Policy Note 2000/1

Explaining the U.S. Trade Deficit

Anwar M. Shaikh

Conventional theory makes the curious assumption that, in international trade, movements in the real exchange rate negate cost differences so as to make all countries equally competitive. But quite the contrary, it is absolute cost advantages that determine competition between countries, just as they determine the relative price of two sets of goods within one country.

The recent rise in the absolute level of the U.S. trade deficit has generated much worry. However, it is important to note that as a percentage of GDP, the current trade balance, at about 2.5 percent of GDP, is about the same as it was in the late 1980s (Figure 1). That fact may allay some fears, but, in any case, our primary concern should not be the absolute level of the deficit but the overall trend of the trade balance. To examine that trend, we must distinguish between the trade balance's components: the *structural* trade balance, which is related to long-term patterns in relative competitiveness and growth, and the *short-term* balance, which is linked to cyclical and historical fluctuations in exchange rates and relative growth rates.

The structural balance has been improving because the United States has been closing the cost gap between itself and other advanced nations. Thus, in spite of the substantial fluctuations in the trade deficit over the last decade, the trend (the dotted line in Figure 1) has stabilized. The fluctuations, on the other hand, can be traced back to the short-term balance--movements in the relative growth rate of the United States (most notably the import-boosting effect of its sustained expansion since 1992 and the export-reducing effect of the more recent Asian crisis) and to the extraordinary gyrations of the U.S. exchange rate in the mid 1980s.

In this paper, I first show that the cause of the long-term decline in the U. S. trade balance is substantially a decline in its terms of trade. I argue that, contrary to conventional economic theory, the terms of trade of a nation are regulated by the *real* costs of its tradable goods relative to those of its trading partners (a much fuller development of the thesis is provided in Shaikh and Antonopoulos 1998). I will show that the United States has been catching up to its trading partners in terms of its relative real unit labor costs, which is why the trend of the trade deficit has stabilized. But, an absolute gap still remains, and this gap, combined with shorter-term factors arising from the U.S. boom and the Asian crisis, accounts for the existence of a trade deficit. A central policy implication of my alternative thesis is that it is crucial to maintain a high rate of productivity growth in the United States, so as to turn the present cost disadvantage into a cost advantage, which would, in turn, convert the structural trade balance from deficit to surplus.

The Trade Balance and the Terms of Trade

A country's *trade balance* is the difference between the value of its exports and the value of its imports, which can equally well be captured by the ratio of the value of exports to the value of imports, or the *trade balance ratio.* When the trade balance ratio is greater than one, the country is running a trade surplus; when it is less than one, the country is running a trade deficit. The trade balance ratio has the virtue that it can be written as the product of two components: *the terms of trade* or *trade price ratio* (export price/import price) and the ratio of real exports to real imports or *trade quantity ratio* (export quantity/import quantity).

trade balance ratio = value of exports/value of imports
= (terms of trade) . (real export-to-import ratio)
= (export price/import price) . (export quantity/import quantity)

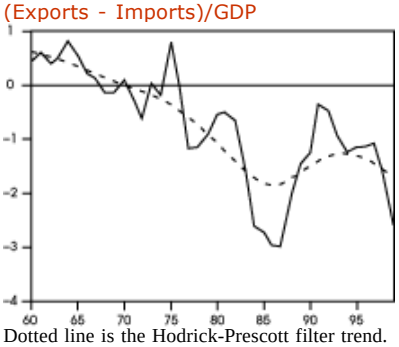
Slower growth at home tends to raise the real export-to-import ratio (the trade quantity ratio) because the demand for imports from abroad grows relatively more slowly. A decline in a country's terms of trade also stimulates the trade quantity ratio, since a fall in the terms of trade signifies that exports are relatively cheaper and imports relatively more expensive. But, a decline in the terms of trade also worsens the balance of trade. What then has been the dominant factor contributing to the decline in the U.S. trade balance ratio?

Between 1960 and 1985, the U.S. terms of trade (trade price ratio) declined sharply and then stabilized (Figure 2); the

real export-to-import ratio (trade ratio) exhibited a rising trend and then stabilized, albeit with substantial fluctuations (Figure 3); and the ratio of the value of exports to imports (trade balance ratio) declined sharply and then stabilized (Figure 4). *In other words, the dominant factor in the decline in the United States's trade balance ratio is the decline in its terms of trade (trade price ratio).*

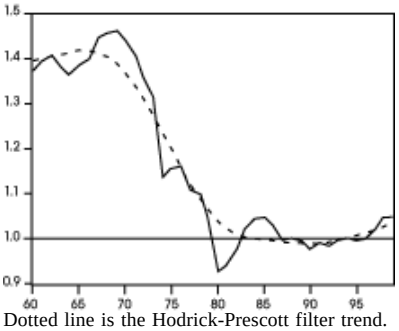
Explaining the Terms of Trade

Figure 1
U.S. Trade Balance Relative to GDP (Exports - Imports)/GDP



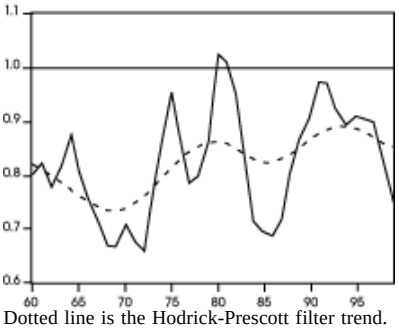
Dotted line is the Hodrick-Prescott filter trend.
Source: Haver Analytics Database

Figure 2
U.S. Terms of Trade (Trade Price Ratio) (Export Price/Import Price)



Dotted line is the Hodrick-Prescott filter trend.
Source: Haver Analytics Database

Figure 3
U.S. Real Export-to-Import Ratio (Trade Quantity Ratio) (Export Quantity/Import Quantity)



Dotted line is the Hodrick-Prescott filter trend.
Source: Haver Analytics Database

The fact that the decline in the U.S. terms of trade is the central factor behind the decline in the U.S. trade balance ratio leads us directly to the question, What drives the *international* terms of trade?

The argument that follows has three components. The first component begins with the recognition that a terms of trade is simply a relative price of two sets of goods. Let us consider how relative prices are determined within a country. Within any one country, the relative price of two sets of goods is largely determined by the relative cost of these goods. If we use relative unit labor cost (nominal wage rates divided by productivity) as a proxy for relative cost, at first approximation we can say that within any one country the relative price of two sets of goods is related to their relative unit labor cost.[1] Dividing each wage rate in any relative unit cost ratio by the consumer price index, we also can say that within any one country the relative price of two sets of goods is strongly conditioned by the relative real unit labor costs.

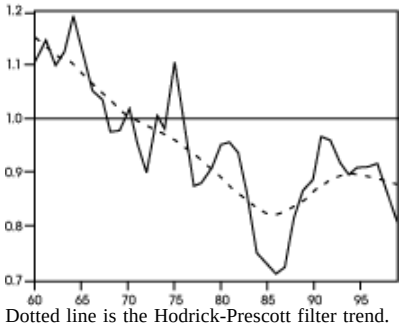
The second component of the argument is to consider what would happen in trade between two regions within a country. Conventional economic theory says that internal competition is driven by absolute costs, that is, firms with a lower unit cost of production enjoy an absolute competitive advantage. High-cost regions within a country suffer from a competitive disadvantage. Their higher costs make it difficult for them to sell their products outside the region ("exports") and leave their markets vulnerable to products originating in lower-cost regions ("imports"). If engaged in free trade within the country, firms in such a region would tend to have declining shares in the national market. To use our original term, regions with higher costs would tend to have structural trade deficits. This in turn implies that in unregulated trade with more competitive regions, the high-cost regions would tend to suffer job loss and real wage declines--at least until they caught up or their labor migrated elsewhere.

The curious thing is that when conventional economic theory considers free trade *between* countries, it abandons this eminently sensible analysis of competition. In international trade, it is argued, it is not absolute but comparative costs that regulate trade (Krugman 1991). In short, it is assumed that if two initially unequally competitive countries were to open trade with one another, any initial trade deficit suffered by the higher-cost country would eventually be negated because its real exchange rate would depreciate until trade was balanced. This would happen because the assumed depreciation of the real exchange rate would reduce the international prices of the country's products and raise the prices of its trading partners' products, thereby enhancing its exports and restricting its imports. This process is assumed to continue as long as a trade imbalance remained. This same mechanism would erode the trade surplus of a country with an initial competitive advantage until it, too, arrived at balanced trade. Thus, in the end, all nations are equally competitive (Arndt and Richardson 1987, 12; Dornbusch 1988; Dernburg 1989, 3).

Now, the third component in my argument, in contrast to the conventional theory, is that *absolute cost advantages regulate competition both within a country and between countries* (Shaikh 1995; Shaikh and Antonopoulos 1998). In other words, international terms of trade, just like intranational ones, are strongly conditioned by the relative real unit labor costs of the goods being traded.

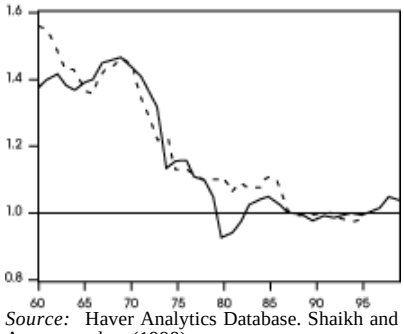
Figure 5 depicts the relationship between the U.S. terms of trade and the real unit labor costs of tradable goods of the United States relative to its OECD trading

Figure 4
U.S. Trade Balance Ratio (Value of Exports/Value of Imports)



Dotted line is the Hodrick-Prescott filter trend.
Source: Haver Analytics Database

Figure 5
U.S. Terms of Trade and Relative Real Unit Labor Costs



Source: Haver Analytics Database. Shaikh and Antonopoulos (1998)

partners. (Tradable goods costs were used as a proxy for export costs because of a lack of adequate data,[2] and coverage was restricted to the OECD countries.) It should be emphasized that whereas the terms of trade contains the exchange rate, the real cost measure does not, since it is defined here as nominal unit labor costs in each country's local currency divided by the consumer price index in the country. It is also worth noting that these are index numbers, not absolute levels. In light of the approximations involved, it is quite striking how strongly the movements of the U.S. relative real unit labor costs correlate with movements in its terms of trade. Even the significant deviation in the early 1980s fits well with the more general argument that incorporates the short-term effects of international capital flows: an extraordinarily high interest rate differential between the United States and its trading partners attracted large international capital flows, which raised the nominal exchange rate and temporarily drove the terms of trade and the real exchange rate off their long-term trends (Friedman 1991; Shaikh and Antonopoulos 1998, 17).

The decline in the U.S. terms of trade from 1960 to 1985 actually reflects a secular improvement in its relative competitive position. I would argue that it is precisely because of this that the structural trade balance falls until 1985 and stabilizes thereafter (as shown in Figures 1 and 4). But then, why is the United States still running a structural trade deficit? The basic answer, I believe, is that it has not yet fully caught up. The absolute levels of U.S. labor costs in common currency now appear to be within striking range of those of many of its advanced country trading partners (van Ark 1995), but seem to be significantly below those of its Asian and other trading partners.

The thesis outlined here can explain several widely documented features of international trade patterns that appear quite puzzling from the point of view of conventional theory (Rogoff 1996; Arndt and Richardson 1987). The terms of trade is a real exchange rate, and we expect real exchange rates to have persistent trends as relative competitive positions change over time. We also would expect the real exchange rate of a country to *depreciate* as its competitive position improves because its falling real costs will permit a reduction in its relative international prices. Finally, relatively rapid inflation in a country will tend to drive up its nominal exchange rate so as to keep the terms of trade in line with the change in real costs (Barro 1984, Table 20, 542; Shaikh and Antonopoulos 1998, 13-15).

Some Practical and Policy Implications

A significant practical implication of this thesis is that it allows us to derive a rule-of-thumb by which to judge whether a real exchange rate is overvalued or undervalued. Because the terms of trade is regulated by relative real costs, the real exchange rate is sustainable when it keeps the terms of trade in line with these real costs (Shaikh and Antonopoulos 1998, Figure 3). Note that this is quite different from the conventional conception, which tends to view a real exchange rate as being "correct" when trade is balanced. According to my alternative thesis, there is no intrinsic tendency toward a zero balance of trade, though the overall balance of payments must be zero.

It is a direct implication of the thesis that a focus on productivity growth should be an essential component of trade-related policy. But since more advanced technology can be put into place only through new investment, it requires ongoing economic growth. Economic growth therefore has a double character: it stimulates imports directly and it also stimulates exports by putting lower cost methods of production into place. As the United States showed at the beginning of the postwar period and Japan and Germany showed subsequently, strong economic growth can be a perfectly sound footing for a robust balance of trade.

Notes

1. This result has sound empirical foundation (Bienenfeld 1988; Ochoa 1988).
2. Tradable goods costs were defined here as manufacturing unit labor costs times an adjustment for tradable-to-nontradable goods, the adjustment being the ratio of the consumer price index (representing tradable and nontradable goods) to the producer price index (representing tradable goods), as explained in Shaikh and Antonopoulos (1998, Appendix B).

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