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# The Claremont Center for Economic Policy Studies

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*Working Paper Series*



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"Restricting Imports Won't  
Help the Trade Deficit"

by

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For Publication in  
The World Economy

Revised  
October, 1986

RESTRICTING IMPORTS WON'T HELP THE TRADE DEFICIT

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An earlier version of this paper was presented at the 1985 meetings of the Western Economic Association.

The authors thank Paul Evans, Henry Goldstein, Gottfried Haberler, Tony Lowenberg, Hal McClure, Aris Protopapadakis, and Clas Wihlborg for helpful comments on an earlier draft.

## I. INTRODUCTION

The combination of continuing high domestic unemployment, the strong dollar, and mounting trade deficits has stimulated greatly increased protectionist pressures in the United States in the 1980s. While such pressures have continued to frequently take the form of lobbying for measures to protect specific industries, an increasing amount of emphasis has also been placed on the advocacy of broader measures to reduce the trade deficit across the board or on a bilateral basis with countries such as Japan which are running the largest trade surpluses vis-a-vis the United States.

Such broad trade measures have yet to be adopted, but numerous bills calling for such policies have been put before Congress. For example, in the first six months of 1985 alone, no fewer than ten separate bills to levy some form of import surcharge were introduced in the U.S. Congress.<sup>1</sup> The substantial softening of the dollar beginning in late 1985 may have reduced somewhat the strength of support for such U.S. policy measures, but recent Congressional activity such as the passage of an omnibus trade bill by the House in May 1986 clearly demonstrates that interest in broad-based trade restrictions is far from dead. At this stage with President Reagan's well-known opposition to broad protectionist measures,

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such Congressional activity tends to serve notice of concerns rather than actually signal that intensified protectionism is desired by a majority in Congress. Still, pressure has grown to a point where it must be taken quite seriously by advocates of liberal trade policies.

Particularly dangerous in our judgment are the proposals aimed at reducing the trade deficit specifically, since these measures are often purported to be quite different from old-fashioned, industry specific protection in order to gain the appearance of being more liberal and economically sophisticated. The specific nature of these proposals takes many forms ranging from quantitative import restrictions (quotas) to import surcharges (tariffs). Many include feedback mechanisms which would vary the size of the tariff or quota based on changes in trade balances or exchange rates relative to specified target values.

While critical analysis of these various proposals would differ in specifics, all of these measures share a common set of defects. Not only are they subject to the standard economic arguments that they will promote distortions in resource allocation (albeit fewer distortions than a morass of varying levels of protection for different industries), but they would be unlikely to succeed in their objective of reducing the trade deficit.<sup>2</sup>



Proponents of such proposals do not appear to understand that the current system of flexible exchange rates will generate quite different short-run responses to the imposition of trade policies than would occur under the old system of fixed exchange rates. As a consequence of flexible rates, trade imbalances are the mirror image of capital account imbalances even in the short run. Import restrictions would lead to currency appreciation. Exports would be discouraged and imports encouraged with little net effect on the trade balance.<sup>3</sup> As we discuss in section II, this conclusion follows from applying the Lerner symmetry analysis of international trade theory. We show in Section III that this fundamental point holds in a monetary economy as well, as long as capital flows are not strongly affected by exchange rate changes.

In Section IV we consider various possible ways in which trade restrictions might influence the trade balance under flexible exchange rates through effects on international capital flows. We conclude that while potential trade restrictions could influence capital flows and hence the trade balance through mechanisms such as government budget deficit reduction, portfolio rebalancing and other indirect effects, these channels seem likely to be weak and/or inefficient, and possibly offsetting. Therefore direct efforts to reduce the government deficit are likely to be far more effective methods

of reducing capital inflows and the trade deficit than trade restrictions and would be less likely to stimulate retaliation.

## II. TRADE THEORY AND THE LERNER SYMMETRY THEOREM

If commercial policies are to be implemented with the objective of correcting current account imbalances, an across-the-board import tax generates less economic inefficiency than quantitative restrictions or selective protection of particular industries. But the surcharge is still an inefficient policy.<sup>4</sup> It only creates incentives to reduce imports, but not to stimulate exports. This has an anti-trade bias. Indeed, under the assumption of standard international trade theory, when the induced effects of an import surcharge are taken into account, exports would be discouraged by the same amount as imports, leaving the trade balance unchanged. This result follows from the Lerner Symmetry Theorem that a tax on imports is equivalent to a tax on exports in terms of its real economic effects.<sup>5</sup>

Although trade tax symmetry theorems can be found in the writings of Edgeworth and others in the nineteenth century, the formalization of the proposition of symmetric effects in taxation of imports or exports is found in Lerner's 1936 paper. Interestingly, Lerner's objective was to correct an error in

Edgeworth who maintained there was no symmetry because revenue would be spent differently for the alternate taxes.

Lerner theorized only about real economies, that is without money and payments.<sup>6</sup> Thus many economists have assumed that the theorem holds only in models of pure trade theory. However, it has much wider applicability. The existence of symmetry in monetary economies has interested several authors including Meade, Corden, Pearce, Haberler, and Kaempfer and Tower.<sup>7</sup> For these authors, the meaningful issue was the interaction between trade taxes and the exchange rate or balance of payments. Most of these authors were interested in cases where the symmetry breaks down, chiefly as a result of some flow not being taxed. However, even where the symmetry theorem does not hold perfectly with respect to resource allocation effects, its implications for the ineffectiveness of import restrictions in improving the trade balance may still hold. The symmetry theorem is perhaps easiest to understand in its traditional trade theory context under the assumptions of no capital flows and an efficiently operating adjustment mechanism. Then the trade balance would always tend toward zero and trade policies would influence the level of trade but not the trade balance.

The classical economists generally assumed that payments adjustment took place via price level changes under a system of fixed exchange rates. Exactly the same results hold, however,



with exchange rate adjustments under a system of flexible exchange rates. The key point of the symmetry theorem is that the trade policy will not induce a sustained change in the trade balance. This condition is obviously met with the operation of an automatic adjustment mechanism in the absence of capital flows as payments equilibrium will require that exports and imports balance.

At first thought this may seem to be of little relevance in today's world of high international capital mobility. However, it is straight forward to show that the trade balance ineffectiveness proposition will generalize directly to a world of capital mobility as long as trade policies do not influence net capital flows. The trade balance would adjust to the level of net capital flows with capital outflows requiring a trade surplus and capital inflows a trade deficit. In the following section we review several popular models of exchange rate determination and show that the ineffectiveness proposition holds, given the underlying assumptions of the models.

### III. TRADE SURCHARGES AND MODELS OF EXCHANGE RATE DETERMINATION

In the simplest models of exchange rate determination, the equilibrium exchange rate clears flows of goods between

countries.<sup>8</sup> As the flow demands and supplies of imports and exports respond to relative prices, the equilibrium exchange rate should satisfy purchasing power parity (PPP), at least in the long run. Trade surcharges, however, interfere with absolute parity by driving a wedge between foreign and domestic prices. Consequently, the market equilibrium exchange rate adjusts to the distorted parity caused by a surcharge. In the case of an import surcharge, the demand for imports will be reduced, generating an appreciation of the currency. This appreciation will, in turn, retard exports and stimulate imports. The new exchange rate equilibrium occurs where the combination of reduced exports and exchange rate stimulated imports equals the initial trade policy induced fall in imports which would have occurred with a constant exchange rate.

This type of example makes it easy to see how the symmetry theorem works with the incidence of an initial tax on imports spreading over both exports and imports. The effects would be the same as with a direct tax on exports. In the latter case, the induced fall in demand for exports would generate currency depreciation, thereby effectively levying a tax on imports. Since the exchange rate change would influence both exports and imports, the size of the exchange rate change required to offset the trade balance effects of a tariff surcharge would be less than that of the surcharge, with the exact amount depending on the elasticities of export and import demand and supply.<sup>9</sup>

While useful for a variety of purposes, theories of exchange rate determination based on PPP have been found to be poor predictors of exchange rate movements, at least in the short run. Asset market theories that have become popular in recent years suggest an important reason for this result. In these models the influence of capital flows dominates that of goods flows in the short run. Such international capital flows depend upon factors like interest rate differentials, expectations, and the degree of risk aversion by investors.

In asset market approaches to exchange rate determination, trade tax surcharges can affect the exchange rate, just as commercial policy plays a role in the balance of payments under fixed exchange rates.<sup>10</sup> However, as long as capital flows are independent of trade policy developments the trade balance will not be affected by any exchange rate reaction to a tariff change. In many popular models of exchange rate determination, capital flows are assumed to be exogenous with respect to exchange rate and trade policy developments. A prime example is the flow model underlying the widely used open economy models pioneered by Mundell and Fleming, which are presented in most leading macro and international economics texts. In this model the exchange rate is determined by interactions among the basic elements of the balance of payments: imports, exports and capital flows.<sup>11</sup> Exports and imports both depend upon the exchange rate, while capital flows respond to interest rate



differentials between nations. Exchange rate expectations are assumed to be static, i.e., the market's best guess of the future exchange rate is its current value. At any point in time, the equilibrium exchange rate is one that leaves the trade balance--that is exports less imports--equal to the net flow of capital.

In this type of model the impact of a trade tax surcharge on imports will not be a reduction in the trade deficit, but rather an appreciation that leaves the deficit unchanged. The explanation is that the net capital flow term is unchanged by either the import tariff surcharge or the exchange rate.<sup>12</sup> Thus, the exchange rate would rise to offset the effect of the surcharge. On the other hand if official intervention were used to hold the exchange rate constant as under the old adjustable peg system, the desired trade balance effects could be achieved in the short run. However, it is now generally recognized that, in the absence of changes in domestic macroeconomic policy, the effectiveness of using official intervention to control exchange rates has become quite limited. Thus while there is some scope for a combined surcharge and official intervention policy even under floating rates, it seems unlikely that this approach could generate a substantial prolonged impact on the balance of payments.

More recently developed asset market models frequently stress the role of exchange rate expectations. In many of the

most popular of these models speculators are assumed to be risk neutral and financial assets are assumed to be perfect substitutes internationally.<sup>13</sup> The trade policy implications of these models are largely similar to the simple PPP models discussed above, although the short-run exchange rate dynamics which come out of these models in response to changes in monetary and fiscal policies are quite different. In these models, official intervention is ineffective in attempting to influence the exchange rate. Easy money could generate a temporary trade surplus but this would be soon reversed. Trade policy might be able likewise to generate a temporary impact on the trade balance via effects on exchange rate expectations, but as will be discussed in the following section, such effects seem problematical.

Portfolio balance models drop the assumption of perfect international capital mobility and allow trade balances to continue over a longer time period, thus increasing the potential for trade policies to have a more prolonged influence on the trade balance via its effects on capital flows. As we discuss in the following section, however, when such possible induced effects on capital flows are systematically analyzed, no strong presumption for the net direction of these effects emerges. Thus, in the absence of new empirical research findings it seems unwise to assume that such induced capital flow effects would be likely to substantially modify the

conclusion of trade policy ineffectiveness drawn in this section.

#### IV. POSSIBLE EFFECTS ON CAPITAL FLOWS

A thorough examination of the possible effects of trade surcharges on the trade deficit considers more comprehensive capital market effects. We consider five major possible channels of interaction effects: the collection of government tax revenue on the government budget deficit; direct portfolio effects on international capital flows; efficiency effects of trade taxes; the real balance effect caused by the price effects of trade tax surcharges; and effects on expectations.

Some proponents of the across-the-board import tax surcharge policy have envisioned a reduction in the trade deficit stemming from effects on the federal budget deficit. Taxing imports will raise revenue and lower the budget deficit. If the tax surcharge and the revenues raised are large enough, the expected decrease in the deficit could lead to less federal borrowing and lower interest rates. This in turn leads to a smaller capital inflow and a smaller trade deficit.

Notice, however, that this potential result occurs because the trade-tax surcharge exerts an anti-trade bias and, therefore, is likely to be a particularly high cost method of taxation. Exports would have to be subsidized while imports are taxed if policymakers want to offset the anti-trade bias of



a trade surcharge. However, such a combination of taxes and subsidies would use most of the revenues collected by the import tax. Thus, the budget deficit reducing elements of a trade tax surcharge become significant only to the extent that the surcharge has a large anti-trade, distortionary bias. A general income or consumption tax would create fewer distortions while being equally effective in reducing the incentives for capital inflows and hence the size of the trade deficit.

Trade tax surcharges also can lead to trade deficit reduction through portfolio re-balancing effects. Essential to the portfolio balance models is the lack of perfect substitutability between assets in different countries. As long as assets are not perfect substitutes an optimal portfolio will contain assets denominated in several currencies. Then, when exchange rates change, portfolio composition must also change because the value of the different components of portfolios change. As a trade tax surcharge causes the dollar to appreciate, foreigners discover the dollar denominated assets in their portfolios have also appreciated. With no change in underlying incentives, the foreign currency portion of their portfolios has risen above the optimal level as measured in the home currency. Where investors are concerned primarily with the home currency values of their portfolios, this would prompt a readjustment of international portfolios

out of dollar denominated assets.<sup>14</sup> A similar effect occurs for U.S. investors who find their foreign holdings too small in dollar terms and thus increase their investment abroad. For this reason, international capital flows respond not only to interest rate differentials but also to a change in exchange rates.

The decline in net capital inflows in turn leads to an improvement in the trade deficit. But, if investors think of their "safe asset" not in terms of their domestic currency, but some weighted average of international currency values, this rebalancing effect would be muted and in the extreme case eliminated. Recent theoretical work has differed considerably in the range of assumptions that are reasonable and we have little empirical evidence on this question so far.<sup>15</sup> Thus at present it must be considered an open question whether substantial rebalancing effects should be expected to occur.

The next two channels by which trade tax surcharges affect capital flows, the "efficiency effect" and the "real-balance effect," both operate indirectly in reaction to general economic adjustments. Both may be long term and of unpredictable magnitude. However, they tend to operate in opposite directions.

The efficiency channel suggests that tariffs may lower the trade deficit by reducing economic efficiency. The result of a surcharge, especially one that entails a large anti-trade bias,

is to reallocate capital to protected, import-competing industries. This reallocation towards less efficient uses tends to depress the real rate of return to capital and lower the interest rate. As the effect takes hold, foreign financial capital will be less inclined to continue flowing into the country, and the trade deficit will shrink.<sup>16</sup>

The real-balance effect results since a trade tax surcharge generates a one-time increase in the price level. This price rise leads to a real balance effect that increases the nominal demand for money and causes the interest rate to rise. Ceteris paribus a higher interest rate should stimulate larger capital inflows and an increase in the trade deficit.<sup>17</sup>

Finally we come to effects on expectations, exchange rate expectations of two separate types, and real performance expectations. Again it seems difficult to draw strong conclusions. Capital flows react to expectations of currency appreciation and depreciation. As we have argued, the imposition of an across the board tariff brings about an expected appreciation, at least after any short run J-curve effects have worked themselves out or been offset by speculation.<sup>18</sup> Thus capital is attracted in a way which complements the appreciation and offsets the tendency to import less after the surcharge. If, however, the surcharge were temporary as was Nixon's August, 1971 policy, the expectation of further depreciation might deter capital inflows and



stimulate outflows. However, developing a surcharge policy which would remain in force long enough for J-curve effects to be overcome while at the same time making sure that the market sees the policy as being clearly temporary is a problem. The effective window for operating on the trade balance through this approach would seem likely to be fairly narrow.

Real economic performance expectations influence capital flows by attracting capital to strong performance and shifting it away from slack performance. Ironically for these expectation effects to lead to a reduction in the trade deficit the trade policies that are adopted have to generate a loss of confidence in U.S. economic performance. If, instead, these policies increase confidence in the American economy, then the increased confidence would attract more foreign capital, offsetting, or even reversing, the decline in capital inflows generated through these channels. Thus again on this score, import restrictions or surcharges do not seem to be a particularly effective method to reduce the trade deficit.

Considerations of expectations effects also illustrate the particularly serious difficulties facing recent proposals to use variable, disequilibrium surcharges. Under a typical version of such schemes an import surcharge would be levied equal to the difference between the current exchange rate and some estimate of the equilibrium exchange rate. Often some type of purchasing power parity calculation is suggested as the

basis for calculating the differential. As the exchange rate varies from month to month or quarter to quarter, the amount of the surcharge would change as the differential changes. Apart from all the difficulties of calculating equilibrium exchange rates, such variable surcharges are likely to generate exchange rate instability and further worsen the trade deficit, since the imposition of an import surcharge generally leads to currency appreciation which, in turn, calls for a further increase in the surcharge. Furthermore, such expectations of continued appreciation would increase the incentives for capital inflows and further worsen the trade deficit. Thus despite their scientific and sophisticated appearance, such schemes for a variable disequilibrium tax are perhaps the worst of the proposals which have been made for dealing with the high dollar and the U.S. trade deficit.

#### V. CONCLUDING REMARKS

Our major conclusion from the analysis presented in this paper is that in a world of flexible exchange rates trade restrictions are unlikely to be an effective method of reducing trade deficits. While it is theoretically possible for import restrictions to influence capital flows and hence the trade balance even under flexible exchange rates, such capital flow effects are likely to be very difficult to predict and control

and seem roughly as likely to stimulate capital inflows--which would worsen further the trade deficit--as they would be to generate capital outflows--which would help reduce the trade deficit. While we focus on across-the-board measures in our analysis, country specific measures have also been proposed frequently. These proposals would levy tariff surcharges or quotas against imports from those countries with which the United States has particularly large bilateral trade deficits. However, such proposals will work no better, and are probably worse, than across the board taxes. Again, country specific surcharges do not address the issue of capital flows. What they ignore, however, is the multilateral nature of trade arrangements. Furthermore, nations who are heavily indebted, like Brazil, must run trade surpluses if they are expected to deal with their indebtedness. Trade tax surcharges will not only fail to solve the trade deficit problem but may, through a country specific application, worsen the international debt problem.

We should also stress that strong currencies and trade deficits are not always undesirable. The strong dollar and associated large U.S. trade deficits have brought benefits as well as the costs emphasized by advocates of protectionist measures. For example, they have made a major contribution in helping to bring down inflation from the double digit level.<sup>19</sup> By speeding up the disinflationary process they increased

public recognition that restrictive macroeconomic policy of the Reagan administration was working and thus helped make it politically possible for their policies to be continued through to a successful conclusion. In contrast under a pegged exchange rate regime, President Nixon felt compelled to give up half-way through and reflate the economy.

We agree, however, that the magnitude and duration of the U.S. trade deficit has been considerably greater than is desirable from either an overall U.S. or international perspective. Direct import restrictions are not a desirable way to go about reducing the trade deficit, however. Much more appropriate, although of course politically difficult, would be the adoption of further measures to bring the U.S. budget deficit under control, thus reducing the incentives for capital inflows.<sup>20</sup>



## FOOTNOTES

<sup>1</sup>For further discussion see Donald J. Rousslang and John W. Suomela, "Trade Effects of a U.S. Import Surcharge," Journal of World Trade Law, Vol. 19, (1985), pp. 441-450.

<sup>2</sup>We do not mean to imply that trade deficits are always bad. The balance of desirable and undesirable effects of a particular trade position can vary considerably depending on such factors as the state of the domestic economy. See, for example, Paul R. Flacco, Leroy O. Laney, Marie C. Thursby, and Thomas D. Willett, "Exchange Rates and Trade Policy." Contemporary Policy Issues, No. 4 (January 1984), pp. 6-18.

<sup>3</sup>While the failure of politicians and lobbyists to recognize the likelihood of this reaction of the exchange rate is understandable, it is surprising that this point does not appear to have been widely recognized by economists dealing with such issues. For a recent exception, again, see Rousslang and Suomela, *ibid.*

<sup>4</sup>Selective tariffs can improve efficiency in a second best world, and quantitative restriction can be more efficient than tariffs in some particular cases. However it is economy-wide issues that are of interest to us here.

<sup>5</sup>See William H. Kaempfer, and Edward Tower, "The Balance of Payments Approach to Trade Tax Symmetry Theorems." Weltwirtschaftliches Archiv, Vol. 118, (1982), pp. 148-165.

Actually imposing an export tax, which is outlawed by the U.S. Constitution, would in turn generate currency depreciation which would act like a tax on imports, again leaving the trade balance unchanged.

<sup>6</sup>This holds also for Ronald I. McKinnon, "Intermediate Products and Differential Tariffs: A Generalization of Lerner's Symmetry Theorem." Quarterly Journal of Economics, Vol. 80, (1966), pp. 584-615, who generalized Lerner's result to the case of many commodities.

<sup>7</sup>See Kaempfer and Tower, op cit. for further analysis and references.

<sup>8</sup>For detailed discussions and references to the evolution of exchange rate theory and empirical evidence on exchange rate behavior see Sven W. Arndt, Richard J. Sweeney, and Thomas D. Willett, Exchange Rates, Trade, and the U.S. Economy, American Enterprise Institute/Ballinger Publications, Cambridge, Mass., (1985); Jagdeep S. Bhandari, and Bluford H. Putnam, Economic Interdependence and Flexible Exchange Rates, The M.I.T. Press, Cambridge, Mass. (1983); Rudiger W. Dornbush, "Exchange Rate Economics: Where Do We Stand?" Brookings Papers on Economic Activity, no. 1 (1980); and Ronald C. Jones, and Peter B. Kenen, Handbook of International Economics, North Holland, Amsterdam (1985).

<sup>9</sup>With initially balanced trade and equal elasticities of demand and supply for exports and imports the required exchange

rate change would be exactly half of an across-the-board import surcharge.

<sup>10</sup>The balance of payments effects of commercial policies under fixed exchange rates are discussed in Michael Mussa, "Tariffs and the Balance of Payments: A Monetary Approach." In Frenkel, Jacob A. and Johnson, Harry G., eds., The Monetary Approach to the Balance of Payments, Allen and Unwin, London (1976); Mario I. Blejer, and Arye L. Hillman, "On the Dynamic Non-Equivalence of Tariffs and Quotas in the Monetary Model of the Balance of Payments." Journal of International Economics, Vol. 13, (1982), pp. 163-169; and Betty C. Daniel, Harold O. Fried, and Edward Tower, "On the Dynamic Non-Equivalence of Tariffs and Quotas in the Monetary Model of the Balance of Payments, Comment." Journal of International Economics, Vol. 18, (1985), pp. 373-379.

$$^{11}\text{That is: } X(\bar{e}) - M(\bar{e}, \bar{t}) = Z(\bar{r}) < 0$$

where X, M and Z are nominal exports, imports, and net capital outflows. The exchange rate, e, is expressed in terms of the foreign currency price of domestic currency and superscripts indicate partial signs of the exchange rate, the trade tax surcharge policy variable, t, and an interest rate term.

<sup>12</sup>Differentiating the expression in footnote 11 with respect to a tax change yields:

$$\frac{d(X-M)}{dt} = \frac{dZ}{dt} = 0.$$

<sup>13</sup>See Rudiger W. Dornbusch, "Exchange Rate Economics: Where Do We Stand?" Brookings Papers on Economic Activity, no. 1 (1980).

<sup>14</sup>See Dennis E. Logue, and Thomas D. Willett, "The Effects of Exchange-Rate Adjustment on International Investment." In Peter B. Clark, et al., eds., The Effects of Exchange Rate Adjustments, Department of the Treasury, Washington, D.C. (1974).

<sup>15</sup>See, for example, the useful survey by Peter Sharp, "Determinants of Forward Exchange Risk Premia in Efficient Markets." In Sven W. Arndt, et al., Exchange Rates, Trade, and the U.S. Economy, American Enterprise Institute/Ballinger Publications, Cambridge, Mass. (1985).

<sup>16</sup>Trade barriers may also stimulate real capital flows. The presumption is that these would be predominantly capital inflows motivated to jump over the trade barriers. In this case trade barriers erected to improve the trade balance would be not only ineffective but counter-productive. For recent discussion and references to the literature on the effects of trade barriers on real capital movements see Raz F. Miyagiwa and Leslie Young, "International Capital Mobility and Commercial Policy in an Economic Region," Journal of International Economics, Vol. 20, No. 314, (May 1986), pp. 329-342, and Kar-yiu Wong, "Are International Trade and Factor Mobility Substitutes?" Journal of International Economics, Vol. 21, No 9. 112, (August 1986), pp. 25-44.



<sup>17</sup>Another possible channel, although one we would expect to be weak, is through effects on savings. Ceteris paribus, with higher domestic savings net capital inflows would decrease and with lower domestic savings they would increase. The change in the sectoral distribution of output resulting from a surcharge could result in a shift in income either toward or away from higher savers. There is no clear presumption which way this effect would go, however. Savings could also be affected by terms of trade and wealth effects resulting from exchange rate changes. Again, however, there does not seem to be a strong presumption about the direction in which the net effects would go. See Edward Tower, and Thomas D. Willett, The Theory of Optimum Currency Areas and Exchange Rate Flexibility, Princeton Special Papers in International Economics, 1976.

<sup>18</sup>J-curve effects refer to the tendency of exchange rate movements to change the trade balance in the short run in the opposite direction from the longer run changes. This occurs because trade elasticities are low in the short run. Thus, over a period of, say, three months a ten percent devaluation may only improve the trade balance by, say, five percent in quantity terms. Then in terms of domestic currency the value of the trade balance has worsened. As the time period lengthens to a year or more, most empirical estimates suggest that the quantity effects become much larger so that the money value of the trade balance improves. Since these effects are

well understood in the foreign exchange market stabilizing speculation generally keeps these short-run perverse trade balance effects from generating exchange rate instability.

<sup>19</sup>See, for example, J. Harold, Jr., McClure, "Dollar Appreciation and the Reagan Disinflation." In Sven W. Arndt, et al., Exchange Rates, Trade, and the U.S. Economy, American Enterprise Institute/Ballinger Publications, Cambridge, Mass. (1985).

<sup>20</sup>We do not wish to suggest that all of the recent U.S. capital inflows of the last several years have been due to the U.S. budget deficits, but we do believe that the deficit has been one of the most important causes. For further analysis and references on the budget deficit-capital inflow-trade deficit link, see Arndt, Sweeney, and Willett, op cit.

