

Capital Movements—The Tail That Wags the Dog

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Capital movements are small; exports and imports are large. Nevertheless, capital movements dominate the American balance of payments. Some of the implications, exemplified by the high level of the dollar in the face of a large current-account deficit, will be explored in this paper.

By “dominate” I mean, in a very broad sense, that the dollar exchange rate which keeps international payments in balance is primarily determined by the capital account. The evidence for this generalization is partly systematic, partly admittedly casual. For systematic evidence covering the postwar years, I refer to a paper by Klaus Friedrich and myself,¹ covering the period since 1950, and to work by Arthur Bloomfield covering most of the period from 1919 to 1939.² During both periods, the evidence predominantly indicates that a cyclical expansion in the United States, relative to the rest of the world, strengthens the U.S. balance of payments by increasing *ex ante* desires to move funds into the United States, and in conditions of floating exchange rates causes the dollar to appreciate. Naturally, these are broad tendencies rather than tight relationships. For the post World War II period, the case is particularly clear for the cyclical expansions (with respect to the rest of the world) of 1960–61, 1963–65, and 1975–77.

A similar impression is conveyed by simulations with macro models. Simulations with the Federal Reserve Board’s multi-country and MPS models show that the fiscal expansion that has occurred in the United States since 1982 was likely to lead to a rise in the dollar as indeed happened. A caveat, in both cases, however, is intuitively appealing: in the long run, fiscal expansion and the resulting current account deficit may lead to a decline in the dollar.

Finally, there is the evidence before our eyes today: in the face of a huge current account deficit, the dollar has risen significantly and so far has remained high. A simple and straightforward analysis of this phenomenon might run as follows. First, the U.S. current account deficit, projected at more than \$80 billion for 1984, reflects a \$100 billion negative swing in the non-oil trade deficit, offset by a \$20 billion positive swing in oil. Of the \$100 billion, perhaps one-quarter can be attributed to the cyclical expansion of the

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¹H.C. Wallich and K. Friedrich, “Cyclical Patterns in the U.S. Balance of Payments,” *Economies et Societes*, Tome XVI, No. 405, Avril-Mai 1982, pp. 481–502.

²Arthur I. Bloomfield, “The Mechanism of Adjustment of the American Balance of Payments,” *Quarterly Journal of Economics*, Vol. LVII, No. 3 (May 1943), pp. 333–377 *Capital Imports and the American Balance of Payments 1934–39* (Chicago: The University of Chicago Press, 1950.)

American economy relative to the rest of the world. This expansion, in turn, is in some degree the result of the fiscal policies pursued, mainly the large budget deficits. Of the rest of the current account deficit, some 10 to 15 percent may be attributed to the particular problems encountered by developing countries, especially Mexico, and the resulting weakness of U.S. exports to those countries. The rest, at least one-half of the total current account deficit, may be attributed to the rise of the dollar through the end of 1983.

Had the dollar not risen, there would still have been a substantial current account deficit, and this deficit would have had to be financed by capital inflows. But the rise in the dollar indicates that the deficit was overfinanced. In other words, the rest of the world's demand for dollars exceeded basic U.S. current account financing requirements. *Ex ante*, the desired inflow of capital into the United States, at an unchanged dollar level, was larger than the actual current account deficit allowed it to be *ex post*. Thus, demand and supply of dollar assets had to clear at a higher dollar level, part of the adjustment occurring subsequently through a higher current account deficit and part, presumably, through a reduction in the desired capital flow into the dollar.

The principal uncertainty about the present situation is whether and how long this strong demand for dollars will continue. If the excess demand function for dollars, at given exchange and interest rates and given the safe-haven advantages of the United States, should shift downward gradually, to the point where a more moderate current account deficit can be financed, the dollar also would drop moderately. If excess demand for dollar assets should become negative, the dollar would have to fall sufficiently to permit a surplus in the current account.

The questions here raised about the driving forces in the American balance of payments echo an old debate about the international transfer mechanism. Typically, the question examined was how an international capital transfer that for one reason or another had to take place would be effectuated in real terms. Under the fixed rate regime, it then was argued that the transfer would cause deflation in the country originating the transfer, whether on account of an international loan or reparations payments, while the opposite would occur in the recipient country. This would lead to a current account surplus in the first and a deficit in the second country, generating a real transfer. The capital movement was the driving force in this analysis.

Alternatively, it was sometimes argued that current account deficits arose in particular countries, for whatever reason, which then were financed with a loan or bond issue. The question whether the contractionary and expansionary effects of the financial transfer were of a magnitude sufficient to bring about the transfer, and whether the mechanism did not have undesirable side effects on employment and prices, could be set aside in this second formulation. Empirically, presumably either mechanism could be at work in a given situation—the capital account driving the current account, or the current account driving the capital account.

The Structure of the U.S. Balance of Payments

The thesis of the dominance of the capital account requires a brief look at the structure of the U.S. balance of payments. It consists of a current account, with its multiple subclassifications of a functional, commodity, and geographic kind, and the capital account. The latter distinguishes principally direct investment, portfolio investment, banking flows, and government transactions, differentiating between domestic and foreign residents. The gross flows generally far exceed the net flows in each category, i.e., there are sizable inflows and outflows in each category which, however, summed across all categories, must equal the balance of the current account, with sign inverted. When weighing the relative influences of the capital and the current account on the net balance of payments and the value of the dollar, it is important to bear in mind that for both the gross movements generally are much larger than the net. Their respective influences on the net balance of payments and the rate of the dollar must be viewed in terms of their gross magnitudes.

Since there are capital flows in both directions, in and out, it is clear that no particular category of transactions can be viewed as having a particular function in offsetting a current account imbalance, positive or negative. It is the totality of the transactions that either must adjust to the current account or, with a lag and with the help of exchange rate and income movements, cause the current account to adjust. Nevertheless, it is not impossible to distinguish at least in degree two categories of transactions: those that serve primarily to adjust to and finance the current account, and others that lead a life more of their own. The latter sometimes are exaggeratedly referred to as "autonomous." These at times may go in the wrong direction. In other words, they may add to the imbalance created by the current account, thus increasing rather than diminishing the financing job. Direct investment, for instance, although undoubtedly responsive to changing rates of return, probably has some degree of "autonomy" within the totality of capital movements. So, of course, do government transactions.

Banking transactions sometimes have been viewed as behaving autonomously. Large banking outflows during 1982 and the first quarter of 1983 have been viewed as adding to the financing needs of the U.S. balance of payments. In this light, they seem to be part of the problem rather than of the solution. There can be little doubt that some banking transactions have an autonomous character, for instance, a bank's decision to participate in a major LDC syndication, or a large takeover loan. For the most part, however, international operations of banks, both on the lending and the funding side, reflect interest rates. These, of course, reflect demand for credit in the U.S. and Euro markets interacting with the supply of deposits. If banks in the United States export capital, it is likely to be because the volume of nonbank capital flowing to the United States, reflecting portfolio adjustments, has exceeded the financing needs of the current account deficit plus other "autonomous" items. Some countervailing flows thus need to develop. Interest rates in the United States and abroad will move to levels which make it

profitable for the banks to initiate such movements.³

Bank flows have a further peculiarity. Since banks take only very limited exchange positions, foreign lending and borrowing by banks in the United States take place almost entirely in U.S. dollars. Their international flows are flows out of and into the geographic United States, but not out of and into the U.S. dollar area. That area includes, of course, the "Euro" dollar market in whatever continent or offshore island it happens to appear. Bank transactions recorded as balance of payments transactions, therefore, do not necessarily give rise to foreign exchange transactions. They may stay entirely within the dollar area and may remain without effect on the exchange rate of the dollar.

Exchange rate transactions that have an effect on the dollar rate may, of course, occur as a further consequence of lending and borrowing by banks in the United States. The nonbank borrower of dollars may not want dollars. He may, therefore, convert into other currencies, accepting the exchange risk or passing it on to whoever supplies forward cover. If he is a resident of another country, such conversion for business use seems quite likely. On the other hand, residents of foreign countries, especially large corporations, may conduct some part of their worldwide business in dollars. They may, for instance, keep part of their liquid assets in dollars, the dollar being an important trade and investment currency. They may adjust their portfolio of liquid assets and liabilities so as to maintain a constant dollar component, or perhaps a constant national-currency component, in the latter case allowing variations in the portfolio to occur principally in its dollar component. In such cases, capital movements out of the continental United States may involve no exchange transactions and no direct pressure on the dollar.

Of course, such transactions in dollars will have interest rate effects. These, in turn, may cause other market participants to alter the exchange composition of their portfolios. Lending by banks in the United States to their London branches, and further lending in dollars by these branches drives down the Eurodollar interest rate relative to interest rates on assets denominated in other currencies. This may cause sales of dollar assets against foreign currency assets. Funding abroad by banks in the United States may have the opposite effect. But it is clear that in all these cases a party, other than the bank, must be willing to take on the exchange risk. In short, conclusions drawn from the outward or inward movement of bank funds with respect to the financing needs of the U.S. current account and other components of the capital account, and with respect to resulting pressures on the dollar, must be viewed with extreme caution.

³In speaking of "banks in the United States," it should be noted that a not inconsiderable number of them are foreign banks. For balance of payments purposes, it is appropriate to lump together the U.S.-located offices of U.S. and foreign-chartered banks under a common heading, as the BIS statistics do. For an analysis of the international commitments of national banking systems, worldwide consolidation by country of charter is appropriate to establish "who owes whom."

A View from the Foreign Exchange Market

If the capital account is crucial in determining the value of the dollar, some reflection of this should be visible from the perspective of the foreign exchange market. What one would like to know, ideally, would be the volume and proportion of transactions related to goods and services transactions, and similarly for capital transactions. No data of this kind exist. For the New York foreign exchange market, the only statistics we have are provided every few years by the Federal Reserve Bank of New York through a survey which shows the total value of transactions, customer-related transactions, and interbank transactions.

Customer-related transactions account for only about 15 percent of the total of \$26 billion daily transactions in the spring of 1983. These may be importantly related to goods and services transactions, but can also reflect capital movements, or neither of the two. A large part of total transactions, presumably, is between residents rather than between residents and nonresidents. These transactions would not imply capital movements but only a shift of foreign exchange assets among residents. Many interbank transactions presumably are related indirectly to customer transactions, as dealers who took a position in meeting the needs of a customer cover this position through other dealers who in turn lay it off on others until the risk has been adequately spread around.

To the extent that transactions occur between residents and nonresidents, they conceptually represent capital movements. Each deal represents a gross or two gross flows—a nonresident acquiring or disposing of dollars—and a resident doing the opposite. The net is always zero. Positive or negative net movements can occur only as the counterpart of a customer transaction in which the customer covers an international purchase or sale of goods or services.

The daily turnover of \$26 billion at an annual rate amounts to about \$6.5 trillion, not quite two times the U.S. GNP and about 10 times the sum of annual U.S. exports plus imports. Of course, transactions in the New York exchange market may cover only a fraction of total U.S. current account transactions. Some may be financed elsewhere or outside exchange markets altogether. On the other hand, some exchange transactions may cover current account movements of other countries. If the gross inflows and outflows were known and were added up, they would undoubtedly cumulate to enormous totals. Dealers seem to reverse their positions possibly many times during a day. If in the face of a given piece of news a large section of the dealers should want to import or export capital *ex ante*, these *ex ante* moves too would be enormous. Even if a large part of foreign exchange transactions in this market should be among residents and hence not qualify as “capital movements,” the remainder is potentially large enough to swamp the day-to-day demand and supply of exchange from current account transactions. All this reflects the familiar dictum that exchange markets are asset markets that clear quickly if not instantaneously and, therefore, dominate markets for goods and services which clear slowly. It should be noted besides that in efficient markets prices can change without transactions.

Over longer periods of time, the daily back and forth of switching positions nets out to virtually zero. It can only be minimally reflected in the quarterly capital account data. Even quarterly flows are, of course, reversible at least in part, such as portfolio purchases and sales, or bank transactions in dollars that may reflect exchange transactions by their customers.

The U.S. International Investment Position

The impact of capital movements on exchange rates and interest rates must be seen against the background of total U.S. holdings abroad and foreign holdings in the United States, i.e., the gross international investment position of the United States. At the end of 1983, "recorded" U.S. claims amounted to approximately \$880 billion; "recorded" U.S. liabilities, including equities and direct investment, about \$750 billion. A current account deficit of \$80 billion in 1984 would wipe out much of the U.S. net international investment position of about \$135 billion at the end of 1983. On the other hand, the stocks are large in relation even to the enormous annual portfolio adjustments and ensuing flows. That suggests that demand for claims on and liabilities to the United States could be elastic enough to cope with even an \$80 billion change without extreme changes in interest rates and exchange rates, provided there are no major changes in the market's overall perception of the dollar.

There may be a legitimate doubt about the existence of even the modest \$135 billion net investment position of the United States at the end of 1983. This statistic ignores the statistical discrepancy in the balance of payments that has accumulated to \$100 billion over the last four years, and to \$133 billion starting in 1970. Normally, the discrepancy, if its sign is positive, is interpreted as an unrecorded capital inflow. This seems plausible on the assumption that the current account, with all its defects, is more accurate than the capital account. By adding the cumulative discrepancy since 1970 to foreign claims on the United States, the net position at the end of 1983 is essentially reduced to zero. Further speculations about these data are invited by the appearance of a worldwide excess of current account deficits over surpluses, of about \$74 billion in 1983. Allocation of a share in this number to the U.S. current account, perhaps proportionate to the U.S. share in world trade of about 20 percent, would improve the current account by about \$15 billion in 1983. No refinement of the data is likely to modify significantly any conclusions one might want to draw from the unadjusted data.

The Impact of Capital Imports on the U.S. Economy

In addition to affecting the exchange rate, the inflow of foreign capital influences interest rates in the United States. The excess demand for dollar assets is brought into balance *ex post* with supply by some combination of a higher dollar and a lower U.S. interest rate. Together these two discourage the purchase of dollar assets. Real interest rates in the United States are regarded as high while the dollar by many is regarded as overvalued. This

would seem to suggest that most of the impact of the foreign demand for dollar assets has been on the exchange rate, with less of an impact on interest rates. This presumption is supported, in some degree, by the possibility that foreign buyers of dollar assets have capitalized a large real interest rate differential in favor of the dollar over a considerable number of years. A real interest rate differential of 3 percent, for instance, compounded over 10 years would justify a value for the spot dollar 34 percent higher than the investor might think it would be worth 10 years from now. In other words, the investor could accept a drop in the dollar of 3 percent for 10 years running and still break even.

One may reasonably surmise that a given inflow of foreign funds into dollar assets could move the dollar exchange rate more easily than dollar interest rates. Nevertheless, given the modest gross and net saving of the American economy, an annual inflow of \$80 billion, as may be ahead for 1984, must be expected to influence interest rates and rates of return generally in the United States. The inflow would amount to about 40 percent of the budget deficit, and to a good deal more, in the short run, than the prospective "downpayment" on budget reduction in the early years. The view that interest rates are determined only by the money supply and not by demand for and supply of savings, which was characteristic of early Keynesian thinking and today has reappeared in some non-Keynesian quarters, was found unpersuasive during the debate over Keynes's *General Theory* and remains so today.

One might inquire whether the capital inflow today is financing primarily private investment in the United States or the federal deficit. Investment has been strong during this recovery. Its relation to GNP has been at approximately its recent historical level. The new demand for savings has come from the federal deficit. In that sense, one might conclude that the budget deficit is the marginal item, to the financing of which the capital inflow has contributed.

In a more meaningful sense, this conclusion is not plausible. Should the capital inflow end, i.e., should the current account return to balance, it is not the budget deficit that would be crowded out. The conclusion is virtually unavoidable that it would be private investment, unless there should be a remarkable upsurge of saving. Presumably this crowding-out would have to occur partly through a rise in interest rates and perhaps also through a decline in aggregate demand.

The counterpart of a decline in the capital inflow would be a diminished demand for dollar assets on the part of foreigners. Conceivably this could take the form not only of a cessation of net purchases, but of an effort to sell existing holdings. In the aggregate, foreigners, of course, could not effect any change in their investment position that was not consonant with the state of the current account. To enable foreigners to effect net withdrawals would require the current account to go into surplus, or residents to repatriate foreign holdings. But before that happened, sales of interest-sensitive dollar assets and unavailing efforts to dispose of dollar assets, could substantially depress the dollar and possibly raise real interest rates. Given the heightened inflation expectations that might flow from a declining dollar, nominal interest rates

might have to rise significantly to produce real interest rates that would clear the market.

Analysis of this hypothetical case indicates the potential influence of the capital account on exchange rates and interest rates. Realization of such a case would be consistent with the premise stated earlier that the capital account of the United States tends to dominate the current account and to dominate the exchange rate. What would have to happen is a massive shift in investors' asset preferences away from dollar assets. In that case, the current account deficit would no longer tend to be overfinanced, and so cause the dollar to rise. It would be underfinanced, and the resulting fall in the dollar would tend to reduce or eliminate the current account deficit. Since the market has long discussed all these relationships and contingencies, it is hard to believe that major surprises should be ahead. Accordingly, exchange rate movements could reasonably be expected to be gradual. The outcome in good part will depend on the policies pursued by the United States, especially with respect to reduction in the budget deficit which the market probably expects with some degree of certainty.

Implications

The dominant role of the capital account in the U.S. balance of payments is an empirical regularity, likely to assert itself with greater or lesser force also in the future. Is it a good thing, a bad thing, something we must accept or that we can modify?

Since the role of the capital account reflects to some extent the role of the dollar as a reserve currency, there is not much that we can do about it. Certainly, we should resist the temptation to modify that role by some form of capital controls. Since the United States could hardly control the movement of the dollar in the Euromarket, any such control would have to be imposed by foreign countries. It is very much to be hoped that this idea will continue to be rejected.

As to the benefits and costs, the dominant role of the capital account seems to imply both. It is, after all, an advantage to be able to engage in domestic fiscal expansion without immediately being hit by a negative impact on the exchange rate, reinforced by capital outflows. No other country has been able to finance a large current account deficit such as ours as easily as the United States has been able to do in the last few years. It goes without saying that this performance is possible only in the presence of a firm monetary policy. Monetary plus fiscal expansion is a recipe for dollar depreciation, as our experience in 1978-79 showed. For many other countries, this combination has led to a vicious circle of inflation and depreciation.

The benefits of a strong capital account can become excessive, however, as we have seen. Too strong a capital inflow becomes an additional reason for deterioration of the current account. This is an evident risk inherent in the United States' international financial position.

Finally, there is the risk that the volatility of capital movements will assert itself if the underlying condition is not remedied. A delayed reaction of this kind deprives the economy of the early warning that other countries would receive from the markets if they engaged in similar budget policies. The absence of the warning should not make us oblivious to the risk. Like most discussions of U.S. financial topics, this paper ends with the conclusion that we need urgently to act on the budget deficit.

Discussion

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It is a privilege to be invited to participate in this celebration of the Bretton Woods Treaty in this famous Victorian setting, and for several reasons. One is that both Robert Triffin and Henry Wallich, authors of papers for this afternoon's session, were members of my Ph.D Committee at Yale. Governor Wallich has had many occasions to comment on and grade my performance. This is the first opportunity I have had to comment publicly on his performance—and now I've learned he has been called to a meeting in Europe. The second reason I am pleased to be here is that while in high school and college, I spent much time hiking and skiing in these mountains. Some of you will associate New Hampshire with the motto of "Live Free or Die" on the license plates, or the Old Man in the Mountains, or Daniel Webster; for me, however, the dominant association is home.

The first section of this comment summarizes Governor Wallich's fiscal theory of the balance of payments. The second section discusses four aspects of this theory for the foreign exchange value of the U.S. dollar. The third section considers the policy options toward those international capital flows that "wag the tails" of the domestic economies.

Section I

Governor Wallich combines an observation about a price, the foreign exchange value of the dollar, and two quantities, the U.S. current account deficit of \$80 billion and the U.S. fiscal deficit of \$180 billion, to develop a fiscal theory of the balance of payments. His story is that the U.S. fiscal deficit—or the combination of U.S. fiscal expansion and monetary contraction—has led to a surge in the U.S. interest rates sufficiently high to induce foreigners to increase their purchases of dollar-denominated assets. The increase in the exports of U.S. securities displaces the exports of U.S. goods; exports of commodities are "crowded out" by exports of dollar-denominated securities. The counterpart of a larger U.S. capital account surplus is a larger U.S. current account deficit; the move of the capital account into surplus has driven the current account into deficit.

The increase in U.S. economic activity—the income effect—explains only a modest part of the shift from a U.S. current account surplus of \$5 billion in 1981 to a U.S. current account deficit of \$80 billion in 1984. The larger part of this shift must be explained either by the price effect, where the change in relative prices is induced by the appreciation of the dollar, or by autonomous factors, such as the impact of the debt crises on the ability of Latin American countries to buy U.S. goods. The reduction in the U.S. cur-

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rent account surplus is "overfinanced" at the prior exchange rate, which leads to an appreciation of the dollar in the foreign exchange markets. The surge in the foreign demand for dollar securities is a response to the impact of the large U.S. fiscal deficit on U.S. interest rates.

The large U.S. current account deficit results in the spectacle that the richest nation in the world is importing some of the savings of many poorer nations. The United States incurred current account deficits of about \$15 billion both in 1977 and again in 1978; these deficits, however, were significantly smaller than the prospective 1984 deficit. And if the United States continues to incur current account deficits for the next several years at anywhere near the 1984 level, then it will become an international debtor. The change in the U.S. net international investment position would be sharper than that experienced by any other major international financial power; even after the shock of World War I, Great Britain remained an international creditor.

Section II

Several different issues are raised by the fiscal theory of the balance of payments. The first is whether the theory is logically consistent. The second is whether the data used to determine the external impacts of the fiscal balance are correct. The third is why the change in the fiscal balance should have such a large impact on the foreign exchange value of the U.S. dollar. And the fourth involves the possible changes that might lead to a decline in the foreign exchange value of the dollar.

Governor Wallich's fiscal theory of the balance of payments may be contrasted to the monetary theory of the balance of payments so closely identified with the Jacques Polak of IMF and some of my Chicago colleagues. The monetary theory of the balance of payments states that a country cannot control its payments balance, but only the domestic component of the reserve base. Thus if the intended growth in the domestic component of the reserve base is smaller than the increase necessary to satisfy the domestic demand for money, the country will incur a payments surplus, with the consequence that the international component of the reserve base will increase. The fiscal theory of the balance of payments is that changes in the size of the fiscal deficit lead to changes in the payments balance or the exchange rate through their impacts on domestic interest rates and on the capital account balance. Today the strong dollar is attributed to the large U.S. fiscal deficit, even though traditionally large fiscal deficits have been associated with weak currencies. Large fiscal deficits lead to increases in interest rates; in some cases, as in 1977 and 1978, higher interest rates on dollar assets are associated with a weaker dollar, and in other cases, as in 1981 and 1982, higher interest rates are associated with a stronger dollar. So the fiscal theory needs a sufficient condition if changes in the fiscal balance are to have predictive value about the strength or weakness of a currency in the foreign exchange market. If fiscal expansion leads to an increase in the domestic price level at a given constant rate of 5 or 10 percent a year, then domestic currency might depreciate at a constant rate of 5 or 10 percent a year; at least that is the prediction im-

PLICIT in the purchasing power parity concept. One plausible sufficient condition is when change in the fiscal balance has a larger impact on domestic interest rates than on the domestic price level. Thus if a given fiscal expansion causes a larger increase in percentage points in the domestic interest rates than in the domestic price levels, foreign capital will be attracted to domestic securities and domestic currency will appreciate.

The fiscal theory of the balance of payments can be related to two different models of international capital movements. In both of these models capital flows from low interest rate countries to high interest rate countries. Traditionally financial capital flows from the wealthier countries, since interest rates usually are lower in the wealthier countries than in the poorer countries. Capital flows from Great Britain in the decades before World War I, and from the United States in the 1920s, the 1950s, and the 1960s conform with this pattern. So do capital flows to countries like Canada.

The second model of capital movements represents stock adjustments to changes in anticipated returns in different countries because of a variety of shocks, both real shocks like the oil price increase and wars, and monetary shocks like changes in relative price levels or interest rate levels or anticipated exchange rates. Such shocks may reverse the direction of the capital flows by reversing the traditional pattern of interest rate differentials. Because of constraints on changes in the current account balance, the stock adjustment in rates of returns may not be completely effected, as it usually is in domestic financial markets. Capital flows to the United States in the last several years seem more nearly consistent with the second model, since the United States has been subject to a credit market shock. And shocks by definition are transient events. The turnabout in the U.S. current account balance reflects that U.S. interest rates are unusually high relative to the current and anticipated U.S. inflation rate.

The second issue involves the data from the U.S. current account balance and the U.S. fiscal balance used to illustrate the fiscal theory of the balance of payments. The search for accurate data for analytical purposes encounters the problem that both balances represent the difference or residual between two very large groups of payments and receipts. The data recorded in the U.S. balance of payments are a poor proxy for the data necessary to predict changes in the foreign exchange value of the dollar for two reasons. One involves the errors in measurement of the payments balance. From 1981 to 1984 the change in the U.S. current account balance was \$85 billion. Over this same period, the excess of the sum of current account deficits for all countries over the sum of the current account surpluses for all countries increased from \$50 billion in 1981 to \$110 or \$120 billion in 1984. The size and the rapid increase in the excess of the sum of the current account deficits relative to the sum of the current account surpluses mean that it is risky to place much confidence in the reported value for the current account balance data. Governor Wallich believes the U.S. share of this measurement error should be related to the U.S. share of world trade and hence would reduce the projected U.S. current account deficit by \$15 billion. However, this adjustment should probably be based on the U.S. share of investment income flows and might be as large as \$30 or \$40 billion on the assumption that the

investment income of U.S. residents (and near U.S. residents) is greatly understated. Hence the change in the U.S. current account balance from 1981 to 1984 might be nearer \$50 or \$60 billion rather than \$85 billion. Moreover some changes in the U.S. current account balance are independent of changes in U.S. fiscal policy. Since 1981 the current account deficits of the Latin American countries have declined by \$30 billion; the counterpart of this change has been an increase in the U.S. current account deficit of \$15 billion. Similar adjustments might be made for changes in the trade balances of Korea, Taiwan, and other Southeast Asian countries. The implication of these adjustments is that the change in the U.S. current account balance that should be explained by the price term, the change in the exchange rate, is significantly smaller than the reported change in current account balance.

Several adjustments might be made to the \$180 billion estimate of the fiscal deficit to develop a better estimate of the impact of the changes in the fiscal balance on the foreign exchange value of the dollar. In 1981, the U.S. fiscal deficit was \$60 billion, so the increase in the fiscal deficit from 1981 to 1984 was \$120 billion. One adjustment involves focusing on the cash flow aspect of the U.S. fiscal deficit rather than on the accounting measure of the fiscal deficit; only the cash flow deficit estimate requires financing. The difference between these two estimates reflects the acquisition of U.S. government securities by various trust funds and by the Federal Reserve; in 1981 their holdings increased by \$20 billion and in 1984 by \$30 billion. A second adjustment involves integrating the cash flow estimates of state and local governments with those of the federal government, which makes extensive transfers to the state governments. And the income expansion associated with large federal deficits leads to an increase in the tax revenues of the state and local governments. This adjustment reduces the size of the fiscal deficit by \$30 billion. As a result of these adjustments, the U.S. fiscal deficit has increased by \$80 billion since 1981 rather than by \$120 billion.

The third issue is why an increase in the adjusted fiscal deficit of \$80 billion might be related to the increase in the adjusted current account deficit of \$50 or \$60 billion and an appreciation of the U.S. dollar of 30 percent in terms of the German mark and the Japanese yen. As the U.S. economy has expanded in the last several years, the demand for loanable funds has increased relative to the supply. And while the increase in the fiscal deficit may have triggered the economic expansion, the latter has led private firms and homebuyers to make more investments. Consequently the total increase in the demand for loanable funds may be several times larger than the increase in the fiscal deficit.

Interest rates on dollar-denominated securities have risen to induce an increase in the supply of loanable funds both from U.S. and foreign residents. These two groups of savers differ in two significant ways—one is that tax treatment of interest income differs; the marginal foreign investor is probably subject to a significantly lower tax rate on dollar interest income than the marginal domestic investor. The implication is that the increase in the after-tax return to foreign residents from an increase in interest rates on dollar assets is larger than the increase in the return to domestic investors. The second difference is that foreign investors are concerned about the possi-

ble exchange loss from the change in the foreign exchange value of the dollar between the date when they buy dollar assets and the date when they sell these assets. These investors are likely to incur a loss on the foreign exchange transaction because interest rates on dollar assets will be lower when they shift from dollar assets into foreign assets.

The larger the interest elasticity of the supply of funds from domestic residents relative to the interest elasticity of the supply of funds from foreign residents, the smaller the capital inflow and the change in the U.S. current account balance associated with the increase in the fiscal deficit and the economic expansion in the United States. To the extent that the increase in interest rates on dollar assets associated with the economic expansion attracts foreign investors, the increase in dollar interest rates is smaller than it would otherwise be. However, foreign purchasers of dollar securities must bid dollar funds away from foreign purchasers of dollar goods; competition between these two groups for dollars in the foreign exchange market leads to an increase in the foreign exchange value of the dollar.

Viewed from Western Europe and Japan, the investors attracted to dollar securities must first buy dollars in the foreign exchange market, which induces a depreciation of their currencies; these countries generate a larger current account surplus to finance the flow of capital to the United States. The sharp increase in the foreign exchange value of the dollar thus reflects three factors—the low interest elasticity of the supply of domestic savings in response to the increase in interest rates on dollar securities, the premium that foreign investors require for acquiring the exchange risk associated with dollar assets, and the premium that foreign investors must pay to acquire dollars in competition with foreign buyers of U.S. goods.

One additional factor should be noted. The more eager foreign investors are to acquire U.S. securities, the smaller the increase in U.S. interest rates required to close the U.S. savings gap. Thus an autonomous increase in the foreign demand for dollar assets, perhaps attributable to the “safe-haven” effect, could lead to an increase in the foreign exchange value of the dollar and a decline in U.S. interest rates at the same time. The low interest elasticity of the supply of domestic saving in response to higher U.S. interest rates explains why the increase in the federal fiscal deficit has had such a sharp impact on the foreign exchange value of the dollar.

The fourth issue involves the types of changes that might lead to a depreciation of the dollar in the foreign exchange market. An autonomous increase in the U.S. saving rate would lead to a decline in interest rates on dollar assets. So would a decline in dollar borrowing by business firms or households or the government in the United States. If the foreign demand for dollar assets should decline while the U.S. business expansion continues, then U.S. interest rates would rise while the foreign exchange value of the dollar falls.

One consequence of the appreciation of the dollar is that U.S. production in the tradable goods sector is relatively depressed in the context of the economic expansion. And the slower growth of income in this sector means a lower level of U.S. saving. Hence the inflow of loanable funds from abroad means a reduced supply of domestic loanable funds because of the increase in

the foreign exchange value of the dollar leads to reduction in the level of income (or the rate of growth of income) in the tradable goods sector, and hence to a reduction in the saving by factors in this sector. Thus the net increase in the supply of loanable funds is smaller, perhaps significantly smaller, than the adjusted change in the current account balance. As a result the effective interest cost on funds loaned to foreigners may be significantly higher than the net interest payments.

Governor Wallich's fiscal theory of the balance of payments admirably explains the surge in the foreign exchange value of the dollar, and the turn-about in the U.S. current account balance.

Section III

The concern that the "tail" of the capital account wags the exchange rate or the domestic economy has been traditional in international finance, although the phraseology has changed. At one time the concern was whether speculation in the foreign exchange market was destabilizing or stabilizing. Thus in the early 1920s an increase in the demand for foreign securities by French residents depressed the foreign exchange value of the French franc and led to increased inflationary pressures in France. The sharp decline in the external value of the French franc reflected that French importers of foreign securities had to bid U.S. dollars and British pounds away from French importers of foreign goods in the foreign exchange market. The same concern is expressed by the question of whether the goods market stabilizes the money market when shocks occur, or whether instead the money market stabilizes the goods market; this is one argument in the traditional debate between the proponents of floating exchange rates and the proponents of pegged exchange rates in the foreign exchange market.

The tails have been more potent under the floating exchange rate regimes than under pegged exchange rates. The evidence is that the magnitude of the changes in real (or price-level adjusted) exchange rates has been substantially larger under the pegged exchange rate regime.

These versions of the similar story suggest economic welfare might be enhanced by measures to reduce the potency for the tails to wag the dogs. Several policy responses might be noted. One approach toward limiting the capital flows became embodied in the IMF Articles of Agreement; countries were permitted to use exchange controls to limit capital flows. Two different types of motivations were almost certainly evident in the negotiations. One was to permit use of exchange controls on current account payments as a temporary device during a postwar transition following the end of World War II. The second was to permit use of exchange controls on capital movements as a way to cope with the "vicious and virtuous circle." In such cases, the private interests of those moving funds internationally might not coincide with the public interest. However, several decades of experience suggest skepticism toward the efficacy of controls, especially since the borders among currency areas now are much more extensive than the national borders.

The second policy option to limit the incentive for the tails to be wagged

is to coordinate national macroeconomic policies. Policy coordination is rather like motherhood; there's little payoff in being asked to carry the negative side of the debate. The arguments against policy coordination are much like those against currency unification. Thus if several national economies are subject to nonidentical shocks, then economic welfare may be enhanced if macropolicy is directed toward domestic economic objectives. The costs that can be attributed to the lack of policy coordination are extremely high in both economic terms and in foreign policy. Sharp changes in real exchange rates have significant costs to the domestic economy.

A third policy option involves official intervention in the foreign exchange market to limit the amplitude of movement of exchange rates in the foreign exchange market. Intervention by the authorities may be of limited effectiveness if the monetary impacts are not sterilized. Moreover, even then, intervention may be of modest effectiveness, unless the authorities can establish the credibility of their intentions to limit the movements of the exchange rate in the foreign exchange market. The authorities will tend to "lean against the wind," and the market may tend to lean against the authorities.

The fourth policy option is to return to some form of pegged exchange rate system. Capital flows under the floating rate system are responsive to the difference in interest rates relative to the anticipated change in the exchange rate. Frequently—although not always—the dominant factor in this equation is the anticipated change in the exchange rate. The authorities can reduce the anticipated return by committing themselves to maintain their parities. Paradoxically, it may be easier for the authorities to establish credibility about maintenance of the parities than about intervention. One reason for the success of the gold standard and of the Bretton Woods system in the 1950s and the early 1960s is that the commitment to parities lessened both the scope for currency speculation and for nationalist or inward-looking monetary policies. The tails became important only when the system began to unravel in the late 1960s. The reason that the tails appear more powerful under floating rate regimes than under pegged exchange regimes is that independent monetary policies have much less scope; a pegged rate system forces a commitment to policy coordination that may not be attainable under a floating exchange rate system.

The vision of those who were at Bretton Woods 40 years ago is that nationalist monetary or financial policies are expensive in terms of the international system. That vision has been lost.

General Discussion

Edward Bernstein agreed that international capital movements tend to dominate exchange rate movements, and he expressed dismay at the absence of a good theory of capital flows. Conventional theory suggests, according to Bernstein, that a rise in the U.S. interest rate relative to other countries' rates could induce large capital inflows and a rise in the foreign exchange value of the dollar. Yet recent massive U.S. capital inflows could not be explained entirely by the small interest rate differential in the United States's favor. Part of these inflows might have stemmed from the dollar's increase in value, which created an expectation of a further appreciation and induced more capital inflows.

Bernstein expressed doubt about a near-term fall in the dollar's value because of recent shifts in international borrowing and lending patterns. Traditionally, large industrial countries were the dominant sources of international capital while developing countries and the British Dominions were the dominant borrowers. Recently, oil-exporting developing countries have become significant net lenders. With Latin American developing countries no longer creditworthy and Japanese, Canadian, and several large Western European countries stressing current account surpluses, is not the U.S. capital market the only one that can readily absorb foreign capital inflows? That is, has not the world's saving and foreign investment environment changed enough to explain the dollar's strength and to suggest that the dollar's value is not likely to decline soon?

Aliber rejoined that an important difference between Bernstein's view and his own is that in the former foreign investors are eager to buy dollar-denominated assets while in the latter such investors must be bribed to accept these assets. That is, as the U.S. economy expands, the U.S. interest rate will rise sharply, according to Aliber, to reflect the additional premium necessary to induce foreigners to hold dollar-denominated assets.

Scott Pardee discussed the effects of inflationary expectations and the U.S. tax system on the U.S. interest rate. First, Pardee argued that inflationary expectations are still very strong, as evidenced by the recent surge in borrowing by firms for leveraged buyouts, acquisitions, and the like. Second, Pardee noted that foreigners do not enjoy the tax breaks on domestic interest payments that U.S. residents do. Consequently, a high real interest rate for U.S. loans to foreigners is consistent with a zero, or even negative, real interest rate paid by U.S. residents.

William Poole expressed surprise that Wallich paid little attention to the issue of efficient allocation of capital internationally. Poole suggested that high real U.S. interest rates and the strength of the dollar are consistent with a relatively high after-tax real rate of return on investments in the United States now, in contrast to the late 1970s. The seeming paradox is that the United States, a relatively mature economy which should have a low rate of return, is experiencing a high rate of return on investments, while developing countries are now experiencing atypically low rates of return.