

FRBSF WEEKLY LETTER

December 15, 1989

A Fading Export Boom?

Many observers worry that the strong appreciation of the dollar since mid-1988 threatens the boom in U.S. merchandise exports that began more than three years ago. Despite the continued strength of the dollar, however, U.S. exporters may be able to maintain a strong presence in foreign markets. The recent dollar appreciation apparently has not eliminated the competitive advantage U.S. producers acquired when the dollar depreciated in 1985-87. Moreover, due to lower inflation in the U.S. in recent years (compared to the late 1970s and early 1980s) and heightened competitive awareness on the part of U.S. exporters, U.S. export prices apparently have not risen as much as past responses to dollar appreciation would suggest. This *Letter* examines some of the factors influencing the competitive position of U.S. exports.

Robust exports

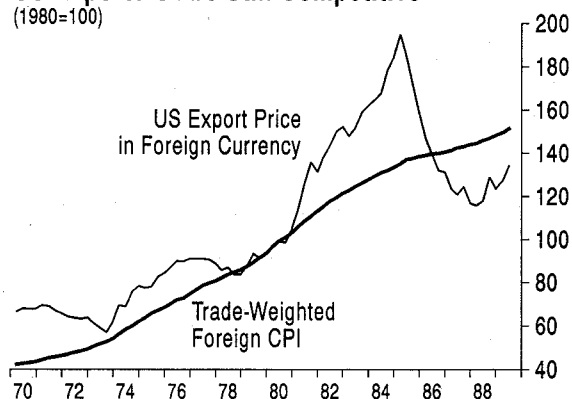
Until recently, there was little evidence that the appreciation of the dollar that began in 1988 was stifling growth in U.S. merchandise exports. In fact, growth in U.S. merchandise exports accelerated sharply in nominal and real terms over the past three years. Reversing an annual decline of one percent from 1980 to 1985, real exports grew over 20 percent in 1988, nearly three times the compound annual growth rate between 1970 and 1979. And although export growth slowed in 1989, real exports still increased at a 10 percent annual rate in the first half of the year.

The robust performance of U.S. exports partly reflects strong economic growth abroad, as well as the lagged effects of the depreciation of the dollar between 1985 and 1987. More recently, improved access to foreign markets may be partly offsetting the adverse impact of the appreciating dollar on the demand for U.S. exports. For example, recent efforts by Japan, Taiwan, and South Korea to liberalize trade have contributed to an increase in U.S. exports to these economies. Bilateral real export data are not available, but in nominal terms, the growth in U.S. exports to these economies accelerated from 12 percent in 1986 to 40 percent in 1988.

Competitive exports

Another factor that may be contributing to the strong U.S. export performance is the improved competitive position U.S. exporters acquired after 1985. Largely as a result of the sharp depreciation of the dollar from 1985 to 1987, U.S. exporters now appear to be better positioned to face foreign competition than they have been at any other time during the past twenty years. Chart 1 illustrates this by comparing the paths of the trade-weighted foreign consumer price index (CPI) to the fixed-weight, non-agricultural U.S. export price index expressed in trade-weighted foreign currencies.

Chart 1
US Exporters Are Still Competitive
(1980=100)



After rising in the first half of the 1980s, the U.S. non-agricultural export price fell sharply after the first quarter of 1985. Even though the drop in this measure of export prices was reversed starting in 1988, the level of export prices is still well below the level of the trade-weighted foreign CPI. Of course, comparisons of indices can be sensitive to the choice of base period (Chart 1 uses 1980 as the base year), but the conclusion that U.S. exporters are still competitive relative to their trading partners is fairly robust; any base year between 1970 and 1985 yields the same conclusion.

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As a result of the stronger competitive posture of U.S. exporters, the recent rise in the dollar may be having a smaller effect on the demand for U.S. exports than did previous episodes of dollar appreciation.

The pass-through

The remarkable growth in U.S. exports also may be due to a change in U.S. exporters' pricing behavior in recent years. Specifically, changes in the response of the price of U.S. exports in foreign markets to fluctuations in the trade-weighted value of the dollar, or what is known as the pass-through, suggest that U.S. exporters are not raising prices as much as might be expected on the basis of past experience.

Typically, a dollar appreciation tends to raise the U.S. export price in foreign markets, while a dollar depreciation tends to lower it. To see this, suppose exporters charge \$100 for a product exported to Japan. If the exchange rate is 150 yen per U.S. dollar, the price paid by the Japanese buyer will be 15,000 yen. Assuming the dollar price of the good remains unchanged, a 10 percent appreciation in the value of the dollar will raise the good's yen price 10 percent, to 16,500 yen. Conversely, the yen price will fall 10 percent when the dollar depreciates by 10 percent.

As long as the U.S. exporter keeps the dollar price unchanged, changes in the exchange rate will be fully reflected in changes in the foreign currency price of exports, and the ratio of changes in the foreign currency price to changes in the exchange rate, or the pass-through ratio, will be 100 percent.

The actual value of the pass-through will differ from 100 percent if exporters alter the dollar price of exports. The extent to which exporters alter the dollar export price depends on domestic inflation and the willingness of exporters to adjust their profit margins to maintain competitive advantage. For example, exporters may raise their export prices five percent to match domestic inflation. In this case, a 10 percent dollar appreciation will be associated with a fifteen percent increase in the foreign currency export price, and an observed pass-through ratio of 150 percent.

The pass-through ratio will also be affected if exporters choose to reduce their profit margins to

maintain competitiveness. In the example above, exporters might decide to limit the increase in the dollar export price to four percent, instead of the five percent needed to cover inflation. The pass-through ratio then would fall to 140 (from 150) percent when the dollar appreciates.

Thus, export pricing restraint in response to changes in the value of the dollar should be reflected in a *decrease* in the pass-through when the dollar appreciates; that is, exporters choose to increase the export price in foreign markets by less. It can also be shown that export pricing restraint will lead to an *increase* in the pass-through when the dollar depreciates, as the depreciation will be more fully reflected in a decline in the export price in foreign markets. Such changes in the pass-through may be caused by lower inflation or by greater willingness on the part of U.S. exporters to shave profit margins to maintain external competitiveness.

Changing pass-through

An examination of the pass-through ratio suggests that export prices have been lower during the most recent episodes of dollar depreciation and appreciation than might have been expected on the basis of past experience. For example, the 41 percent dollar depreciation from 1985 through 1987 was associated with a 40 percent decline in the U.S. foreign currency export price, or a pass-through of nearly 100 percent. This is up from a pass-through of under 50 percent when the dollar depreciated in 1977-78. Thus, in the 1985-87 period, the foreign currency price of U.S. exports declined about twice as fast as might have been expected, given the experience of the late 1970s.

The export price also appears to have risen somewhat less than might have been expected during the most recent dollar appreciation. The 12 percent dollar appreciation between 1988 and 1989 was associated with a 16 percent rise in the U.S. foreign currency export price, or a pass-through ratio of nearly 140 percent. This is down from a pass-through of nearly 160 percent in the period from 1979 to 1985, when the dollar appreciated about 72 percent.

Lower inflation

One reason for the apparent slowdown in the growth in U.S. export prices in recent years is more moderate U.S. inflation in comparison to earlier periods. For example, the rate of increase

in the U.S. producer price index between 1985 and the first half of 1989 fell to an average of 2.1 percent a year from 6.5 percent a year between 1976 and 1985.

This decline in inflation is at least partly the result of wage restraint. Unit labor costs (or the wage bill per good produced) in U.S. manufacturing declined at an annual rate of nearly one percent between 1985 and 1988, as a result of productivity increases that have exceeded wage gains.

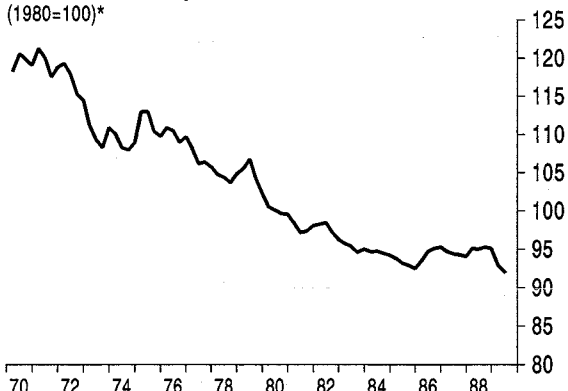
Thus, U.S. exporters may preserve some of the competitive edge acquired in recent years if current efforts to curb U.S. inflation are successful and wage restraint is maintained. In addition, to the extent the robust investment spending of recent years embodies technological improvements, increases in productivity will dampen increases in unit labor costs and improve U.S. external competitiveness.

More competitive awareness

The more moderate export price increases also appear to reflect a greater competitive awareness on the part of U.S. exporters. Partly because substitutes for U.S. products in world markets were not readily available, U.S. exporters historically have been relatively unconcerned about their external competitiveness, focussing instead on sales in the U.S. market. However, the erosion in U.S. competitiveness from 1980 to 1985 (see Chart 1) helped to stimulate the growth of exports from Japan and the newly-industrializing Asian economies and increased the competitive pressures faced by U.S. exporters. As a result, U.S. exporters appear to have become sufficiently concerned about their external competitiveness to trim profit margins.

To illustrate aggregate trends in the profit margins of exporters, Chart 2 shows the ratio of the U.S. non-agricultural export price to the U.S. non-agricultural producer price index between 1970 and 1989. The declining ratio suggests that exporters' profit margins today are lower than they

Chart 2
The Relative Export Price Has Declined
(1980=100)*



*Index defined as ratio of U.S. export price to U.S. producer price index.

were in 1980. Although these aggregate data should be interpreted with caution (because the aggregate data may not precisely reflect trends in profitability in specific industries), a decline in exporters' overall profit margins seems at least consistent with the expectation that U.S. exporters would respond to the apparently stiffer international competition in the 1980s by changing their pricing behavior.

Maintaining competitiveness

The dollar appreciation that began in 1988 does not appear to have eliminated the competitive gains U.S. exporters experienced between 1985 and 1987. In addition, changes in the pass-through ratio suggest that export prices are not rising as strongly in response to changes in the dollar as they did in the past, largely because inflation has been lower in the U.S. in recent years and because exporters have adopted more competitive pricing strategies. Both these developments provide a buffer that can offset at least some of the adverse effects of the recent dollar appreciation on the demand for U.S. exports.

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