

## Commodity Spotlight



USDA photo: David Nance

# U.S. Cotton & the Appreciation Of the Dollar

Exchange rates can have an enormous impact on a country's economy, as the Asian financial crisis and recent events in Argentina have demonstrated. The dollar's strength has undoubtedly exacerbated the difficulties facing the U.S. textile industry during the recent slowdown in U.S. and world economic growth, and has been a factor in lowering cotton prices. Exchange rates are difficult to forecast, but understanding the changes to date might provide some guidelines for future expectations.

Since it began adjusting freely in 1971, the U.S. dollar has strengthened more with respect to the currencies of developing countries than developed countries, although this long-run pattern reversed in the late 1990s. Since the 1980s, a large number of developing countries reoriented their economies to encourage exports and foreign investment. Previously, overvalued exchange rates had helped many countries indirectly subsidize selected industries, through government rationing of undervalued foreign exchange. As it became apparent that exposure to foreign capital and competition led to higher sustained rates of economic growth, many countries terminated these "import-substitution" polices and dropped their overreaching currency pegs. In 1997, the Asian finan-

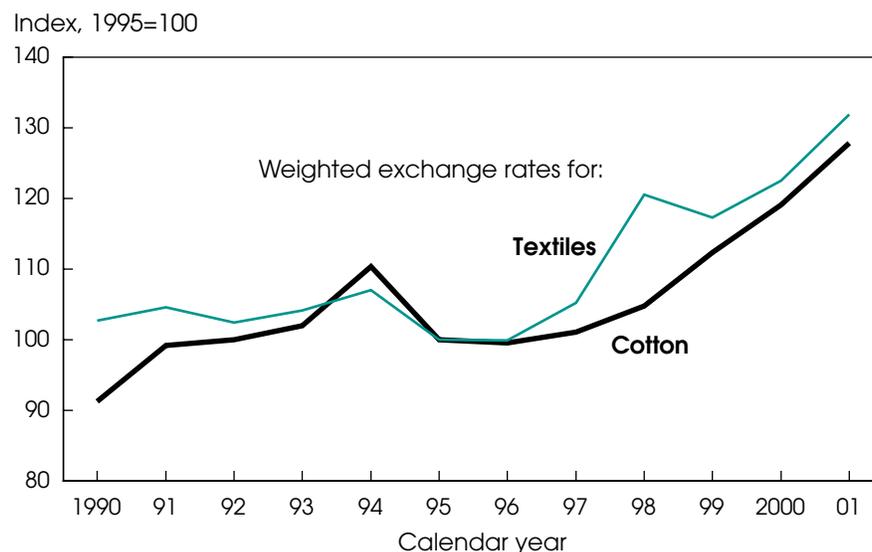
cial crisis forced still more countries to abandon fixed exchange rates with respect to the dollar, and to devalue. In contrast, for developed countries like Germany and Japan, convergence with U.S. technical prowess and productivity led to apprecia-

tion of their currencies with respect to the dollar from 1971 to 1995.

During the 1990s, the U.S. economy demonstrated renewed productivity growth. At the same time, the aftermath of Japan's 1980s "Bubble Economy," and uncertainty regarding the European Union's structural rigidities and evolving monetary union, took some of the luster out of the outlook for these economies. Since 1990, the inflation-adjusted U.S. dollar has appreciated 42 percent against the currencies of its textile trading partners in developed countries. In contrast, the U.S. dollar appreciated only 16 percent against the currencies of developing countries. This is the reverse of the pattern observed over the longer period of the 1960s through 1995.

The dollar has appreciated 13 percent since 1990 with respect to all textile trading partners combined. If Mexico is excluded—in acknowledgement of the integration of the U.S. and Mexican textile industries driven by the North American Free Trade Agreement (NAFTA)—the dollar's appreciation has been greater, 18 percent.

### U.S. Dollar Steadily Strengthens



U.S. real, weighted exchange rates. For textiles, weighted by trade (excluding Mexico); for cotton, weighted by foreign cotton production.

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### *U.S. Cotton & Textiles/Apparel Respond Differently*

For U.S. cotton, exchange rates have shifted even more unfavorably than they have for textiles, but U.S. cotton output has been relatively unchanged while U.S. textile output has fallen. Weighted by foreign cotton production, the dollar has appreciated 40 percent since 1990, even though China, the largest foreign cotton producer, pegs its currency to the dollar. China is one of a handful of large economies that maintain a de facto fixed exchange rate against the dollar, and the dollar has only appreciated 16 percent against the yuan since 1990. The average depreciation for other cotton producers was 53 percent. Uzbekistan—the largest foreign exporter—also manages its currency, but data from Uzbekistan and other Central Asian exporters are poor, and these countries were excluded from the calculation of the production-weighted index (altogether, 10 percent of world production was excluded). Also, Uzbekistan did not have its own currency before 1994, making longrun comparisons difficult. Uzbekistan's exchange rate has been perceived to be overvalued since 1996, and the government has recently been devaluing.

According to numerous economic studies, changes in the dollar's exchange rate and changes in dollar-denominated commodity prices largely parallel each other. Generally speaking, when a country's currency appreciates, then either its share of world trade and production will decline or its prices must drop in terms of its own currency. Unlike textiles, cotton production in the U.S. accounts for about the same proportion of world production as it did in 1995, and slightly more than in 1990, and its share of world trade has surged. However, the dollar-denominated world price of cotton fell an inflation-adjusted 56 percent between marketing year 1990 and February 2002.

The U.S. textile industry's cotton use in 2001/02 is forecast 35 percent lower than in 1994/95. Some U.S. spinning mills are running at below-average capacity, but many others have been shut down, dismantled, and exported to Asian textile producers. U.S. spinning mills have been indirectly affected by foreign competition

### What Is a Weighted Exchange Rate?

An exchange rate is the price of one currency in terms of another and, since the collapse of the Bretton Woods system in 1971, the price of the U.S. dollar has floated freely. There are as many U.S. dollar exchange rates as there are other currencies; and even countries fixing the nominal price of their currencies in U.S. dollars will nonetheless probably have fluctuating inflation-adjusted exchange rates. A currency is a financial asset, and prices of financial assets are more volatile than prices of goods. Thus, the costs and returns of exchange between two countries varies with the inflation-adjusted exchange rate between them. However, even countries that do not trade with one another or even compete in common markets can indirectly influence one another through trading partners.

A weighted average is one way to summarize the aggregate impact on one country of global foreign exchange markets and policies. Since the exchange rate is only directly relevant to transactions across international borders, economywide measures of aggregate exchange rates are typically weighted by the value of merchandise trade. The International Monetary Fund's (IMF) trade weights take into account third market competition and competition between domestic imports and home production. However, as the IMF points out, "no single available measure can claim...status [as a]...uniformly superior indicator of competitiveness." The IMF's inflation-adjusted U.S. exchange rate index appreciated 35 percent during 1995-2001.

Much simpler calculations were used to derive the weights used here. For the textile trade-weighted index, the inflation-adjusted U.S. exchange rate with each country was weighted by that country's share of total U.S. textile and apparel imports and exports during 1995-99. For the cotton index, weights equal each country's share of foreign cotton production during 1995-2000. Production was chosen rather than trade since much of the output of the largest foreign cotton producers is consumed domestically, and then exported as textile products. In the long run, since cotton is almost exclusively a cash crop and much of apparent domestic consumption is eventually exported, production seemed a more suitable weight.

Since 1995, the cotton production-weighted U.S. exchange rate has appreciated by 28 percent, while the trade-weighted rate appreciated 43 percent. Virtually the same pattern is observed in rice production- and trade-weighted indices. For wheat, the difference in appreciation is more pronounced: 22 percent with production weights versus 40 percent for trade weights. On the other hand, for beef, both production and trade weights lead to indices with about a 42-percent appreciation. Since a substantial portion of grain output in countries like China is never even traded on domestic markets—let alone international markets—for grain, a trade-weighted index is much more indicative of the impact of exchange rates on the U.S. than a production-based index.

as the apparel industries they supply in North America have reduced output or closed, in part due to the strength of the dollar. The U.S. trade deficit in cotton textiles and apparel has about doubled, increasing from one-third of U.S. consumer purchases in 1994/95 to more than 60 percent in 2001/02. During this time, apparel prices have been relatively unchanged, falling only 3-4 percent, in marked contrast to the cotton industry's falling prices and relatively steady production.

The different responses for textiles and cotton reflect several factors. Generally, prices are much more flexible for undifferentiated commodities like cotton and corn than for more differentiated products like clothing and cars. Another difference is reduced import protection for the U.S. textile industry. For decades U.S. producers have been protected from competition by import quotas under the Multifibre Arrangement (MFA). But since 1995, these quotas have been progressively relaxed in accordance with U.S. obliga-

tions under the World Trade Organization. Estimates from the International Textile and Clothing Bureau (an intergovernmental organization of developing country textile exporters) indicate that the U.S. expanded its MFA quotas by more than 30 percent between 1995 and 2001. Also, NAFTA and the extension of similar privileges to Caribbean Basin textile exporters have effectively reduced U.S. import protection for textiles and apparel. Finally, U.S. cotton producers benefit from the marketing loan program, which helps producers maintain revenues while permitting large adjustments in market prices.

### **Exchange Rate Outlook Unclear**

Exchange rates are difficult to predict. Economists have been hard-pressed to find any model that forecasts shortrun exchange rate movements any better than assuming no future change. In the long run, currencies adjust to equilibrate inflation-adjusted prices of tradable goods in the world's economies. However, the studies that demonstrate this adjustment have used data spanning decades, so it is far from clear which is closer to the equilibrium level: 2001's strong dollar or its lower point in 1995, before appreciation. Exchange rates are volatile, and the inflation-adjusted U.S. exchange rate has more than once changed by at least 40 percent in the space of a few years. On the other hand, it also can take several years for currencies to correct divergences from equilibrium, with half of the divergence typically persisting after 3-5 years.

Thus, even if the recent appreciation of the U.S. dollar is not a permanent phenomenon, there is no guarantee that depreciation can be expected in the immediate future. During the last half of the 1990s, the U.S. dollar appreciated versus other developed countries as equity and bond investment flowed into the U.S. With actual and prospective budget surpluses, U.S. fiscal policy during this period was quite different than during previous years. U.S. growth versus the rest of the world was the fastest since 1985, which not coincidentally was the previous period of dollar appreciation. Private forecasters like DRI-WEFA or Oxford Economics are not forecasting such relative U.S. economic strength over the next few years, although the recent poor economic news from Japan and resumed deterioration of the yen suggests the U.S. dollar will not quickly depreciate against Japanese yen.

The euro could appreciate as it completes its transition period, assuming the European Central Bank can establish its credentials. Alternatively, the large investments that occurred in the U.S. during the 1990s may have raised productivity. Faster productivity growth in the U.S. than the rest of the developed world would sustain the value of the dollar, just as relatively slower U.S. growth helped drive the dollar's depreciation during 1971-95.

Regarding developing countries, the danger remains that countries attempting to fix their exchange rates or continue import-substitution policies may eventually devalue their currencies. To varying

degrees, the largest foreign cotton producers—China, India, and Pakistan—attempt to control their exchange rates. India and Pakistan are likely to face significant fiscal deficits and devaluation in the future, although the lack of fixed exchange rate pegs argues for gradual changes. China's fixed peg carries both the prospect of stability for the foreseeable future and the potential for the compression of future changes into a shorter time frame.

Uzbekistan and the rest of Central Asia remain even less predictable, although for the foreseeable future their exchange rate policies will be less relevant to the world cotton industry than the rest of their economic policies. (At the end of January 2002, Uzbekistan announced a program monitored by the International Monetary Fund to significantly close the gap between its official and black market exchange rates and to increase the transmission of world prices to its cotton producers. See ERS *Cotton and Wool Outlook*, CWS-0202, March 2002 for details.)

For the rest of the developing world, it remains to be seen if countries can maintain flexible exchange rates as they make the long-term effort to establish credible monetary and fiscal policies, or whether the shift towards floating exchange rates and opening financial markets was a cyclical phase. Regardless, exchange rates will remain an important influence for the U.S. cotton and textile industries, as they are for all tradable goods and services.



Stephen MacDonald (202) 694-5305  
stephenm@ers.usda.gov

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