The Exchange Rate and the Trade Deficit: What's the Relationship?

Testing Popular Claims about the Current Account and the Exchange Rate

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Upon the release of a Treasury report[1] on foreign economic policies, in reference to the growing trade deficit Secretary John Snow stated, "It is critical that we address the issues of imbalances aggressively…it is incumbent on China to address concerns before mounting pressures worldwide to restrict trade harm the openness of the international trading system." The Secretary's comments are unsurprising, given the intellectual status quo surrounding the exchange rate and the current account. But, as is often the case, it sometimes pays to question the conventional wisdom. What *is* the relationship between the dollar and current account?

After a careful look at the data, one is forced to conclude that there is *very little, if any* relationship between the two variables. This is surprising, if you follow American politics or read about the trade deficit in the popular press, or even more specialized news outlets. Members of Congress[2], and voices within the administration, lay the blame for the deficit in the current account on the manipulation of the yuan-dollar exchange rate by the Chinese government. Ignoring the question of who should be "blamed" for something that is not necessarily a problem[3], the data confirm only a modest and inconsequential relationship between the exchange rate and the current account.

Mainstream news organizations, including *The Economist* and the *New York Times*, routinely make a related claim that the trade deficit alone will lead to a deprecation that will naturally "correct" the current account imbalance. Once again, it is not terribly instructive to use the word "correct" to describe a reduction in something that is not wrong in the first place. As with the first claim, however, current account deficits do not routinely or systematically cause a depreciation of the exchange rate.

The conventional wisdom can be distilled into two specific claims:

(1) A cheap (depreciated) dollar causes the current account deficit to shrink.

(2) A current account deficit causes the dollar to depreciate.

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[1] "Report to Congress on International Economic and Exchange Rate Policies" United States Department of Treasury, May 2005.

[2] "Senators Order Action on China Currency Policy" Paul Blustein, Washington Post, May 27, 2005.

[3] "'Bad News' on the Trade Deficit Often Means Good News on the Economy" Dan Griswold, Center for Trade Policy Studies, January 2005.

According to proponents, combining (1) and (2) leads to a self-correcting virtuous cycle in which the problems associated with a current account deficit are easily eliminated. For shorthand, I will refer to adherents of (1) and (2) as the *mercantilists*.[4]

The veracity of each claim can be assessed with a look at U.S. economic data from the last three decades. Data on the current account are available from the Bureau of Economic Analysis, while data on the exchange rate (I use the real dollar exchange rate, trade-weighted to the G-7 currencies) are available from the New York Federal Reserve Bank.

I. Questions to ask the data

I have phrased the questions so that if the mercantilists are right the answer to each question should be yes.

(1) Are large historical changes in the position of the current account systematically associated with large changes in the real value of the dollar?

(2) Is a cheap (expensive) dollar associated with a reduction (increase) in the current account deficit?

(3) Is a current account deficit (surplus) associated with a depreciation (appreciation) of the exchange rate?

 # 1 Historical Episodes:

There are three distinct periods of transition in the current account balance over the last thirty years (see Figure 1): 1982-1988 (surplus to deficit), 1988-1991 (deficit to surplus), 1991-2005 (surplus to deficit—no trough yet). Note that those three periods correspond loosely to economic expansion, recession, and further expansion, respectively.

From 1982 to 1988 there was a small swing of the current account from surplus to deficit. Over this period of time the real exchange rate experienced a moderate depreciation (107 to 85).

From 1988 to 1991 there was a small swing of the current account from deficit to surplus. Over this period of time the real exchange rate experienced a small depreciation (85 to 80).

Since 1991 there has been a dramatic swing of the current account toward large and persistent deficits. Over this period of time the real exchange rate experienced a small appreciation (80 to 87), and no "correction" of the deficit in the current account.

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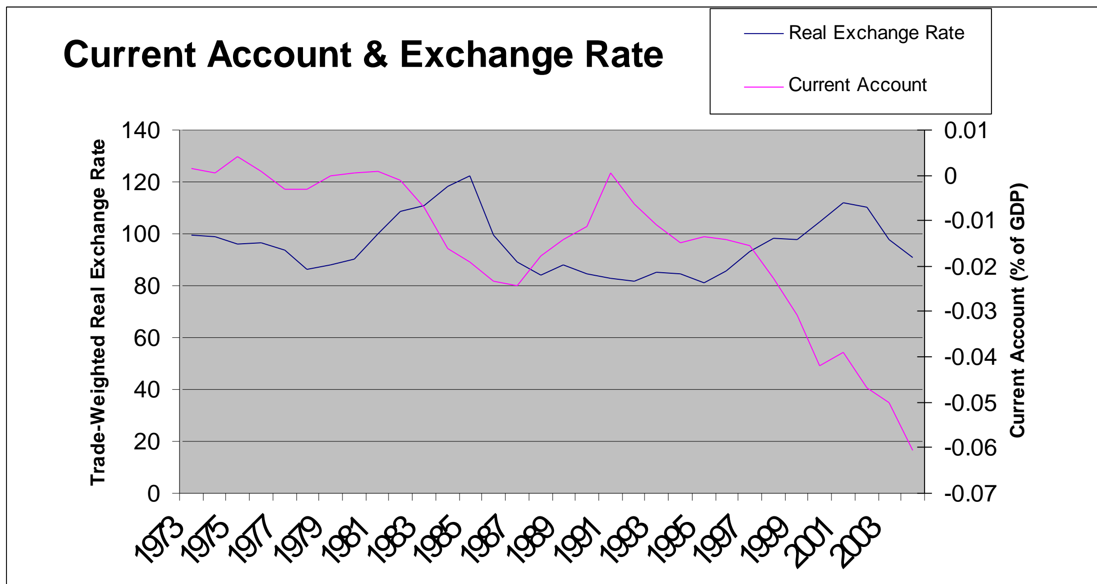
[4] Mercantilism is an economic philosophy that predates the rigorous approach to economics begun with Adam Smith. The central tenet of mercantilism is that international trade is a zero-sum game in which the nation with the trade surplus is the only party that benefits from trade. Thus it seems an appropriate label.

Figure 1



Only the first historical episode provides reasonable support for the mercantilist theory. In the second episode the real exchange rate moves opposite the direction predicted by the theory. Finally, in the third episode, fourteen years of current account deficits have been accompanied by only the smallest depreciation in the real exchange rate, and no consequent change in the current account. The press and politicians seem to have developed an unhealthy attachment to the first episode.

 # 2 The Impact of the Current Account on the Exchange Rate:

During years the current account was in deficit, the exchange depreciated twelve times and appreciated twelve times. During years the current account was in surplus, exchange rate depreciated four times and appreciated three times.

This provides some evidence against the mercantilist hypothesis. The dollar is just as likely to fall as it is to rise when the current account is in deficit, and *more likely* to fall than to rise when the current account is in surplus.

 # 3 The Impact of the Exchange Rate on the Current Account:

When the real exchange rate was below its thirty year average the current account shrunk five times and increased eight times. When the real exchange rate was above its thirty year average it the current account shrunk thirteen times and increased twice.

While the relationship is not terribly systematic, the data do reveal a modest impact of the exchange rate on the current account.[5] The current account balance shrinks more often when the exchange rate is high, and grows more often when the dollar is depreciated. So

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[5] In a bivariate regression p=.02.

this means the mercantilists are right? Not so fast. Further statistical analysis shows that changes in the exchange rate account for an insignificant proportion (less than four percent) of the movement in the current account.[6] Other economic forces must account for the vast majority of changes in the current account balance.[7]

II. What to conclude?

There are two important conclusions to draw from the non-relationship between the exchange rate and the current account. First, the exchange rate policies of our trading partners are not responsible for the trade deficit. Scapegoating China is incorrect economics and ineffective policy. Second, we need no longer fear a dollar crash as the unavoidable consequence of our trade deficit. As it has for the past three decades, the current trade deficit represents the strength of our economy as the best place for both foreign and domestic firms to invest.

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[6] In statistical terms, the coefficient of determination, R^2=.035.

[7] Among those forces that economists believe exert a significant influence on the current account balance, which is by definition equal in magnitude to net foreign borrowing, are productivity growth, consumers' expectations about future income, and, more debatably, the federal budget balance.