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ARTHUR B. LAFFER

Monetary Policy and the Balance of Payments

I. INTRODUCTION

RECENT DEVELOPMENTS in the U.S. balance of payments have raised a number of questions about the future of the dollar and of the U.S. economy. Central to many of these issues is the suggestion that a fundamental change has occurred. Does the disappearance of the traditional current account surplus signify a decline in the relative position of the U.S. economy? Is this a qualitative change that alters the rules of the international economic system as we have known them?

My tentative conclusion is that there is little evidence of a fundamental change in the behavior of the balance of payments accounts. In qualitative terms, what has happened recently is roughly what we should expect to have happened given the recent economic circumstances. Factors that help explain the balance-of-payments variations of the past decade still explain the recent developments just about as before.

As I see it, the deterioration of the U.S. trade surplus during the first half of 1971 appears to be partly a transitory phenomenon which can be attributed to the fact that the U.S. economy was in a period of strong recovery, while the European and Japanese economies were slackening. Part of the explanation for the official settlements deficit lies in the rate of growth of the money supply during the first half of 1971, which was especially large by historical standards even in relation to the rate of growth of total output.

Before discussing the analysis it is important to carefully distinguish short-term problems from long-term problems. What may happen in a few weeks or months may essentially be unrelated in a causal sense to the longer term trends in our balance of payments. Speculation and other phenomena may distort the underlying

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data for short periods of time, but nonetheless not alter the permanent relationships.

II. CONCEPTUAL BACKGROUND

From a theoretical point of view, we can think of any single economy in terms of three basic markets—a goods market, a financial capital market, and a money market. It is a basic proposition of general equilibrium (Walras' law) that if our economy is in equilibrium in any two of the three markets, it must also be in equilibrium in the third. For example, if an economy is precisely satisfied at going prices with its flow of goods and its net holdings of financial capital, then it follows that it must also be satisfied with its holdings of money. If this were not so, then the economy would be willing to give up financial assets and/or goods in order to acquire additional money balances. But I have already postulated that it neither wants to give up nor to acquire financial capital or goods at going prices, so that the money market—like the other two markets—must be in equilibrium.

Turning to a group of economies linked together by pegged exchange rates, let me analyze the impact of various kinds of disturbances on the international flows of goods, financial capital, and money.

Suppose, for instance, there is an exogenous increase in the U.S. money supply. This will lead to an excess demand for financial capital and goods. The public, in attempting to acquire more goods, will precipitate an incipient price rise in the market for goods. Since the exchange rate is pegged, foreign producers, seeing a tendency for prices to rise in this market, will wish to bring more goods into the United States. At the same time, domestic consumers seeking out the lowest prices will turn to foreign markets and demand more imports. As a result, domestic imports will increase. On the other hand, when American producers see the incipient price increases at home, they will seek to sell more at home and less abroad. Likewise, foreigners who purchase goods from this market will reduce their purchases as a result of the price rises. As a result, exports will decrease.

With an increase in imports and a decline in exports, the current account will deteriorate. This deterioration reflects the exchange by Americans of the excess money balances for goods. Without going into details, it is natural to expect a similar change in the international market for financial capital.

Let me restate this result in terms of an integrated and unconstrained world economy: an autonomous increase in the domestic money supply of one country will lead to an increase in the net quantities of goods and financial capital purchased from abroad, continuing until the domestic economy is back in equilibrium.¹ The balance of payments will deteriorate by the amount of the net purchases of financial capital and goods.

Looking at this process from the point of view of other countries, foreigners

¹If the country were sufficiently small relative to the rest of the world, there needn't be any significant changes in the world rate of interest or world prices of goods.

receive domestic money balances for their financial assets and goods, and will convert their newly acquired money balances into their own currency denominations. This requires that they take their newly acquired money balances and exchange them for local currency. Either the domestic central bank will lose foreign exchange reserves, or foreign central banks will tend to accumulate claims on the domestic central bank. Either way, a balance-of-payments deficit occurs domestically, and a corresponding surplus overseas.

The example taken above can be turned on its head. If a country has an incipient excess demand for money, its balance of payments will improve.

Now consider the case of an excess demand for goods matched by an excess supply of financial assets. In these circumstances, the overall balance of payments need not change. Similarly, an excess supply of goods matched by an excess demand for financial assets leaves the overall balance of payments unchanged. The improvement or deterioration in the current account will be matched by an opposite movement in the capital account.

III. EMPIRICAL EVIDENCE

In spite of the abstractness of the analysis, these relationships lend themselves surprisingly well to the available data. I have plotted a few graphs which I hope will illustrate my conclusions.

For instance, standard economic reasoning suggests that times of excess demand for goods will be times of relatively rapid real growth. In terms of international markets, a time of excess demand for goods in the United States will also be a time when the United States is growing more rapidly relative to the rest of the world than usual. Using the analytic framework described here, therefore, the difference between the U.S. growth rate and that of foreign countries should be closely related to the U.S. current account surplus (or, alternatively, the foreign current account deficit).

Figure 1 shows that the association is positive and strong. The implication of this relationship is that an increase in the U.S. rate of growth is associated, *ceteris paribus*, with a deterioration in our current account balance. Likewise, an increase in the average rate of growth for all foreign countries, *ceteris paribus*, is associated with an increase in the U.S. current account surplus.

As mentioned earlier, the analytic framework also predicts an excess demand for goods matched (in part) by an excess supply of financial assets, and vice versa. This implies that the current account surplus and the above-the-line capital account deficit should tend to move together. Figure 2 provides striking confirmation that this relationship does, in fact, hold.

According to this graph, a one-dollar increase in the U.S. current account surplus is associated with roughly a one-dollar increase in the U.S. capital account deficit, and vice versa. The implication is that improvements and deteriorations of the trade balance are, on average, roughly offset by the capital account.

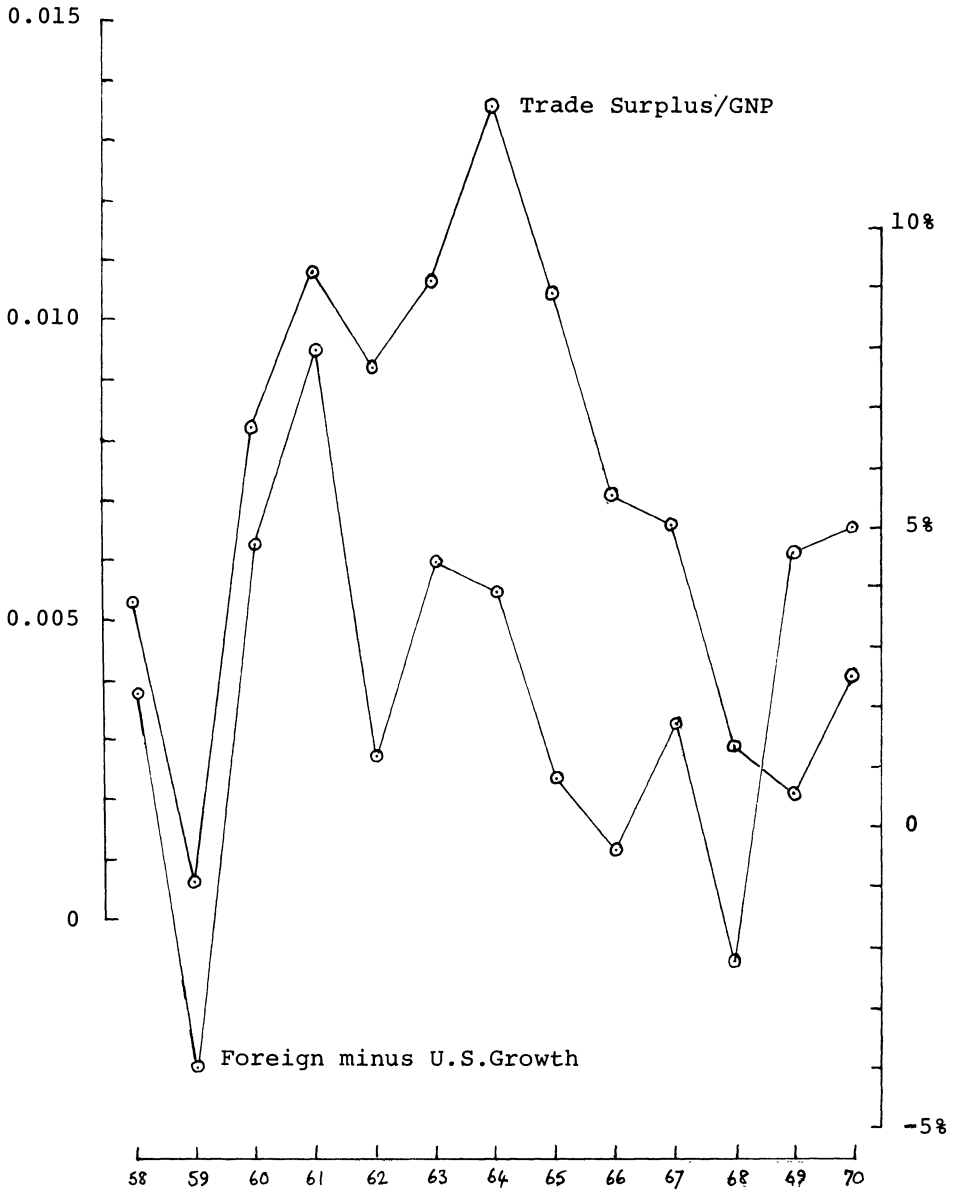


Fig. 1 The U.S. Trade Balance and Relative Growth. Ratio of U.S. Current Account Surplus to U.S. GNP (left side); Foreign Rate of Growth Minus U.S. Rate of Growth (right side).

One important assumption implicitly underlying the current analysis of the balance of payments is the role of the U.S. dollar as a foreign asset both officially and privately. One of the major roles of the United States during the postwar period has been to supply international reserves and international money to the

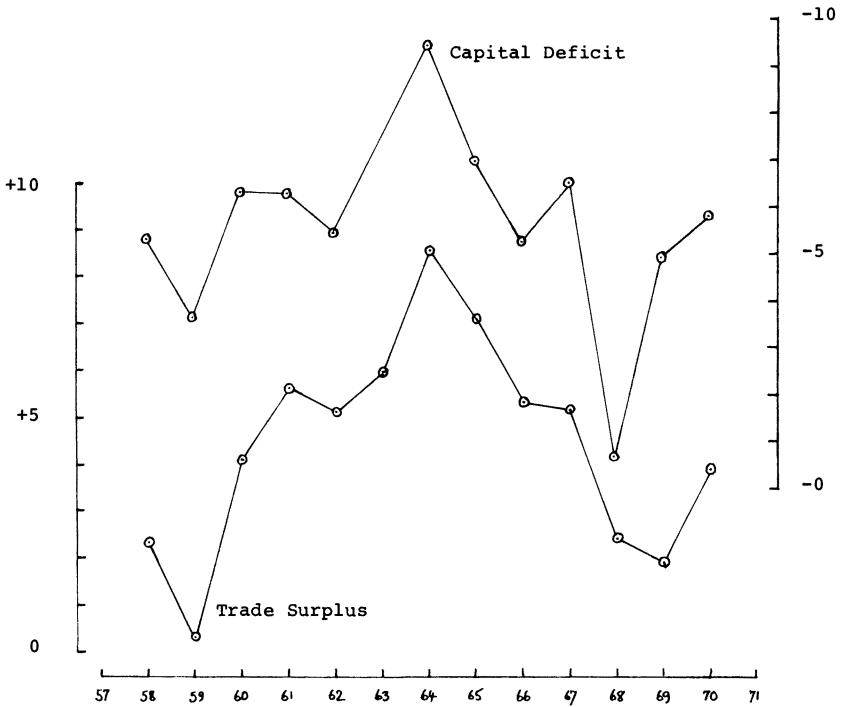


Fig. 2 U.S. Trade Surplus and above-the-line Capital Account Deficit. U.S. Current Account Surplus, \$ billions (left side); U.S. above-the-line Capital Account, \$ billions (right side).

convertible-currency world. The function of the U.S. dollar as an international reserve asset is well known, its function as an international currency for the world private sector is less often noted but is of great importance.

In order to show the importance of the U.S. role as a supplier of world liquidity, we need only look at the composition of foreign assets held in the United States and compare that with the composition of U.S. assets held by foreigners. (See Table One.) In 1969, U.S.-owned long-term assets located abroad were roughly four times greater than U.S. short-term assets. For foreign-owned assets located in the United States, however, the short-term component was about equal to the long-term category. Over the nine-year period 1960-1969, U.S. short-term liabilities to foreigners increased by over \$22 billion.

In the most fundamental sense, the provision of liquidity to foreigners, especially private foreigners, is a major United States export. This export can be thought of as the provision of banking services to foreigners. In this trade we evidently have a substantial comparative advantage.

The role of the U.S. as an international provider of banking services requires that changes in the U.S. money supply be thought of as basically supply-induced changes. Although the framework of our general analysis of the balance of payments would not be materially affected if we assumed that the money supply was

TABLE 1
The U.S. Position Vis-à-Vis the Rest of the World
(Billions of U.S. Dollars-Book Value)¹

	End-of-Year			
	1960	1965	1968	1969
<i>U.S. Assets</i>	\$85.8	\$120.5	\$146.8	\$157.8
<i>Long-Term</i>	<u>61.4</u>	<u>94.8</u>	<u>118.1</u>	<u>126.7</u>
Private ²	44.4	71.3	89.6	96.0
Official	17.0	23.5	28.5	30.7
<i>Short-Term</i>	<u>24.4</u>	<u>25.7</u>	<u>28.7</u>	<u>31.1</u>
Private	5.0	10.2	13.0	14.1
Official	19.4	15.5	15.7	17.0
<i>U.S. Liabilities</i>	\$41.2	\$ 58.8	\$ 81.2	\$ 90.8
<i>Long-Term</i>	<u>18.7</u>	<u>28.7</u>	<u>45.1</u>	<u>45.9</u>
Private	18.4	26.4	40.4	41.0
Official	.3	2.3	4.7	4.9
<i>Short-Term</i>	<u>22.5</u>	<u>30.1</u>	<u>36.1</u>	<u>44.9</u>
Private	10.1	13.9	22.6	31.9
Official	12.4	16.2	13.5	13.0
<i>Net Worth</i>	\$44.6	\$ 61.7	\$ 65.5	\$ 67.0

¹ Like the entries on a firm's balance sheet, U.S. net worth and other figures are based on historical cost in the usual accounting sense. They are book value and not market value figures.

² These figures include some foreign currencies deemed inconvertible.

predominantly endogenous, the association between the official settlements balance and the change in the money supply would be positive and not negative.

Finally, the analysis implies that the U.S. overall balance of payments on the "official settlements" basis should be closely related to the excess demand for money in the United States relative to abroad.

The percentage rate of growth of GNP minus the percentage rate of growth of the domestic money supply was used as a proxy for the excess demand for money. Then the excess demand for money, so estimated, can be compared with the official settlements balance as a percentage of GNP. The comparison here is admittedly crude, but it does reveal an unmistakable relationship, at least in terms of fluctuations around trend, as shown in Figure 3. In eight of ten years, the two series moved in the same direction.

According to this graph, an increase in money supply relative to GNP is associated with a deterioration in the overall balance of payments. By the same token, a decrease in the money supply relative to GNP is associated with an improvement in the balance of payments.²

² These results also hold when the data are subjected to more formal analysis. For example, when U.S. net capital flows are expressed as a function of the current account balance, changes in the domestic money supply and excess money demand variables, the coefficient of the current account surplus was not significantly different from minus one, but significantly different from zero. All of the money demand coefficients were significant, of the proper sign, and *a priori* reasonable. The estimation period for this regression was 1958-67, and the data were quarterly. See Arthur B. Laffer, "International Financial Intermediation: Interpreta-

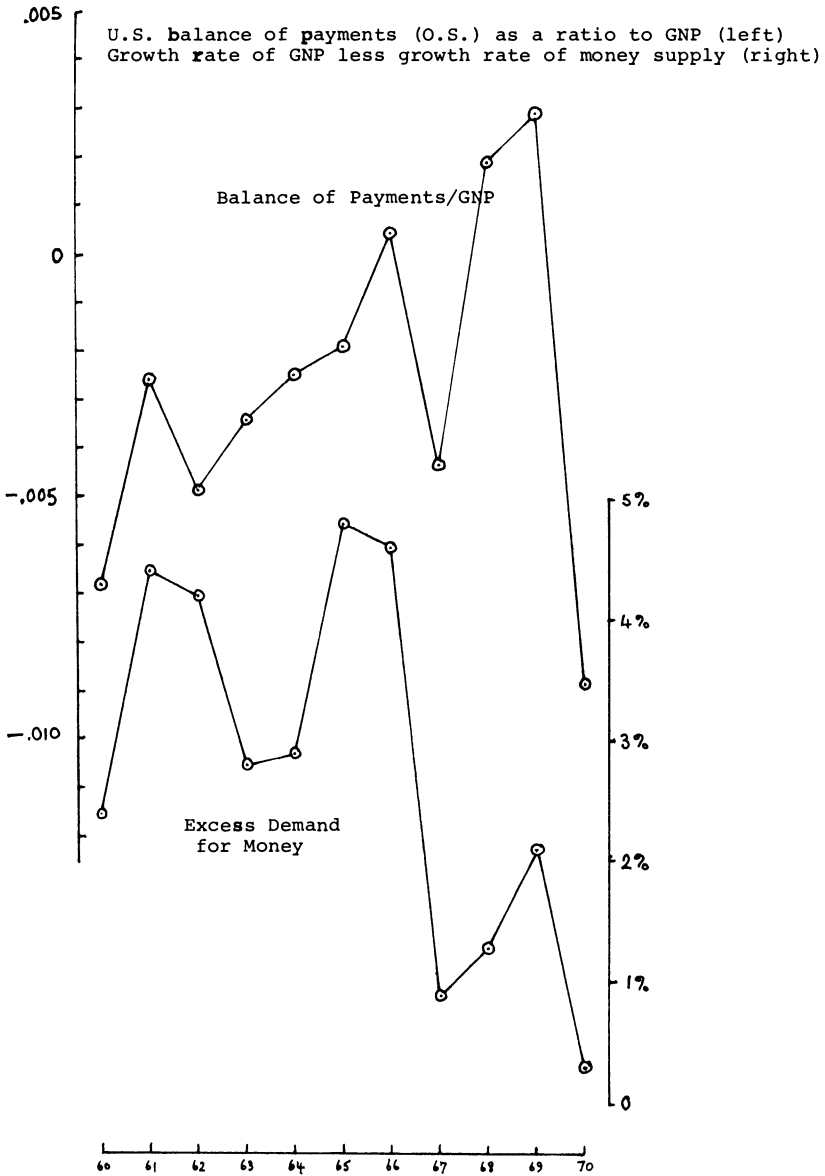


Fig. 3 The Balance of Payments and the Excess Demand for Money.

tion and Empirical Analysis," in a forthcoming volume on capital mobility to be published by NBER.

In another paper which analyzes the postwar convertible-currency countries—An Anti-Traditional Theory of the Balance of Payments (Mimeo 1970)—again these results obtain. In this paper, changes in the trade balance as a percentage of GNP are significantly negatively related to changes in the relative rates of growth. Likewise, changes in official reserves as a percent of GNP are again positively and significantly related to changes in the relative rates of growth.

IV. AN ANALYSIS OF RECENT EVENTS

Turning to the events subsequent to the beginning of 1969, it turns out that the general relationships which I described earlier have continued to operate. In the first three quarters of 1969, the United States, by historical standards, was growing quite fast *vis-à-vis* the rest of the world (although still slower in absolute terms). In the last quarter of 1969 and the first quarter of 1970, the United States was growing far more slowly than the rest of the world. By the last three quarters of 1970, U.S. growth had improved substantially from the immediate preceding period, though it was still much slower than growth abroad. Finally, during the first two quarters of 1971, the United States was growing faster than the rest of the world—for the first time over the 1969-71 period.

As is apparent from Figure 4, the difference between the U.S. and foreign growth rates continues to be closely related to the U.S. merchandise surplus. (U.S. net exports are also closely related to the growth differential, although the relationship is not quite as precise.) In light of all of the measurement and timing problems inherent in these data, the closeness of fit is really rather surprising. It is also surprising in view of the simplicity of the relationships which I am postulating, as well as the fact that differences in price levels and exchange rates have been ignored completely.

Perhaps the most important observation I can make is that it is difficult to perceive any substantial deterioration in this relationship in the most recent periods.

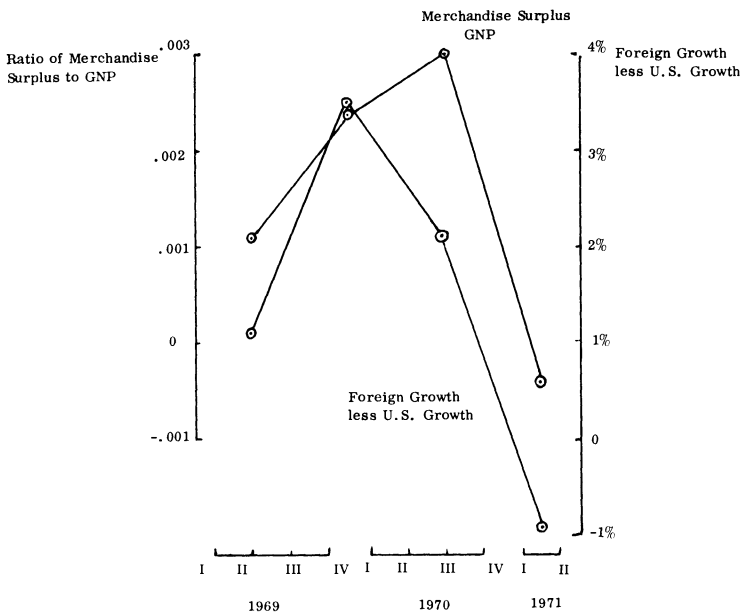


Fig. 4 The U.S. Trade Balance and Relative Growth 1969-1971.

From these data, the extent to which the U.S. and foreign economies are out of phase goes a long way in explaining our current merchandise trade position. Looking to the future, when foreign growth rates once again rise *vis-à-vis* the U.S. growth rate, we can expect a strengthening of the U.S. merchandise balance.

In Figure 5, I have plotted my proxy variable for the excess demand for money against the official settlements balance as a percent of GNP.

Here, again, it is apparent that the relationship is close for the most recent as for the earlier period. As before, it is difficult to perceive any substantial tendency for this relationship to deteriorate with the mere passage of time. High rates of growth of the money supply are, *ceteris paribus*, closely associated with large official settlements deficits and vice versa. Also high rates of U.S. growth relative to foreign growth tend to be associated, *ceteris paribus*, with small official settlements deficits or large surpluses. Combining both the rate of growth of the U.S. money supply and the difference between foreign and U.S. growth, we find that their combined effect is closely related to the official settlements deficit.

The closeness of these relationships can only be described as surprising when we consider how many other factors influence the balance of payments and how many measurement problems are present. The graphs I have presented point to an important overall conclusion. There is little evidence to suggest that new factors are at work in determining the balance of payments.

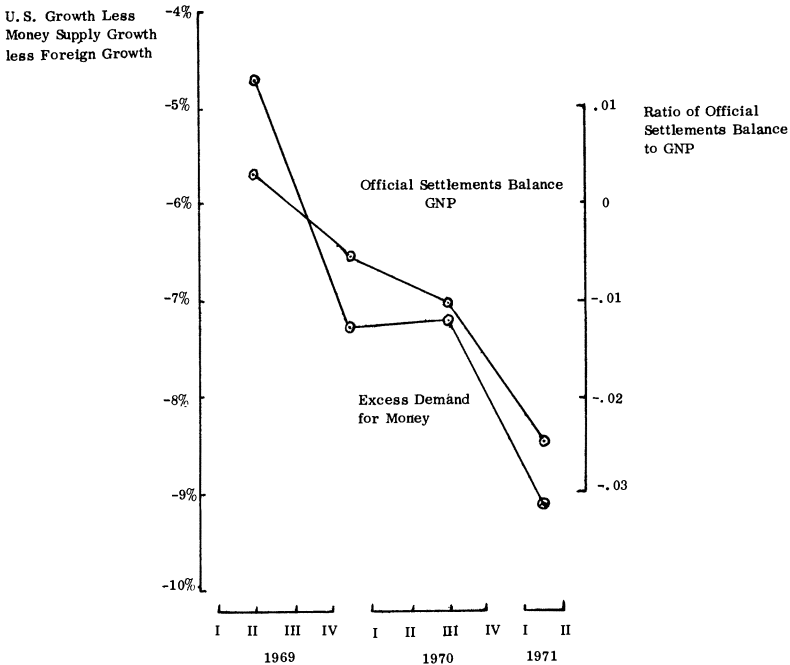


Fig. 5 The Balance of Payments and the Excess Demand for Money 1969-1971.

V. THE FUTURE

As we look into the future, we need to consider some structural changes that may be taking place. A fairly rapid net accumulation of foreign assets, for instance, will of course tend to exert a downward pressure on the U.S. trade balance. Over the years, U.S. citizens have accumulated large amounts of foreign-located assets. At the end of 1969, the book value, without regard to cumulative reinvestment, of the net U.S. position was reported as \$67 billion. The market value, including retained earnings, may well have been much more. It is an elementary and widely applicable proposition that expenditures by a group depend upon the income that group earns. A great deal of U.S. income comes from U.S.-owned foreign-located assets. As the share of U.S. income generated by foreign-located assets increases, we should expect goods imports to increase *vis-à-vis* goods exports.

Another and perhaps even more important factor to consider is the extent to which the rest of the world will continue to demand dollars in either their official or private balances. One of the major roles of the United States during the postwar period has been to help supply the world with international reserves and money. This function of the U.S. dollar was described earlier.

Any prognosis of the U.S. balance of payments must analyze the U.S. provision of banking services. If this lucrative business were curtailed, U.S. exports of goods and services would tend to rise (as foreign demands adjusted to the new combination of available goods and services) and imports of goods and services would tend to fall. The greatest impact, however, would occur in the capital accounts where net capital outflows would fall off.

VI. SUMMARY

In sum, the role of the United States as the world's banker has tended to reduce the recorded U.S. trade surplus. First, income from foreign investments induces a high rate of consumption, including consumption of foreign goods. Second, the gains from the production of international money (i.e., production of dollars held by foreigners) similarly tends to increase consumption of goods, some of which will be imported. To the extent the United States continues its dual role of net asset holder and of producer of money, we should expect less of an improvement in the current account surplus. To the extent either of these roles is curtailed, we should expect a long-term improvement of the current account.