cotton processors on the continent, Egypt and Nigeria, while mill consumption failed to increase in South Africa and Morocco other important cotton processors. Together these four countries account for 65% of African mill consumption.

During the 1990s, mill consumption of cotton became more concentrated in the largest processing countries. In 1980/81, the six largest processing countries today, China (Mainland), India, Pakistan, the United States, Turkey, and Brazil, accounted for 51% of world mill consumption. These countries accounted for 57% of world mill consumption in 1990/91, 69% in 1997/98 and 72% in 2002/03. Current projections by ICAC suggest that the six largest cotton-processing countries will account for 75% of world mill consumption by 2010/11. China will likely continue to register the most rapid expansion from 6.5 million tons in 2002/03 to a projected 8.5 million tons in 2010/11. Mill consumption in India and Pakistan will likely increase by half a million tons in each country over the next seven years, while Brazil and Turkey will expand by 100,000 tons each. Declines or no major gains are expected in other developing countries. Mill consumption in the United States is expected to continue to decline rapidly from 1.6 million tons in 2002/03 to 800,000 tons in 2010/11. Similarly, mill consumption of cotton in the EU from 860,000 tons in 2002/03 to 500,000 tons in 2010/11.

Supply

During the 1990s, the world cotton market was characterized by stagnant supply, which resulted in prices above average between 1993 and 1997. World cotton production failed to increase due to problems associated with diseases, resistance to pesticides, and disruption of production due to economic reasons. Increases in cotton production between the 1950s and the 1980s was possible due to improvements in yields, which increased from a world average of 233 kilograms per hectare in 1950/51 to 574 kilograms in 1990/91. World area dedicated to cotton has fluctuated since 1950/51 between 28 million hectares and 36 million hectares, utilizing between 2.2% and 2.6% of the world's arable land. As yields failed to increase during the 1990s, so did production. As a result, the Cotlook A Index averaged 80 U.S. cents per pound in the period 1993-1997, well above the average of 71 cents per pound registered by cotton prices since the mid-1970s. Price declines in the second half of the 1990s seemed to be justified by increased production after years of relatively high prices in the middle of the decade. Yet, production continued to increase by the end of the 1990s and into the new decade despite sizable reductions in prices.

An important factor that promoted increases in cotton production despite relatively low prices was the strengthening of government policies regarding cotton. Direct income and price supports worldwide are estimated by ICAC to have increased from US\$3.8 billion in 1997/98 to US\$5.8 billion in 2001/02. Direct income and price supports worldwide are estimated by ICAC to have declined to US\$3.8 billion in 2002/03. Increases in income and price support mechanisms have maintained production in subsidizing countries by between 300,000 tons to 3.9 million tons a year above what otherwise would have been produced in the last seven years. Subsidies deepen the decline in cotton prices and increase the length of the cycle of cotton prices.

New technologies, more extensive use of existing technologies, and new areas dedicated to cotton cultivation, have changed the structure of the world cotton market since the mid-1990s and contributed to promote world production since 1997/98. By shifting the supply of cotton to the right, these new factors in cotton cultivation allow production to respond more efficiently to the expansion of demand, while enhancing the economic viability of cotton production.

Among the new technologies, the most visible is genetic engineering of cotton. It is estimated that 21% of world cotton area was planted to genetically engineered (GE) varieties in 2000/04, up from just 2% in 1996/97. GE cotton is commercially approved and grown in nine countries, namely, Argentina, Australia, China (M), Colombia, India, Indonesia, Mexico, South Africa, and the USA, but its use concentrates in Australia, China (Mainland) and the United States. As this technology is offered at lower prices, it is expected to spread to other countries. Area dedicated to GE cotton varieties is expected to climb to 40% of world area by 2007/08, accounting for 50% of cotton production. GE cotton lowers the use of insecticides and, although it does not guarantee that cotton yields will be higher than with a non-GE variety, it might lower the cost of production. The most significant impact of the use of GE cotton has occurred in China (Mainland), where the adoption of GE cotton in the Eastern part of the country has significantly reduced damage from insects, lowered production costs and increased the income of growers. The increased use of other existing technologies and crop management techniques has also contributed to contain the cost of producing cotton and to increase world cotton production.

The use of new area dedicated to cotton production has also contributed to increased world production. It is estimated that new area dedicated to cotton production over the last decade in Mato Grosso Brazil and Southeast Turkey contributed 730,000 tons of additional world cotton production in 2002/03, with an average yield of over 1.3 tons per hectare, twice the world average.

Yet another factor that promoted cotton production despite relatively low prices was the appreciation of the U.S. dollar between 1995 and 2001, which partly offset declines in prices in countries where the currency devaluated, making cotton prices in domestic currency more attractive. Between 1998 and 2001 the U.S. dollar appreciated by 30% against the Australian dollar, 90% against the Brazilian reais, 25% against the CFA franc and 500% against the Turkish lira. Nonetheless, the strength of the U.S. dollar came to an end in early 2002. In the year to February 2003, the U.S. dollar lost 19% against the CFA franc and 14% against Australian dollar.

Cotton is produced in about one hundred countries, but production has traditionally concentrated in a few of them. Over the last three decades, the four leading producing countries have accounted for an increasing share of world production. China (Mainland), the United States, India and Pakistan accounted for 48% of world production in 1970/71, 52% in 1980/81, 61% in 1990/91, 63% in 2000/01 and 66% in 2002/03.

Within industrial countries, cotton is produced in the United States, Australia, Spain and Greece, and accounted for 19% of world production in 1980/81, 21% in 1990/91, 26% in 2000/01 and 23% in 2002/03. Developing countries accounted for 61% of world production in 1980/81, 65% in 1990/91, 67% in 2000/01 and 68% in 2002/03. Nonetheless, the share of world cotton production in developing countries, excluding China (Mainland), India and Pakistan, declined from 26% in 1980/81 to 22% in 1990/91 and 2002/03. Cotton production in the former USSR declined during the last two decades and accounted for 19% of world production in 1980/81, 14% in 1990/91 and 8% in 2002/03.

Cotton production in China (Mainland), the largest producer, fluctuated within a range of 3.7 to 5.7 million tons during the 1990s. During the 1980s, Chinese production increased at an average annual rate of 5.2%. However, production in most years was lower than at the beginning of the decade. In 1990/91 and 1991/92, Chinese production seemed to be following the trend of the 1980s. International prices above 80 cents and favorable climatic conditions promoted gains in Chinese production, which reached 5.7 million tons in 1991/92. The production outlook changed radically in subsequent years. Production fell due to a decline in yields caused by increased pest pressure in the Eastern part of the country and a subsequent decline in area. More efficient pest control management and a shift of area from the east to the west of the country, mainly from Hebei and Shandong to Xinjiang, sustained the levels of production above 4 million tons in the mid 1990s. Over the last four years, increases in Chinese production has been sustained by government policies that maintain domestic prices above international prices and by increases in yields due to the adoption of GE cotton, which reduced damage from insects and increased yields in the Eastern part of the country to the levels of the 1980s.

Since September 1999, new policies in China (Mainland) allow domestic cotton prices to be influenced by market factors. The government still sets a reference price for cotton, but actual prices can now be negotiated between buyers and sellers. Before

September 1999, the prices set by the government were consistently above international prices. Nonetheless, despite the reform, which allows state mills to procure cotton directly from farmers and an additional policy of reduction of stocks, domestic prices continued to be above international prices due to restrictions on the importation of cotton. Production for local consumption and export is subsidized in China (Mainland) through direct financing made by the central government to exporting and local agencies, designed to bridge the difference between international market prices and the internal cost of buying, ginning and transporting cotton to an export or mill location. As a result, Chinese production in 2001/02, a year when prices reached the lowest level in over 30 years, increased to 5.3 million tons, the largest crop since 1990/91. Cotton production in China (Mainland) declined in 2002/03 to 4.9 million tons but is expected to expand over the next seven years to 6.8 million tons in 2010/11, still 83% of the expected need of the local cotton textile industry. Because of the rapid expansion of its textile industry, China (Mainland) became a net importer of cotton in 2001/02 and is expected to remain a net importer over the next seven years.

In the United States, cotton production increased from 2.4 million tons in 1980/81 to 3.3 million tons in 1990/91, and, with the exception of 1998/99, production fluctuated between 3.5 and 4.3 million tons during the 1990s. Production in 1998/99 was severely affected by drought and reached 3 million tons. As international prices deteriorated in the late 1990s, the existing government policies resulted in higher subsidy payments, and production increased in the following three years to reach a record high of 4.4 million tons in 2001/02 (which in turn created further downward pressure on international prices). By 1997/98, the United States exported 40% of domestic production, while 60% was sold to domestic mills. Because of the rapid deterioration of the U.S. textile industry in the last five years, more cotton was sold in international markets and U.S. exports represented 69% of the local production in 2002/03. As a result of the loss of the domestic market, U.S. production declined below 4 million tons in 2002/03 and is expected to continue to decline to about 3.5 million tons by 2010/11.

Cotton production in India rose from 1.3 million tons in 1980/81 to a record 3.0 million in 1996/97, mostly because of an increase in yield. Thereafter, production fluctuated downwards to 2.3 million tons in 2002/03 because of lower prices, poor weather and disease. The cotton yield in India climbed from 170 kilograms of lint per hectare in 1980/81 to a record 330 kilograms in 1996/97, but since then has fluctuated around 300 kilograms per hectare. Gains in yields in India were tied to improved availability of cotton planting seeds and chemical inputs, but yields remain well below averages of most other countries. Despite the rise in cotton production in India, growth in mill use meant that cotton remained in tight domestic supply, and prices paid to growers increased in real terms during the 1980s and 1990s. Still, low rates of adult literacy in the non-urban population result in low levels of technical knowledge in the agricultural sector. Yields in India are not expected to improve over current levels in the next seven years and production is likely to be 2.9 million tons by 2010/11, some 300,000 tons short of the projected needs of the local textile industry.

Production in Pakistan expanded rapidly during the 1980s, growing from 700,000 tons in 1980/81 to 2.2 million tons in 1991/92. However, production fell in 1992/93 and has remained well below the 1991/92 level since. The rise in production during the 1980s was mostly the result of increases in yields resulting from better methods of pest control, improved seed varieties and expanded use of fertilizer. The leaf curl virus spread throughout the Punjab growing areas in the late 1980s and early 1990s, and by 1992/93 the virus had a devastating effect on yields. By the late 1990s, the virus had

been controlled through better management of pests and the adoption of resistant varieties of cotton. Average yields in Pakistan rose from 340 kilograms per hectare in 1980/81 to 770 kilograms in 1991/92, but were no higher than 600 kilograms through 1999/00. In the last three years, production in Pakistan has not surpassed 1.9 million tons and is expected to remain at about that level over the next seven years. Production in Pakistan will likely fall half a million tons short of the projected needs of the local textile industry by the end of this decade.

As suggested above, the world cotton market will likely expand to 23.6 million tons in 2010/11, and expected increases in production in the four largest producing countries account for half of the projected increase in world production between 2002/03 and 2010/11, equivalent to 2 million tons of additional production. Other increases will likely come from Africa, Brazil, and Turkey, and recovery in Australia and countries in Latin America other than Brazil. Along with production in the United States, further declines will likely occur in the European Union.

In Africa, cotton production increased from 1.3 million tons in 1990/91 to a record 1.8 million tons in 1997/98, but low cotton prices have prevented production in that continent from surpassing that level in the last six years. In 2002/03, Africa produced 1.7 million tons and is expected to produce 2.2 million tons by 2010/11. French speaking countries in west and central Africa produced 1 million tons in 2002/03, accounting for 56% of production in the continent, and have the potential to increase production to 1.3 million tons by 2010/11, or 59% of total production in the continent.

Cotton production in Brazil declined rapidly between the mid 1980s and the mid 1990s, recovering in the second half of the decade because of shifting of production to new areas in the south west of the country, particularly in the state of Mato Grosso. Production, which declined from 965,000 tons in 1984/85 to 310,000 tons in 1996/97, climbed back to 940,000 tons in 2000/01. Low prices prevented production in Brazil from increasing in the first two years of the new decade, and production reached 850,000 tons in 2002/03. Production in Brazil is expected to increase to 1.2 million tons by 2010/11, accounting for 67% of production in Latin America and the Caribbean.

As a result of a shift in area from the south to the eastern part of the country, where an irrigation project known as the GAP project is being developed since the mid 1990s, cotton production in Turkey increased from 650,000 tons in 1990/91 to 900,000 tons in 2002/03, and is expected to increase to over 1 million tons by 2010/11.

Cotton production in Australia is essentially 25 years old and increased very rapidly during the 1980s and 1990s, from 100,000 tons in 1980/81 to 800,000 tons in 2000/01. A lack of water has kept Australian cotton production from increasing more than it has, and in some years has caused dramatic production declines. One such year is 2002/03, when production declined by 48% to 380,000 tons. Australian production is expected to recover to about 800,000 tons by 2010/11.

Excluding Brazil, cotton production in Latin America and the Caribbean declined rapidly during the 1990s and into the new decade, from 1 million tons in 1990/91 to 245,000 tons in 2002/03. The decline was the result of an erosion of the local textile market, which faced increased competition from imports throughout the 1990s, combined with low cotton prices in since 1998/99. Cotton production in Latin American countries, excluding Brazil, is likely to recover partially over the next seven years to 600,000 tons in 2010/11.

Cotton production in the European Union (EU) increased from 300,000 tons in 1990/91 to 475,000 tons in 2002/03, mainly reflecting increases in Greece. During the 1990s cotton production in the EU was supported by subsidies. However, recent changes in the subsidy program offered to growers, which convert a proportion of total subsidies into de-coupled payments to growers, is likely to reduce EU cotton production to about 200,000 tons by 2010/11.

Prices

International cotton prices, as measured by the Cotlook A Index, averaged 63 cents per pound between 1995/96 and 2002/03, down from an average of 70 cents per pound in the previous ten years. Several factors have been described that influenced the decline in long-term average prices, among which are new technologies, more extensive use of existing technologies, and new area dedicated to cotton. During the 1990s another factor that depressed prices was the strengthening of government policies in various countries.

As with any other commodity, year-to-year changes in cotton prices are driven by changes in supply and demand, which is usually expressed as a ratio between stocks and use. The ICAC uses a price model that utilizes such a ratio for the world excluding China (Mainland), and expresses supply and demand conditions in China (Mainland) affecting international prices with a variable that represents Chinese net trade in raw cotton as a proportion of consumption.

Because of the increasing importance of China (Mainland) to the world cotton market, net trade between that country and the rest of the world has played, and will continue to play, an important role in determining cotton prices. The ICAC Price Model suggests that a change of just 50,000 tons in Chinese net trade can move season average international cotton prices by one cent. China (Mainland) has influenced increases and declines in season average cotton prices over the last three decades, as it has turned into a net importer or net exporter of raw cotton. For instance, during the mid 1990s, dramatic increases in Chinese imports of cotton, drove prices to nearly record highs, whereas during the late 1990s, the position of China (Mainland) as a net exporter of cotton resulted in downward pressures on prices. The rapid expansion of the Chinese textile industry over the last four years has changed the Chinese trading position from net exporter to net importer of cotton, and in 2002/03 net imports of cotton by China (Mainland) were half a million tons, the first sizable upward impact on prices since 1996/97. This year, 2003/04, China (Mainland) is expected to be a net importer of 1.5 million tons, and net imports are projected to average one million tons a year over the next seven years, providing upward pressure on cotton prices during the period.

In contrast, the stocks-to-use ratio in the rest of the world increased almost continuously since 1993/94, when at 0.36 contributed to price increases in the mid-1990s. The stocks-to-use ratio in the world excluding China (Mainland) increased to above 0.50 in 2001/02 and 2002/03, and is expected to average 0.58 over the next seven years.

As a result of increased net imports by China (Mainland) and projected increases in the stocks-to-use ratio in the rest of the world, international cotton prices are expected to average 60 cents per pound over the next seven years.

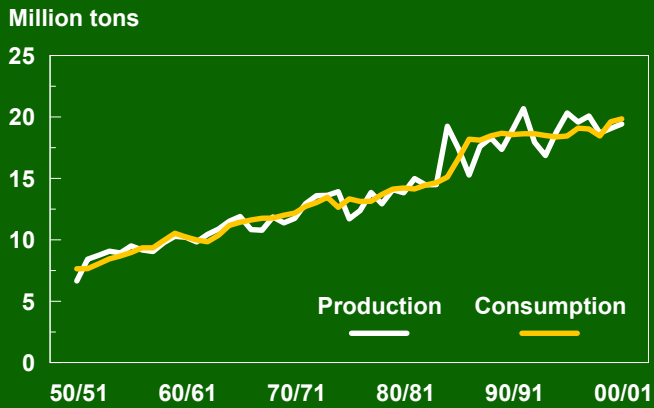
COTTON LINT SUPPLY AND USE IN WORLD TOTAL

Years Beginning August 1

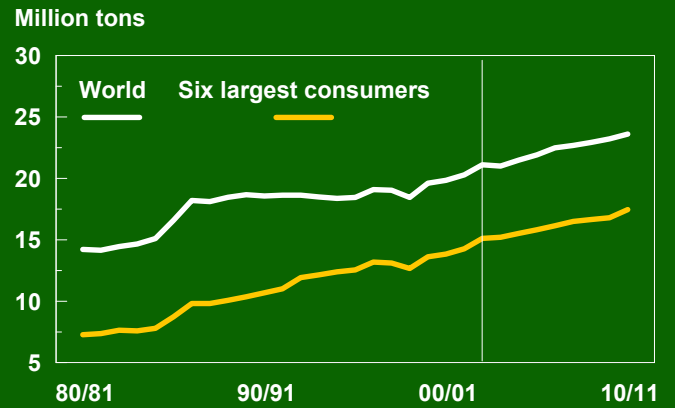
	AREA	YIELD	PRODUCTION	IMPTS	CONSUMPTION
	000 Ha	Kgs/Ha	000 Metric Tons		
1950/51	28,537	233	6,645	2,724	7,638
1960/61	32,445	314	10,201	3,804	10,231
1970/80	31,778	369	11,740	4,086	12,173
1980/81	33,667	411	13,831	4,555	14,215
1981/82	33,948	442	14,991	4,405	14,147
1982/83	32,569	445	14,479	4,350	14,452
1983/84	32,137	451	14,499	4,617	14,655
1984/85	35,217	547	19,247	4,602	15,108
1985/86	32,792	532	17,461	4,763	16,589
1986/87	29,503	518	15,269	5,516	18,198
1987/88	31,238	564	17,609	5,094	18,117
1988/89	33,522	546	18,301	5,654	18,470
1989/90	31,640	549	17,365	5,431	18,675
1990/91	33,049	574	18,978	5,220	18,574
1991/92	34,710	596	20,677	6,497	18,637
1992/93	32,248	556	17,941	5,690	18,635
1993/94	30,435	554	16,861	5,766	18,496
1994/95	32,112	584	18,762	6,458	18,378
1995/96	36,066	564	20,330	5,806	18,455
1996/97	34,195	573	19,584	6,138	19,093
1997/98	33,828	594	20,080	5,738	19,032
1998/99	32,869	569	18,692	5,414	18,457
1999/00	31,953	597	19,070	6,050	19,610
2000/01	31,890	609	19,437	5,747	19,844
2001/02	33,416	643	21,485	6,159	20,283
2002/03, estimate	30,003	643	19,302	6,573	21,115
2003/04, forecast	32,618	620	20,217	6,943	21,005
2010/11, forecast	33,643	704	23,675	6,727	23,612

ICAC 3/15/04

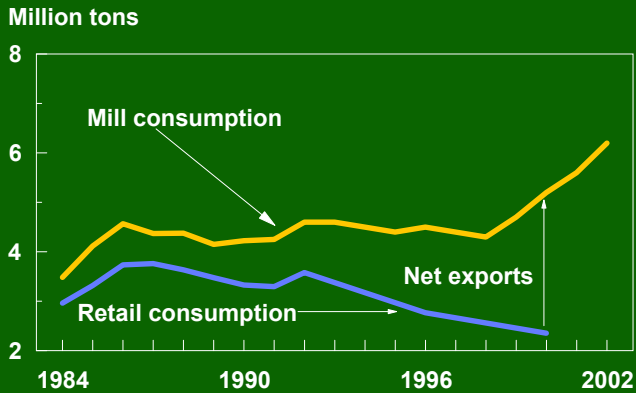
WORLD COTTON MARKET



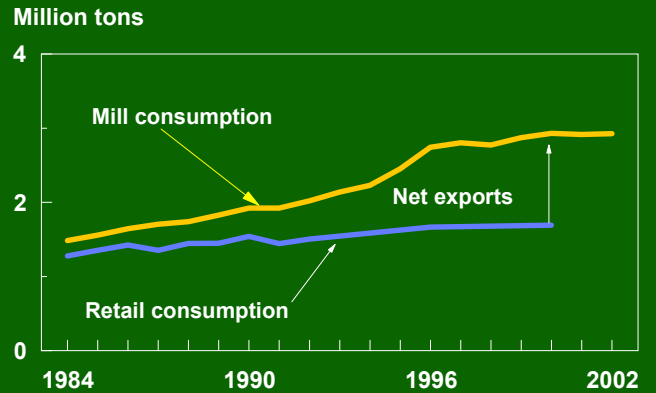
MILL CONSUMPTION OF COTTON



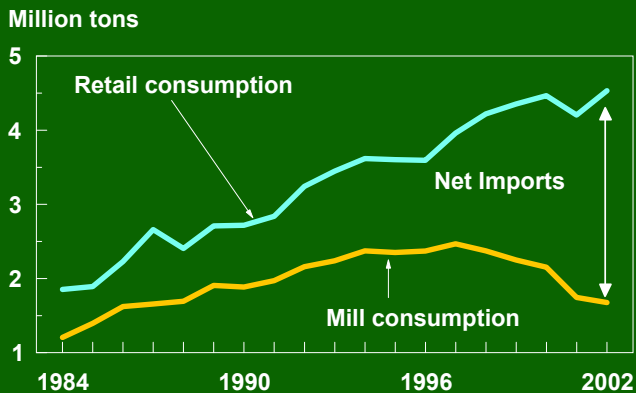
COTTON CONSUMPTION CHINA (MAINLAND)



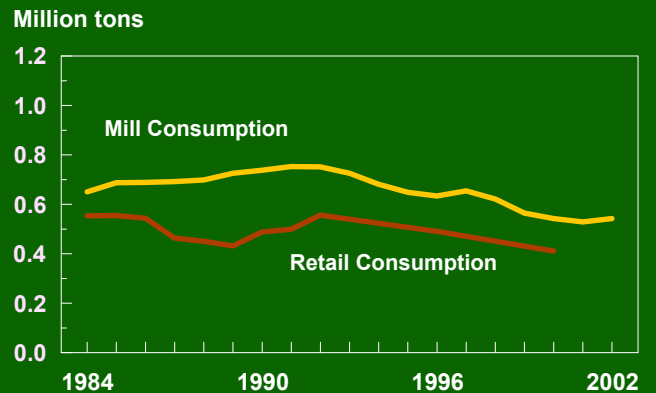
COTTON CONSUMPTION INDIA



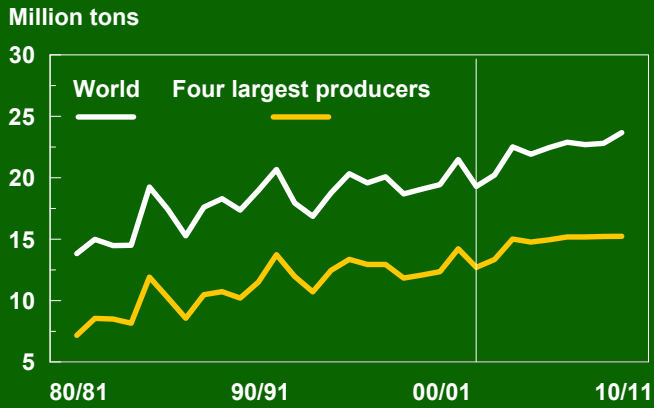
COTTON CONSUMPTION USA



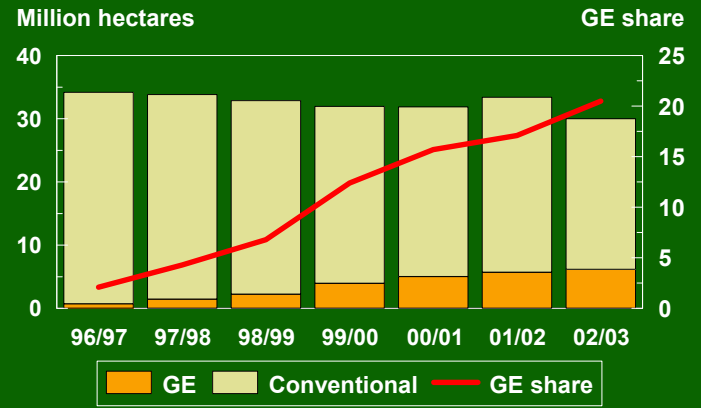
COTTON CONSUMPTION: AFRICA



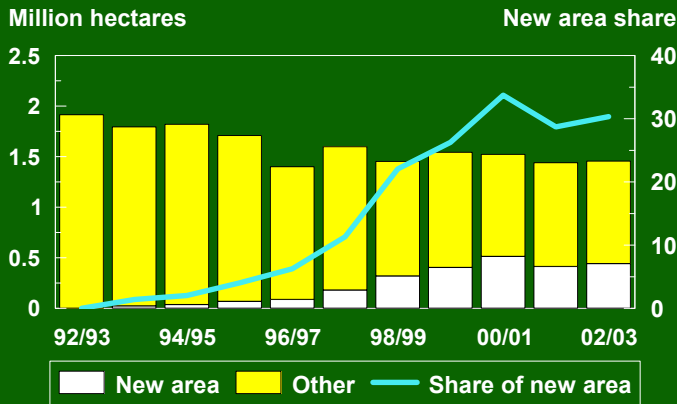
WORLD COTTON PRODUCTION



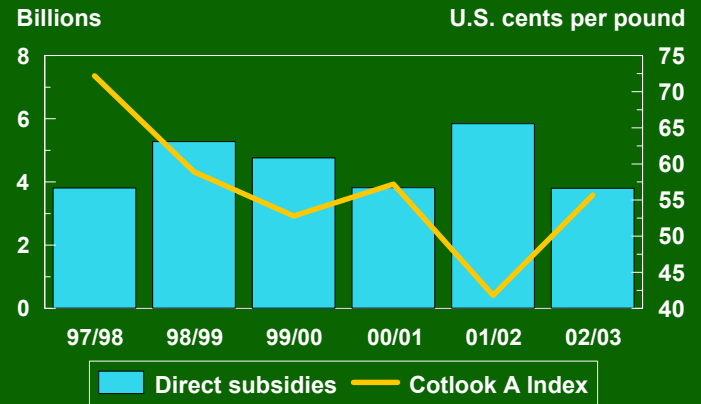
AREA DEDICATED TO COTTON WORLD



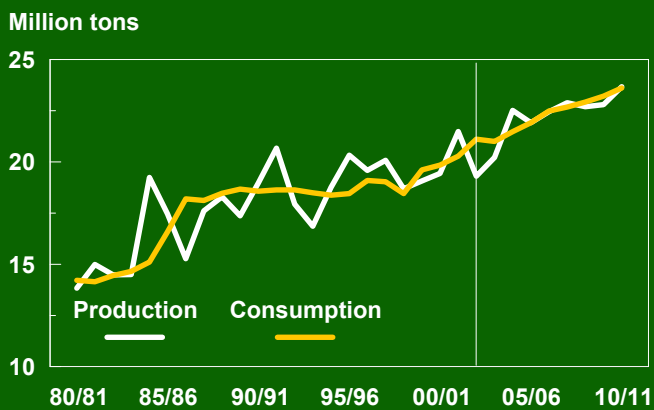
NEW AREA DEDICATED TO COTTON TURKEY AND BRAZIL



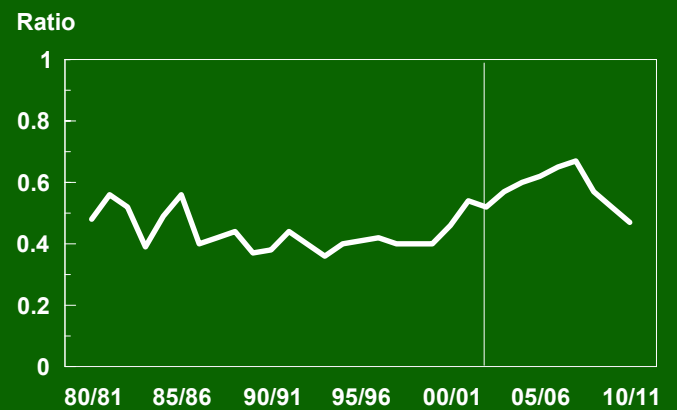
DIRECT SUBSIDIES TO COTTON AND PRICES: WORLD



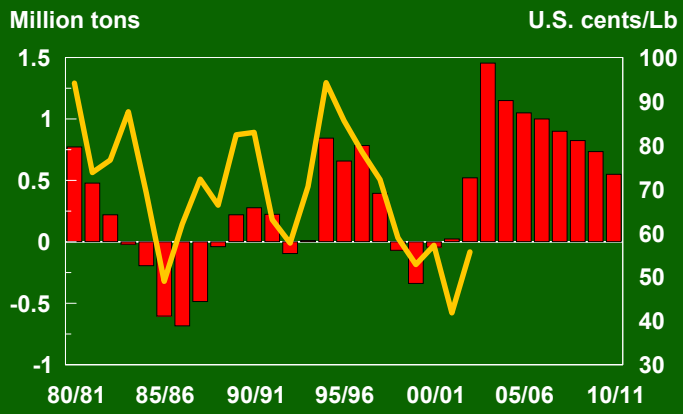
WORLD COTTON MARKET



STOCKS-TO-USE RATIO WORLD LESS CHINA (M)



INTERNATIONAL COTTON PRICES AND NET TRADE BY CHINA (M)



INTERNATIONAL PRICES

