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Outlook '92

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COTTON MILL USE IN THE 1990s

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Cotton's dramatic growth in consumption over the past decade is well known. Although important dynamics exist between production and consumption, it is the latter that is of critical concern to those who grow and process cotton here in the U.S. and abroad. The expansion of markets and demand for cotton in the 1980s has allowed countries worldwide the opportunity to shift resources into cotton production profitably. However, the question remains "will the unprecedented growth in cotton consumption continue through the 1990s into the coming century?"

From the U.S. perspective the outlook for future consumption must be looked at in two components: world demand and domestic demand. The U.S. annually uses just over half its cotton crop domestically and exports the remainder. In order to maintain equilibrium in the U.S. and world markets, stable demand in both domestic and export markets is needed.

The U.S. Market

Cotton consumption growth in the U.S. in the 1980s was basically brought on in two areas: a change in consumer's preferences to cotton and record economic growth. From the late 1960's through the mid 1970s consumers were overwhelmed with the introduction of one synthetic fabric after another. Synthetic's share of the market in 1979 had reached over 71% of all fibers. Although synthetics still dominate the market in industrial uses and carpeting, consumers have shifted away from man-made fibers in apparel and home fabrics back to cotton. Cotton's share of the staple fiber market has risen from 40% in 1984 to 49% in 1991. Another measure of cotton's position in the fiber market is cotton's share on the cotton spinning system. This measure indicates the amount of cotton running through spinning machinery designed to run cotton. The share has risen from 58% in 1981 to more than 74% currently signaling manufacturers response to a shift in demand for cotton.

U.S. economic growth during the 1980s also had a part in propelling cotton consumption. GNP, in real terms, grew almost one-third from 1980 to 1990 and industrial productivity more than 25%. Perhaps the most pointed indication of U.S. consumer purchasing strength has been the growth of personal income. Real disposable personal income grew more than one-fifth from 1980 to 1990 and apparel expenditures grew more than 40% during the same time. However, during the same period apparel expenditures as a percent of disposable continued to fall. This increased purchasing power allowed consumers to buy apparel and home fabrics without stretching their budgets and, therefore, buy more of these fabrics, especially cotton.

Fiber consumption over the past decade has increased significantly. Favorable economic conditions allowed net domestic consumption of all fibers to rise more than 40% from 1981 to 1990 (Exhibit 1). During the same period net domestic consumption of cotton expanded more than 78%. Much of the increase in cotton consumption was supplied by foreign manufacturers as cotton textile imports increased 148% from 1981 to 1990.

As the data related to cotton consumption is examined more closely, usage patterns begin to develop in several areas. The quantity of cotton used in apparel varied over the first part of the decade but increased steadily over the latter part until the economy slowed in 1990 (Exhibit 2). Cotton's gains in the '80s are even more apparent when examining the content of apparel. As illustrated by Exhibit 3, the amount of domestic cotton used in apparel almost doubled from 1981 to 1990. Additionally, domestically produced 100% cottons doubled from 1981 to 1990 and the amount of cotton in blends has increased 7%, indicating that much of the cotton increase has happened because consumers want 100% cotton instead of blends.

Home fabrics uses also performed well over the period. After two negative growth years in 1981 and 1982, this category increased over the time frame until the recession in 1990 (Exhibit 4). The total increase in home fabrics cotton consumption from 1981 to 1990 was 52% and the category now accounts for almost one third of domestic cotton offtake. The percent change of cotton in both apparel and home furnishings reflect the importance of income growth. When the economy slipped into recession in 1990 each output category experienced a slight decline in total consumption of cotton.

Overall, given the strong economic conditions of the 1980s and shifting demand, cotton has fought off stiff competitors to earn a much greater share of the market. As shown in Exhibit 5, the number of units sold in apparel and home fabrics dipped in the mid-1980s and then rebounded near the end of the decade. However, cotton took the lion's share of the increased business.

The World Market

World cotton markets have undergone wide swings in supply demand relationships through the 1980s. While the U.S. has been a stable supplier in all but a couple of years in the 1980s, China and the U.S.S.R. have undergone structural and political changes which have changed the face of the world market.

The U.S. has become the world's number one supplier of cotton, taking well over 30% of global trade. Exports account for almost half of U.S. offtake and are vital to the stability of the U.S. market. However, U.S. ability to maintain and increase its world market share is heavily influenced by the seven largest producers of cotton, especially the U.S.S.R. and China. The U.S.S.R. has remained a net exporter, although production and exports have declined through the 1980s. Additionally, the recent political breakup of the U.S.S.R. has renewed the practice of fire selling cotton on world markets to earn foreign exchange.

China has also changed its role in the market. Once the most influential supplier in the world, the country has become a net importer over the last three years and a large customer of U.S. cotton. The Foreign Agriculture Service predicts China will consume more than 21 million bales of cotton in 1991-92, of which 1.5 million bales will be imported.

Japan is the single largest customer of U.S. cotton, followed closely by Korea. Asian countries have expanded textile production over the 1980s and are poised to take on different roles in the 1990s (Exhibit 6). Cotton textile production in Asia has been even more pronounced, primarily due to lucrative apparel export markets, such as the U.S. (Exhibit 7). As Japan and Korea experience problems of rising costs such as labor and capital resources, low margin textile operations are being moved to lesser developed countries where these costs are still low. The U.S. market to developed countries, like Japan, is becoming more limited.

Europe has increased textile production as well, although not on the order of Asia (Exhibit 8). Specialty production in Italy and Germany have led the way in European production, even though German raw cotton imports have dropped in the past few months. The specialized production of fabric has led to a different consumption pattern for cotton. Although mill use of all fibers in Europe is up, cotton usage moderated during the late 1980s (Exhibit 9). The outlook for European mill use will be dominated in the near future by reconstruction efforts in east bloc countries. Pressures on the German and other economies of absorbing workers and converting to new currency has slowed manufacturing activity.

Another region of importance to U.S. cotton offtake is north America. Although the significance of U.S. mill activity has been discussed, the prospect of a North American Free Trade Agreement has made Canada and Mexico become increasingly important. Cotton consumption in north America has increased primarily in the U.S., however, if a trade agreement were approved Canada and especially Mexico could realize noticeable increases in cotton consumption. Additionally, their consumer markets may eventually have the purchasing power to make more apparel and textile purchases.

Trends in Consumption and Technology

Consumer use of cotton in the U.S. as measured by net domestic consumption shows an uneven pattern over the past twenty years (Exhibit 10). The tremendous surge in consumption began in 1982. Whether we experience another surge similar to the 1980s growth rate depends heavily on U.S. income growth, as shown earlier. However, just a trendline estimate of use puts U.S. net domestic cotton consumption at over 12.5 million bales in 1995. Net foreign cotton

consumption follows a much smoother path which more closely tracks the trendline (Exhibit 11). The 1995 trendline estimate of foreign consumption is 80.5 million bales. Thus, world cotton use in 1995 would be over 93 million bales. Current USDA estimates for 1991-92 are 87.7 million bales.

Where this cotton will be spun is a vital interest to U.S. producers. While U.S. mill use of all fiber rose from roughly 23 million bales in 1980 to 27.5 million bales in 1990, more than one-half of that increase was accounted for by increased cotton use. U.S. mill consumption of cotton rose from 6.4 million bales in 1980 to an estimated 8.8 million bales in calendar 1991, accounting for the 95% of North American mill use (Exhibit 12). This has returned U.S. mill use of cotton to levels reminiscent of the mid 1960's.

What factors are associated with this 39% increase in cotton usage over the short span of one decade other than consumer demand? The cotton produced by U.S. growers has improved over the past decade; it is longer, whiter, and stronger than ever before. It is more accurately and completely characterized in the classing process than ever before. U.S. cotton is clearly an improved input in the textile process. But equally important, U.S. textile mills are also different processors.

These mill use increases took place during a period of enormous transformation in the U.S. spinning industry. U.S. spinning positions have fallen precipitously over the decade from over 17 thousand to now slightly over 10 thousand (Exhibit 13). Given the reduced positions, the increased mill use of all fiber would seem to be contradictory until one recognizes the enormous productivity gains realized by the spinning industry in recent years. Pounds of fiber per active position have risen from roughly 300 thousand to over 500 thousand (Exhibit 14).

These productivity gains have been achieved through massive investment programs by the textile industry. One consequence of these investments and the resulting efficiency gains has been the expansion of textile exports (Exhibit 15). Textile exports are estimated to claim 16% of the cotton consumed by U.S. mills. If U.S. textile exports are maintained in 1992-93 U.S. mill consumption should range from 8.8 to 9.2 million bales. The consumer's use of cotton remained strong during the 1990-91 recession. Thus, average U.S. economic performance holds promise for U.S. mill use. Provided no major surges in textile imports occur, U.S. mill use for U.S. consumption will remain strong.

The Outlook

Cotton consumption in the U.S. is highly correlated with available supplies (Exhibit 16). Increased production, shown on the right vertical axis, has been closely followed by an increase in the rate of mill use in the subsequent year, shown on the left axis. Falling production has slowed consumption in the following year. Thus, high and continuously increasing level of U.S. mill use must be supported by continuously high production levels.

The role of international trade will probably be a decisive factor in this decade's performance of the U.S. textile industry. Textile exports are growing at the same time that imports are growing.

Trade developments are going to heavily influence the investment decisions of the U.S. textile industry. If investment continues through the 1990s at the pace of the past ten to fifteen years then 10 years from now increased U.S. mill use may well have approximated the pace of the 1980's. Without that continued investment base, U.S. mill use of cotton will not experience the same expansion rate witnessed in the 1980s.

Improved trade relations world-wide may act as a stimulus to world incomes and the demand for cotton. However, trade pacts such as GATT and the proposed North American Free Trade Act will impact the location of textile mills and upstream manufacturers.

Will U.S. mill use add another 2.5 million bales of cotton consumption in the 1990's? Possibly, but not if any sectors of the industry are complacent about the gains of the past decade. The recently approved Cotton Board checkoff demonstrates the U.S. producers' commitment to increasing support for market promotion and research. In addition, macroeconomic policies to sustain U.S. income growth must be achieved. Lastly, international trade developments must proceed in an orderly fashion, avoiding disruptive and unproductive policy changes.

Exhibit 1

U.S. Net Domestic Consumption

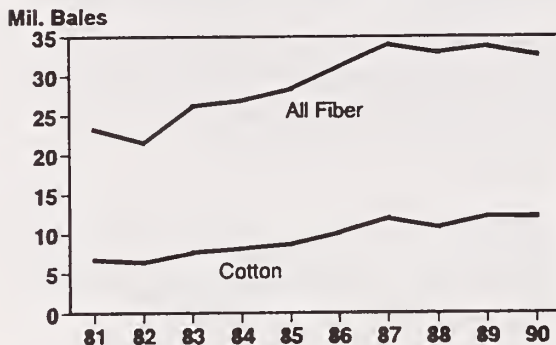


Exhibit 3

Cotton & Competing Fibers in Apparel

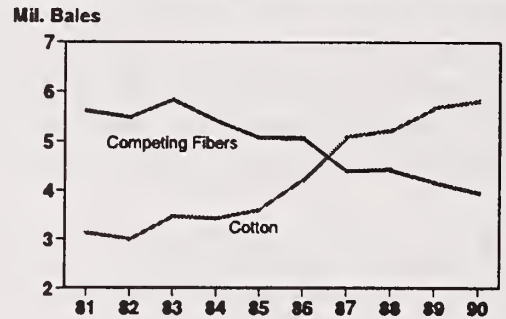


Exhibit 2

Quantity of Cotton-U.S. Apparel Annual Percentage Change

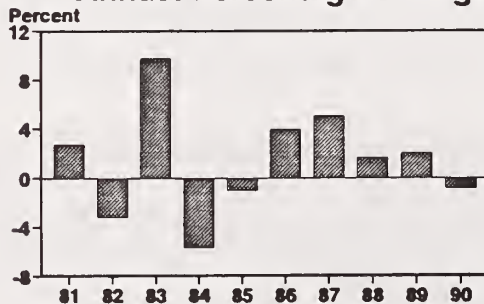


Exhibit 4

Quantity of Cotton-U.S. Home Furnishings Annual Percentage Change

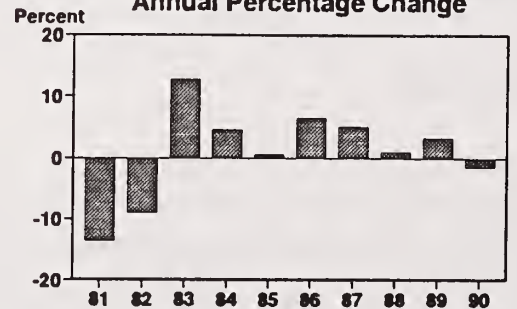


Exhibit 5

Apparel & Home Fabrics

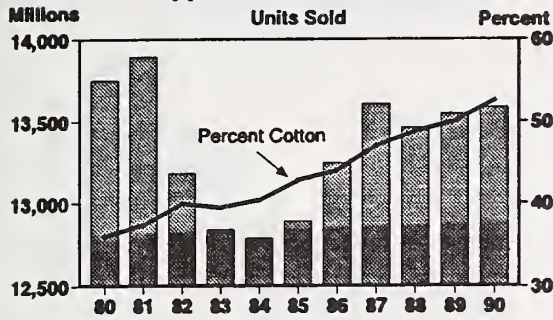


Exhibit 6

Asia

Mill Consumption-All Fibers

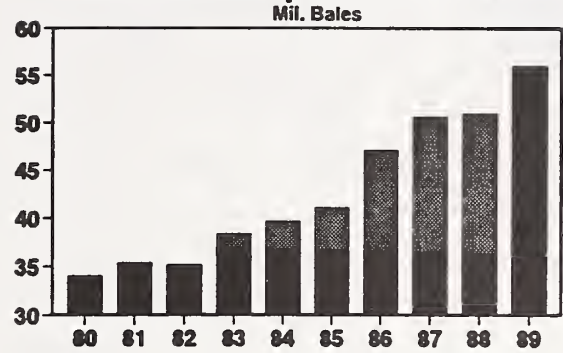


Exhibit 7

Asia

Mill Consumption-Cotton

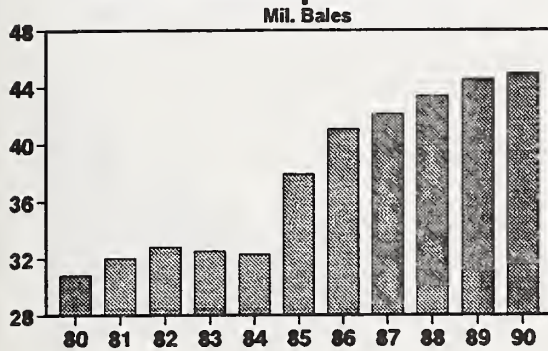


Exhibit 8

Europe

Mill Consumption-All Fibers

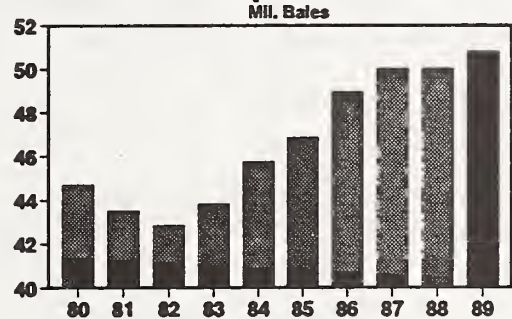


Exhibit 9

Europe

Mill Consumption-Cotton

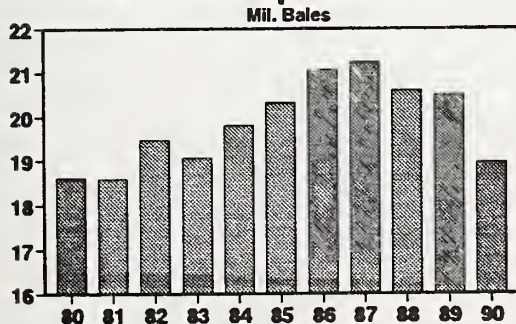


Exhibit 10

U.S. Net Domestic Consumption of Cotton

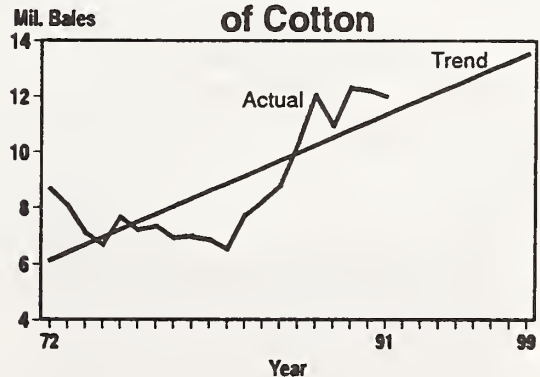


Exhibit 11

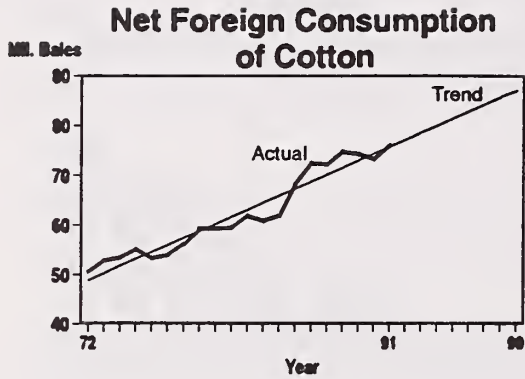


Exhibit 12

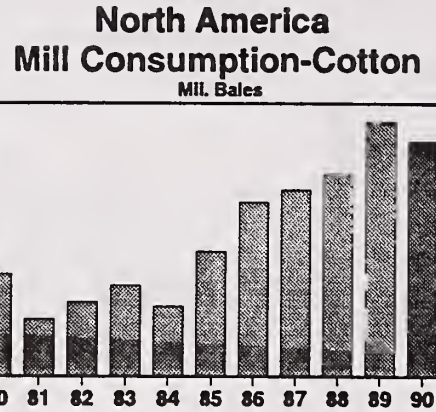


Exhibit 13

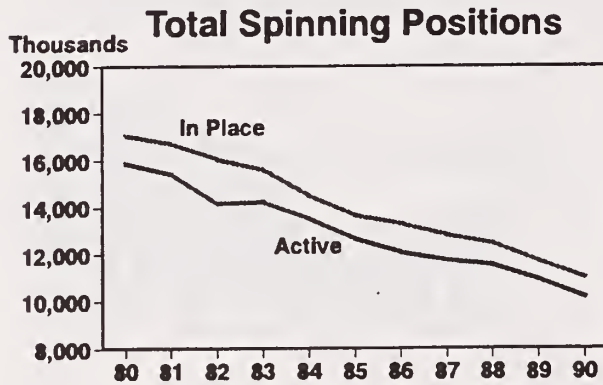


Exhibit 14

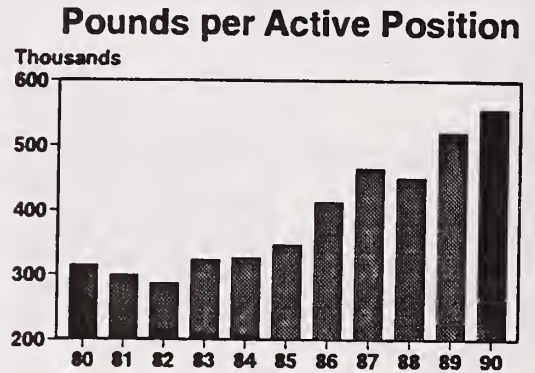


Exhibit 15



Exhibit 16

