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**Exchange Rates and Trade Balances under the Dollar Standard:  
The Transfer Problem Reconsidered**

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Like it or not, the dollar is at the center of the world’s monetary system, while simultaneously the United States runs large current account and trade deficits. Indeed, it couldn’t have run such deficits for more than two decades if the dollar was not the definitive international money. Because much of the world is on a dollar standard, only the U.S. can borrow abroad indefinitely in terms of its *own* currency to cover its relatively low level of saving. This is possible as long as the U.S. Federal Reserve Bank keeps the purchasing power of the dollar fairly stable so that other countries with trade surpluses are loathe to appreciate against that currency in which most of world trade is invoiced. Thus, there is no immediate crisis and no need for precipitate action by governments—particularly on the exchange rate front—to “correct” the U.S. current account deficit.

Nevertheless this continual U.S. borrowing is *unsatisfactory* even if *sustainable*. The world is treated to the spectacle of its richest economy grabbing the lion’s share of international finance potentially available for economic development in much poorer countries, But also the process of transferring resources from the rest of the world creates tensions within the American economy itself.

What is the transfer problem? In order to transfer resources in real (nonfinancial) terms from the rest of the world (apart from surplus-saving oil producing emirates), the U.S. runs very large trade deficits in manufactures from surplus-saving industrial economies such as China, Japan, a host of smaller ones in East Asia, Germany, as well as several smaller European countries. This “real” transfer of manufactures needed to cover the shortfall in American saving speeds the contraction in employment in U.S. manufacturing beyond the “natural” rate of decline experienced by other mature industrial economies.

The upshot is a protectionist backlash in the United States, particularly by members of Congress with manufacturing constituencies. These people incorrectly blame “unfair” foreign trading practices—undervalued currencies, substandard labor practices,

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or “dumping” of subsidized exports in American markets—instead of America’s own deficient saving covered by foreign borrowing. Rather than any imminent collapse in America’s credit line with the rest of the world, it is this protectionist backlash that is the serious threat to the world trade.

However, contrary to a widely held belief within our economics profession, devaluing the dollar is no panacea for correcting the savings (trade) imbalances across countries; nor would “real” devaluation be useful for facilitating adjustment if and when net saving was increased in the United States and reduced abroad. Moreover, a (anticipated) broadly based devaluation of the dollar in nominal terms would create monetary and price level chaos in the world at large—not least within the United States itself.

Unfortunately, modeling both the international monetary role of the dollar and the transfer problem together presents problems. To capture this duality, I will follow the time-honored but treacherous tradition in international economics of separating out monetary issues from “real” ones. Let us model first the transfer problem and real relative price changes associated with reducing absorption (spending) relative to income in the United States while increasing it abroad. Then we can analyze the worldwide monetary repercussions from major changes in the dollar’s nominal exchange rate on U.S. and foreign monetary policies.

### **The Transfer Problem**

To reduce the U.S. current account deficit from, say, 7 to 3.5 percent of GDP, adjustment must start with a permanent fall in total U.S. absorption relative to income of at least 3.5 percent—and complementary inverse changes abroad. For a country as big as the United States, we must also specifically model “cooperative” foreign reactions if only to satisfy the accounting identity  $Y - A = CA = -CA^* = A^* - Y^*$ , where  $A$  is U.S. domestic absorption (total spending),  $Y$  is GDP,  $CA$  is the current account surplus (negative in the American case); and the starred variables are the counterparts in the rest of the world, considered collectively.

I assume price and wage flexibility but only in the long run. (I am totally against abrupt or discrete changes in exchange rates or in absorption.) Let us assume that the 3.5 percent absorption decline is not abrupt, but nevertheless is fairly definite as part of corrective government program, i.e., highly visible fiscal improvement and no more housing or other bubbles on the part of the Fed.

If well signaled and spread out over some years, the fall in absorption itself would gradually bid down the price of U.S. nontradables relative to tradables--which remain buoyed by robust external demand. This natural fall in the relative price of nontradables and slower wage growth in that sector gradually releases capital and labor for greater U.S. production of both importables and exportables. Of course nobody (least of all economists!) would know exactly how much the relative prices of non tradables and wages would eventually fall in the U.S. or increase abroad. But the American economy is

flexible, with workers and firms continually adjusting to various shocks, and a 3.5 percent fall in absorption over some years isn't all that large. In the modern world, where the distinction between tradables and non tradables is eroding, I would expect the necessary relative price changes would be quite modest in the long run.

However absorption adjustment must be two-sided, if only because its the accounting identity: the gradual fall in U.S. absorption relative to income must be matched by a gradual rise in foreign absorption relative to income. Otherwise, unilateral absorption adjustment by either side to right the trade imbalance will always be frustrated. Putting pressure on China and Japan to increase consumption is all well and good but only if matched by a reduction in consumption in the United States.

(Note that starting “adjustment” with some abrupt change in the exchange rate, e.g., a large dollar devaluation that reduces the price of U.S. exports relative to its imports would be a bad mistake. The terms of trade is the wrong relative price, and abruptly changing it would actually make reduction in the U.S. current account deficit through adjusting absorption more difficult. It would also create monetary chaos. These issues are discussed in turn below.)

Suppose both sides begin the necessary adjustment—reducing absorption in the U.S. and raising it abroad. In long-run equilibrium, we know that relative prices of nontradables will fall in the U.S. and increase abroad. But should one presume that the U.S. terms of trade, the price of American exports relative to its imports, need fall as the U.S. trade deficit declines? Essentially, and perhaps surprisingly to most economists, the answer is “no”. In the long run, any change in America’s real exchange rate (its terms of trade) associated with righting the international saving imbalance would likely be small with an unpredictable sign.

From the 1950s into the 1970s, there was a spirited “real” (nonmonetary) literature on the transfer problem. Given a fall in spending in the home country (the transferor) and a rising in spending in the foreign country (the transferee), what would (need to) happen to the terms of trade? The orthodox presumption then as now was that there would be a secondary burden on the home country as its terms of trade deteriorated: the price of exportables would fall relative to importables in order for its trade balance to improve. However, several eminent authors—Paul Samuelson, Harry Johnson, John Chipman, and Ronald Jones—with some heavy mathematical artillery, in the context of a long run real model where resources remained fully employed, successfully questioned the validity of this orthodox presumption that a real devaluations was necessary.

In particular, Ronald Jones in his article “Presumption and the Transfer Problem” (*Journal of International Economics*, 1975) built a model with a nontradable and two tradables sectors (importables and exportables) in each country. He showed the relative price of nontradables declines in the transferor, and rose in the transferee, but what happened to the terms of trade was quite ambiguous. Only by making extremely strong assumptions about specialization in production or consumption could Jones get either the orthodox or the anti-orthodox presumption of the change in the terms of trade to hold.

However, for any large economy such as the United States with well diversified production and consumption, the effect of a transfer on its terms of trade is ambiguous—and presumably a second-order effect compared to the definite changes in the prices of nontradables relative to tradables at home and abroad.

One can get an intuitive sense of Jones’s result by noting that as absorption falls in the transferor, and the relative price of its nontradables begin to decline, then its exports will increase and imports decline as resources move into its tradeables sector. If, myopically, one stopped at this point with adjustment only in the transferor, then it seems as if the orthodox presumption holds: the price of its exports would be bid down relative to the price of imports.

However, absorption adjustment is (must be) two-sided. As the transferee’s absorption of both tradeables and nontradables increases, its nontradeable prices are bid up relatively so that resources are drawn out of its tradeables sectors. The transferee’s exports will tend to fall and imports from the transferor rise. This foreign pressure by itself would tend to raise the prices of the transferor’s exports relative to its imports. So putting the two offsetting sides together, there is *no presumption* as which way the transferors terms of trade will move.

What are the lessons from this “real” long run model of the transfer problem?

1. Balanced international adjustment in both transferor and transferee is important for preventing a secondary burden on the transferor of having the terms of trade turn against it as its trade balance improves.
2. Precipitate action to foment a discrete major “real” depreciation of the dollar—which would initially turn the terms of trade against the transferor i.e., the United States, at the start of the adjustment process—is unwarranted. This would be painful but also quite unnecessary. In the long run, when the U.S. trade deficit was substantially reduced through mutual absorption adjustment, little or no change in the initial real exchange rate need characterize the final equilibrium.

Martin Wolf of the *Financial Times* constructively criticized my analysis and queried “...the price changes needed to bring that shift [a reduction in the U.S. trade deficit] around may not happen easily under a fixed nominal exchange rate, particularly if they require a sizeable fall in nominal wages.” This is a common Keynesian worry for maintaining aggregate demand should domestic absorption be reduced. But because tradables prices are sticky in the short run, a fixed nominal exchange rate would have the great advantage of keeping the terms of trade fairly constant, rather than fluctuating unpredictably, as mutual absorption adjustment proceeded. There would be some downward pressure on U.S. wages concentrated initially in the American nontradables sector; but the 3.5 percent fall in absorption spread out over time could be readily accomplished by slowing wage growth rather than actual cuts in nominal wages. Most importantly for maintaining aggregate demand, my model presumes that expansion of absorption abroad (with faster wage growth) parallels the contraction in the U.S.—as our

accounting identity requires—with both sides operating gradually rather than precipitately.

Clearly our long-run “real” side model of the transfer problem generates important insights. But the old literature on the transfer problem, however valuable, was remiss in leaving out monetary issues. Let us now turn to the monetary side of the adjustment process involving nominal exchange rates, nominal price levels, nominal wages, and nominal money supplies both in the short and longer runs.

### **Exchange Rate Clubs and the Monetary Approach**

Specialists in exchange rate economics fall into two distinct clubs: A and B. Members of Club A, by far the larger group, have been brought up since they were undergraduates on the elasticities model of the balance of trade. Besides being algebraically tractable, the microeconomics of this model seem intuitively plausible. With nominal export prices “sticky” in each country’s currency in the short run, the relative price effects of a depreciation in the nominal exchange rate seem to go in the right direction for reducing a trade deficit. The depreciating country’s exports become cheaper in world markets and it sells more, and its imports become more expensive in the domestic currency so it buys less, so the trade balance allegedly improves. Members of Club A focus on this link between the real, i.e., inflation-adjusted, exchange rate and the real trade balance.

What about absorption adjustment? True, Club A’s more sophisticated members also worry about saving-investment imbalances across countries; but these don’t easily fit into the elasticities model, which dominates their thinking. They still see a devaluation of the real exchange rate to be useful for easing the adjustment process if, say, a country with large trade and fiscal deficits reforms itself by phasing out the fiscal deficit so that its real international balance of trade can improve. Indeed, they may see the devaluation to be a useful export stimulus to the economy to offset the deflationary impact of the contraction in absorption. (But this exchange rate offset is unnecessary if one remembers from the transfer problem that absorption adjustment is two-sided: expansion in the transferee offsetting contraction in the transferor so as to preserve a rough macroeconomic balance in the two countries.) Martin Feldstein is a member of Club A in very high standing.

Club B is much smaller, and is mainly made up of monetary economists (excluding monetary cranks, of course!). Characteristically, members of Club B emphasize the linkages between national monetary policies and *nominal* exchange rates in financially open economies. Causality goes in both directions. Following the earlier work of Michael Mussa, a floating nominal exchange rate today is determined by what forward-looking investors think the national monetary policy will be relative to that in other countries into the future. Conversely, official action taken today to peg an exchange rate into the indefinite future—or negotiate some major change such as a devaluation or appreciation—requires that relative national monetary policies must (eventually) be

changed to support it. Otherwise, the officially assigned path for the nominal exchange rate cannot be sustained. Countries that agree (perhaps by some Plaza-type negotiation) to having their currencies appreciate are also agreeing to follow a deflationary future monetary policy relative to greater inflation in the depreciating country.

I am sorry to report that membership in Club B is quite exclusionary. It won't admit economists who believe that governments can manipulate real exchange rates on a sustainable basis—let alone those who believe that exchange rate changes can compensate for saving-investment imbalances across countries. As narrow-minded monetary economists, members of Club B believe that central banks should aim only to stabilize the national price level. They are most fearful of having to alter the national monetary policy to support either an exchange rate appreciation or depreciation that the Ministry of Finance negotiates (mistakenly in their view) to “correct” a trade imbalance with some foreign country.

Being monetary economists, Club B's members can easily understand international currency asymmetry: why it is convenient, and even necessary, for one currency such as the dollar to dominate international finance as a vehicle and invoice currency. They understand the logic of an intervention system where other countries use the dollar as their key intervention currency, and the United States (as center country) does not intervene in order to minimize potential conflicts.

On occasion, a central banker in good standing in Club B may opt to peg (stabilize) his country's nominal exchange rate to the dollar in order to better anchor his country's price level—as many countries in Asia now do. Unfortunately, members of Club A may see this as a mercantilist plot for stimulating exports by keeping its real exchange rate undervalued. But, with a fixed nominal exchange rate, Club B members know any such “undervaluation” would be washed away by inflation after which the domestic price level would stabilize as long as the dollar itself was stable.

What is truly dismaying for members of Club B is when so many members of Club A are opting for a massive dollar devaluation on the incorrect assumption that it would reduce the U.S. trade deficit. Club B members know that such a great monetary shock from nominal depreciation would eventually result in inflation in the United States or (relative) deflation in countries on its monetary periphery. Nobody would know how this division between inflation and deflation would play out. (In Japan in the late 1980s through the 1990s, it was deflation from the appreciating and then overvalued yen that led to Japan's zero-interest liquidity trap and “lost decade”.) However, the end result would be to wipe out any sustained change in the dollar's real exchange rate, although its nominal exchange rate remains depreciated.

True, following a nominal devaluation, there are lags before prices begin to rise at home or fall abroad. But even in this short run of price “stickiness”, the balance of trade of the depreciating country is unlikely to improve.

First, for imports already contracted for and invoiced in a foreign currency like the euro, the U.S. importer would have to pay more (depreciated) dollars for the European goods he had agreed to buy. Economists call this the “J” curve effect.

Second, with a temporarily real depreciation of the dollar, international investors would see a window of opportunity for a year or two to undertake physical investments at lower cost in the United States. Conversely, they would see countries with appreciated currencies to be more expensive. As a consequence, an investment-led spending boom in the United States would increase imports and a slump abroad would reduce imports of American goods. The upshot is that the net effect on the U.S. trade balance in this intermediate term of two years or so would be ambiguous—even though the foreign currency prices of American exports in world markets had been (temporarily) reduced.

However, the really big incidental negative from a deep nominal devaluation of the dollar is the monetary upheaval associated with debasing the key currency of the international monetary system. Such an event did occur in August 1971 when President Nixon imposed import tariffs in order to force all the other industrial countries to appreciate against the dollar. Because this “Nixon Shock” was so well telegraphed in advance, the huge flight from dollar assets into foreign monies led to a loss of monetary control both in the United States as well as in Europe and Japan. Foreign governments had to intervene to resist having their currencies appreciate by more than what was agreed on with President Nixon, and their massive buildup of dollar exchange reserves led them to issue too much base money. In the United States, the flight from dollar assets greatly reduced the demand for U.S. base money, and the Fed, not realizing this, continued to increase the supply of base money. The result was the disastrous worldwide inflation of the 1970s into the 1980s. However, the inflation was greater in the United States, which had depreciated, than in Germany and Japan, who had been forced into appreciating. But growth in real income and productivity declined everywhere. (Ironically, the net U.S. trade balance did not improve!)

Members of Club B lie awake at night wondering if such a calamitous event might happen again.