



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

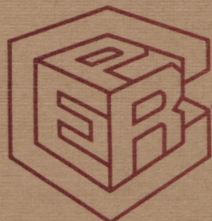
This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



CENTER FOR
ECONOMIC POLICY RESEARCH



GIANNINI FOUNDATION OF
AGRICULTURAL ECONOMICS
LIBRARY

NOV 11 1986



This work is distributed as a Policy Paper by the

CENTER FOR ECONOMIC POLICY RESEARCH

100 Encina Commons
Stanford University
Stanford, California 94305
(415) 329-1211

October 1985

CEPR Publication No. 56

**PROTECTIONISM AND THE MISALIGNED DOLLAR:
THE CASE FOR MONETARY COORDINATION**

by

Ronald I. McKinnon*

*Professor of Economics, Stanford University.

Additional empirical and theoretical support for the proposals advanced in this paper can be found in the author's recent book, An International Standard for Monetary Stabilization, the Institute for International Economics, (Washington, D. C.) and the M.I.T. Press, 1984.

I would like to thank Kenichi Ohno for his great help in preparing this paper.

Abstract

Since the early 1970s, floating exchange rates have been associated with international cycles of inflation and deflation with the United States as the epicenter. Random and essentially arbitrary exchange fluctuations have continually misaligned national price levels--culminating in extreme dollar overvaluation throughout most of the 1980s. In order to seal off domestic markets from these precipitate changes in foreign competitive pressure, a ~~workside~~ ^{worldwide} upsurge in protectionism has occurred--particularly in the United States.

But the international business cycle can be tamed with a better alignment of exchange rates if the principal industrial countries agree to coordinate their monetary policies. A set of rules is suggested for having the United States, Germany (representing the European bloc) and Japan symmetrically adjust their internal money growth rates so as to keep their exchange rates within officially announced target zones. The common price level would be stabilized through smoother growth in their joint money supply.

Only for the United States need such an agreement require a major change in the way in which monetary policy is currently conducted. By taking this more 'open-economy' approach, however, the U.S. Federal Reserve System can do a better job of stabilizing the American economy and the purchasing power of the dollar.

PROTECTIONISM AND THE MISALIGNED DOLLAR:
THE CASE FOR MONETARY COORDINATION

Without international monetary coordination, sharp exchange rate fluctuations are inevitable. Each national fiat money has no intrinsic value other than what the issuing government manages to establish. Thus, under floating exchange rates where countries are not obligated to follow a common monetary policy, international investors become very nervous. Portfolio managers must continually guess which fiat currency (including both bonds and transactions balances) will provide the best future combination of interest yield, convenience, and low price inflation.

Any political or economic "news"--say, an election or a new assessment of growth in the Gross National Product--might be sufficient for investors to switch their preferences from currency A to currency B (Frenkel and Mussa, 1980 and 1985). Because asset markets clear much faster than goods markets, A's exchange rate will then depreciate beyond its long run equilibrium, i.e., overshoot, until regressive expectations set in and restore portfolio balance. But this stabilizing speculative element is weak because national monetary policies remain so uncertain vis-a-vis each other.

Since floating began in the early 1970s, unexpectedly large changes in real exchange rates (deviations from purchasing power parity) have generated protectionist pressure--more in the form of quotas and other nontariff barriers (NTBs). A quota tends to insulate domestic prices of the protected good from continual changes in foreign competitive pressure arising from currency misalignments.

Superimposed on these large changes in relative currency values, there were two great worldwide inflations in the 1970s, and unexpectedly sharp deflation in the early 1980s. This cyclical instability in the world economy further increases the incentives of individual nation states to intervene to protect domestic producers in industry and agriculture.

Consequently, a stable international monetary standard is necessary if free trade in goods and services is to be preserved. Putting the matter into historical perspective, the surprisingly rapid progress of the GATT in the 1950s and 1960s in reducing trade restrictions now seems to have been made possible by the 1945 Bretton Woods agreement that committed the industrial countries to maintain "approved" par values for their exchange rates. In principle, these par values were to be easily adjustable, but in practice they were not. In fact, the system evolved into a fixed-rate dollar standard in which American monetary policy was imposed on other countries in a manner that fairly successfully stabilized the common (dollar) price level in terms of internationally tradeable goods.

Can an international monetary system with more stable exchange rates than those prevailing over the past decade and a half, and less violent cyclical fluctuations of inflation and deflation, be reestablished? Much hinges on how financial policy in the center country, the United States, is conducted. Consider first the immediate problem of the misaligned dollar.

Dollar Overvaluation in the Early 1980s

Nobody can deny that the great protectionist pressure that developed in the United States in the early 1980s. Nor, from 1981 through most of 1985 is there doubt that the extraordinary appreciation of the dollar against European currencies--and to a lesser extent against the Japanese yen--was the major force behind the protectionist momentum. From the overvalued dollar, America developed symptoms of a dual economy: buoyant output in the nontradeable sectors such as services of all kinds and military procurement, and depression in agriculture, mining and most of civilian manufacturing open to foreign competition.

However increased protectionism would have been no solution at all. Reneging on the long-standing American commitment to maintain free international trade would invite foreign retaliation, and undermine the economic basis for the postwar prosperity of the industrial world. In addition, restricting imports entering the United States--while international financial pressure in favour of the dollar remains unchanged--would reduce American demand for foreign currency and drive the dollar up further. American exporters would then be doubly hurt: through the higher dollar on the one hand, and because of higher dollar prices of importable inputs on the other.

But to thwart protectionism, the continual tendency towards financial imbalance between the United States and the industrial countries of Western Europe and Japan must be righted. The large U.S. fiscal deficit is commonly (and correctly) blamed for much of the trade

deficit--but it cannot explain why the dollar exchange rate got so far out of line. I hypothesize that monetary coordination among the United States, the European bloc, and Japan is the only practical way of first correcting dollar over (or under) valuation and then preserving longer-run price and exchange-rate stability.

The Fiscal Conundrum

However, the most common explanation of why the dollar became overvalued points to fiscal rather than misplaced monetary policy.

Huge budget deficits, which the Federal Reserve refused to monetize, increased interest rates on dollar assets in real terms--after future American price inflation is discounted. As capital was attracted from abroad in the early 1980s, the dollar was bid up in the foreign exchanges and "overshot" its long-run equilibrium until expected dollar depreciation offset the relatively high yields on U.S. government bonds and corporate securities. In the meantime, the unduly appreciated dollar depressed American exports and stimulated imports.

This conventional argument sees a monotonic chain of causation: from budget deficits to interest rates to the dollar exchange rate to the trade deficit. It originated in 1981 when U.S. interest rates rose sharply--in response to the projected Reagan budget deficits and monetary tightness by the Federal Reserve--and the dollar also rose strongly in the foreign exchanges. The implication is that the U.S. fiscal deficit must be largely eliminated before the dollar's overvaluation can be overcome.

The alternative view, developed below, suggests that monetary policy may be assigned to stabilize the exchange rate in the face of substantial shifts in fiscal policy. Trade deficits would still develop to match budget deficits even if the nominal exchange rate does not jump and "overshoot". One must distinguish the investment-savings imbalance (which determines the trade deficit) from whatever the exchange-rate regime happens to be.

For example, suppose the United States had been on a fixed nominal exchange rate when the large budgetary deficits began to develop. Then a deficit in U.S. trade, of the same order of magnitude we currently observe, would still have evolved--perhaps even earlier. The American business downturn of 1982 would have been less severe if the U.S. Federal Reserve System had been obligated to have less tight money in order to prevent the dollar from appreciating so precipitately. With better maintained domestic income, American imports would have been higher in the in the 1982-83 period.

The fundamental point is that, when capital is internationally mobile, nations will readily develop deficits or surpluses in the current account of the balance of payments under fixed exchange rates--as, say, under the late 19th century gold standard. At the present time, for example, the U.S. trade deficit will remain very large as long as the government fiscal deficit continues to force expenditures above income by creating a deficiency in saving throughout the American economy. A better aligned (lower-valued) dollar would, however, ameliorate the depression in American tradeable goods industries even if

it would not do much to correct the trade deficit per se.

That there is no necessary relationship between fiscal deficits and movements in nominal exchange rates can be seen from another angle. After all, few would claim that the large dollar depreciations of the 1970s were caused by American budgetary surpluses. Indeed, the U.S. ran fiscal deficits--albeit much smaller--in those years. The large fiscal deficits in France after Mitterand came into power in 1981 seemed to weaken the franc rather than strengthen it.

Furthermore, no monotonic or otherwise stable relationships seem to exist between nominal interest rates and a currency's strength in the foreign exchanges. Indeed much of the extraordinary rise in the dollar exchange rate from mid 1984 to the first quarter of 1985 was been associated with falling U.S. interest rates. Specifically, from August, 1984 to February 1985, American interest rates fell 2 to 3 percentage points relative to those in Germany while the dollar was rising from 2.88 to 3.25 marks.

Although interest rates remain important, expectations of future political safety, price inflation, and other sources of future exchange rate movements often dominate the portfolio preferences of international investors. The gnomes of Zurich, Luxembourg, and Singapore continually look for the safest haven (currency) in which to place their internationally liquid assets.

Suppose the American government moved seriously towards cutting expenditures. U.S. interest rates would fall immediately in anticipation of lower future fiscal deficits, and this effect by itself

would tend to depress the dollar in the foreign exchanges. Against this, people might expect that the resulting reduction in the projected national debt would lessen the chances of price inflation in the distant future. Similarly, other taxes on the holders of dollar assets become less likely. The United States could then seem like an even safer haven for international capital.

Because of these opposing considerations, even resolute action by the American government to eliminate its unsustainable fiscal deficit need not bring the dollar down in the foreign exchange markets--although it probably would. (The one dramatic exception is a general withholding tax on interest and dividend income--including that from all those American securities owned by foreigners. That certainly would bring the dollar down.) At best, fiscal policy is a blunt instrument, subject to long delays and uncertainties, for influencing the exchange rate.

Enter Monetary Policy

In contrast, monetary policy is immediately flexible and can be made to influence the exchange rate unambiguously. From the 19th century gold standard to the fixed exchange rates of the 1950s and 1960s under the old Bretton Woods agreement, examples abound of countries successfully subordinating their monetary policies to maintaining a fixed exchange rate with some other stable money. Central banks can react quickly to international shifts in the demand for the money they issue.

In the asymmetrical Bretton Woods system, countries other than the United States were directly responsible for maintaining their exchange rates within one percent of either side of their formal dollar parities.

For example, from 1950 to 1970, the Bank of Japan kept the yen within 3/4 of one percent of 360 yen to the dollar by raising yen interest rates and contracting when international payments were in deficit, and expanding the yen money supply when the Japanese currency tended to appreciate. Japanese monetary policy, based on this fixed exchange-rate rule, led to stable yen prices for the broad range of internationally traded goods and contributed to Japan's extraordinary postwar recovery.

Similarly, in these same two prosperous decades, European governments generally subordinated their monetary policies to preserve stable exchange rates for long periods--with small, infrequent adjustments in their dollar parities. Only Britain continually resisted the necessary internationalization of its domestic monetary policy with consequential balance-of-payments deficits and numerous "sterling crises" throughout the 1950s and 1960s. And Britain had the least successful domestic growth and foreign trade performances of any Western European economy.

The Flaw in Bretton Woods

But the Bretton Woods system had an inherent weakness. The monetary policy of the center country, the United States, was insufficiently guided by any exchange-rate or other international obligation of its own. Even the American commitment to a weak form of gold convertibility, itself inadequate, had eroded by the late 1960s.

Consequently, in 1970-73, the international system of fixed exchange rates broke down when the United States increased U.S. money growth despite the fact that the dollar was under obvious downward

pressure in the foreign exchanges. Mistakenly, in 1971 President Nixon forced the other governments to let the dollar be devalued rather than contract the U.S. money supply. Private investors took this as a signal to reduce their holding of dollar assets in favor of foreign currencies --forcing further depreciations of the dollar in 1972-73, as shown in Figure 1.

The resulting great inflation in the dollar prices of goods and services in the 1970s (Table 2) was aggravated by another unwarranted depreciation of the dollar in 1977-79. Foreign governments became loathe to bend their monetary policies to reestablish fixed dollar parities with what they then saw to be a chronically depreciating international currency.

Responding firmly, albeit belatedly, to domestic price inflation, the U.S. Federal Reserve System tightened up its monetary control procedures in October 1979. But international confidence in the dollar was not restored until the election of a more conservative president in late 1980. The remarkable shift in portfolio preferences back into dollar assets, and the great dollar appreciation of 1981-82, surprised everyone. In response to this clear signal from the foreign exchanges that U.S. monetary policy was now too tight, the Fed did not loosen up soon enough. The result was the sharp deflation and depression of 1982.

That changes in the dollar exchange rate are an excellent leading indicator of inflation or deflation to come within the American economy is clearly shown in Figure 3. Although spread out for more than two years, the lagged impact of a change in the exchange rate on the

American Wholesale price Index (WPI) seems to peak after five quarters. Thus Figure 3 plots current changes in the WPI against changes in the dollar exchange rate 5 quarters earlier. Since floating exchange rates began in the early 1970s, the negative correlation is easily visible and quite remarkable: -0.528 with the unsmoothed quarterly data and -0.817 when smoothed with a 5-quarter moving average.

Tradeable goods are heavily represented in the WPI and that index is naturally more sensitive to exchange rate changes. But even the U.S. GNP deflator, with its large component of nontradeable services, is sensitive with exchange rate effects peaking after 8 quarters [McKinnon, 1985b]. Thus one can see that having the Fed key on the dollar exchange rate is quite consistent with its most basic objective: to stabilize the domestic U.S. price level.

Although threatening to undermine the American free trade ethic, the overvaluation of the dollar in the early 1980s had one significant advantage. The international concern over chronic American inflation is now largely dissipated. Indeed, Germany, Japan, and the United States now have virtually the same low rate of price inflation (Table 2). Thus 1985 is a good time to negotiate a new agreement for stabilizing exchange rates--at a much lower foreign exchange value for the dollar--while keeping international price inflation close to zero.

For any new exchange-rate agreement to be successful, however, the flaw in the old one must be corrected. In cooperation with other central banks, the U.S. Federal Reserve System must give exchange-rate stability more weight in the future conduct of American monetary

policy. Speculative pressure is now too great for Japan or European countries to stabilize dollar exchange rates on their own; many have tried (and failed) to do so in recent years--particularly in the turbulent months of late 1984 and early 1985.

A New Monetary Order for the 1980s

Assume now that in making American monetary policy, the Federal Reserve System abandons its traditional insular approach, which virtually ignores the foreign exchanges. By some miracle, suppose that the Bank of Japan, the Bundesbank (representing the European bloc), and the Fed all agree to coordinate their monetary policies to achieve exchange stability.

How could such a system be efficiently managed to nudge the dollar down in the foreign exchanges without significant inflationary consequences? Once this transition is completed, how can fixed exchange rates and stable prices be maintained?

Announcement effects are as important as the fact of monetary cooperation itself. To harness the market's expectations in favor of the new exchange-rate regime, the three central banks must spell out what they intend to do in a consistent fashion. Only then will the required adjustments in national monetary policies turn out to be minimal.

So what should the triumvirate announce? The new monetary order would have four essential elements:

- (1) Explicit target zones for the yen/dollar and mark/dollar exchange rates;

- (2) A commitment to adjust domestic monetary policies--symmetrically among the three countries--to achieve these targets;
- (3) Rules for restrained, but decisive, direct interventions to correct "disorderly conditions" in the foreign exchanges;
- (4) Joint management of aggregate money growth within the triumvirate in order to stabilize their common price level in the longer run.

Let us discuss each in turn.

Target Zones For Exchange Rates

Exchange-rate targets would be designed (and announced) to achieve a rough purchasing power parity among the three countries--taking their current stable price levels as benchmarks. Illustrative calculations suggest that about 2.2 marks and 210 yen to the dollar--far under today's market quotations--approximate what the triumvirate should strive for.

[Warning: We have to understand that these exchange-rate targets are designed to align national price levels, not to correct bilateral--or multilateral--trade deficits or surpluses. Even if the dollar were nudged down so that the American price level became better aligned with those of Germany and Japan, the large U.S. fiscal deficit would still stimulate excessive consumption and leave a large U.S. trade deficit--albeit one that was somewhat smaller.]

Because of the current substantial difference in interest rates between the United States and the other two countries, a broad 10

percent band should be established around these two central rates. To illustrate, the dollar could be targeted to stay within a range of 2.10 and 2.30 marks, and within 200 to 220 yen.

In view of the present extreme misalignment of the dollar, these target zones are necessarily "soft" [Williamson, 1985]. That is, the participating central banks are not committed to achieving them immediately. In particular, any massive official intervention in the foreign exchanges to push rates in the desired direction would be ruled out.

Nevertheless, the targets are real enough. The gnomes would clearly understand the direction in which the central banks were pushing. In view of the misinformation and confusion that now prevails in the exchange markets, a clear official declaration of exchange-rate goals would allow private expectations to coalesce in support--provided that the accompanying program of monetary adjustment was credible.

Mutual Monetary Adjustment

Among the three countries, monetary adjustments would take place symmetrically for as long as the relevant exchange rate was outside its target zone--whether that be weeks, months, or years. When the dollar exchange rate is above its target zone(s), the Fed should expand the money supply and reduce interest rates while the Bundesbank and Bank of Japan contract symmetrically. (And act conversely if the dollar were ever to fall below its target range.) In this way, the total "world" money supply will remain roughly constant, but relative amounts of constituent currencies will fluctuate to meet the demand for them.

For example, suppose that the current mark/dollar exchange rate is 2.80, that the Fed's normal long-term annual growth rate for M1 is between 4 and 6 percent, and that the Bundesbank's normal growth in what it calls "central bank" money is also between 4 and 6 percent. Then the Fed would be publicly committed to increasing its money growth above 6 percent (possibly reducing interest rates), while the Bundesbank kept its money growth below 4 percent (possibly raising interest rates), until the mark/dollar rate fell below 2.3 marks and into its target zone.

To be successful in changing traders' expectations to push the mark/dollar exchange rate in the desired direction, this commitment to mutual monetary adjustment must be unambiguous. To avoid adverse expectations, other potentially conflicting rules need to be jettisoned.

For example, the surprisingly sharp rise of the dollar within two weeks in February 1985 from 3.2 to about 3.47 D.M. was due at least in part to an apparent conflict in the U.S. Federal Reserve System's immediate monetary objectives. In November and again in December 1984, the Fed cut the discount rate and embarked on much faster money growth; it correctly noted that such expansion was warranted because (among other factors) the dollar at 3.0 marks was grossly overvalued even then. And for November, December and January, growth in U.S. M1 spurted to more than 11 percent measured on an annual basis.

However, in January the Fed then published--as required by the U.S. Congress--its money growth targets for all of 1985. A normal 4 to 7 percent growth range for M1 during 1985 was announced. Unfortunately,

this published money growth target now conflicted with the higher money growth actually taking place in early 1985. In February and March, actual M1 was far above the cone of "permissable" levels officially published.

The market came to expect that the Fed would have to contract to get M1 back on its "normal" path. In anticipation, U.S. interest rates rose sharply in February 1985 and drove the dollar up further in the foreign exchanges. This surge into dollar assets assumed panic proportions when Fed Chairman Volcker, testifying before Congress on February 20, suggested that the Fed would end the progressively easier credit policy adopted in late 1984.

Clearly the Fed should have made clear that monetary ease would continue indefinitely, and that lower long-term growth in M1 would not be resumed until the dollar had fallen into its target zone.

Fortunately, the Fed did persist with a higher rate of domestic monetary expansion--about 12 percent per year through mid 1985 --as if it were keying on the dollar exchange without admitting it. Finally, on July 16, 1985 in its midyear report to the U.S. Congress, the Fed officially abandoned its old 1985 target of 4 to 7 percent money and "rebased" the money supply at its new higher level. It then respecified domestic money growth to be 3 to 8 percent, from this now higher base, for the remainder of 1985.

Even without the dollar exchange rate as an official target, this massive additional monetary expansion undoubtedly helped prevent the dollar from increasing further. By mid August 1985, it had fallen back

to 2.8 D.M.--still considerably overvalued, and about where it was the year before. But the effect on the exchange rate was lessened because the Fed's stated intentions were (and are) somewhat ambiguous about how far it might like to push the dollar down.

The credibility of this unusual seeming attempt by the Fed to key on the exchange rate was further undermined by the absence of any agreement on how foreign central banks would react. Those countries with weak currencies--most particularly the European bloc--should have reduced their money growth below normal when the Fed undertook its unusual expansion in late 1984. Downward pressure on the dollar would then come from both sides.

If, instead, the German and Japanese central banks behaved perversely by expanding in tandem with the Fed in 1985, the private markets would have no assurance that the dollar would be successfully pushed down. Not knowing what the other central banks were going to do, private speculators were less likely to support the Fed's actions by anticipating dollar depreciation.

Clearly, monetary adjustments by one central bank are much more likely to succeed in influencing the exchange rate if the market knows that the other two are supporting it. Thus one can see the great value of a formal, well-publicized international agreement on the format for monetary coordination.

Official Intervention in the Foreign Exchanges

The fact, or even the possibility, of direct official intervention in the foreign exchanges captures newspaper headlines. As the American

government agonizes over what to do about the exchange rate, the immediate focus is on whether or not the Federal Reserve Bank of New York--in consultation with U.S. Treasury and the Federal Reserve System--should intervene as a buyer or seller of foreign exchange.

On March 8, 1985, the Federal Reserve Bank of New York announced it had intervened to buy Deutsche marks seven times between August and January in relatively modest (for this huge market) amounts of one or two hundred million dollars in each case. The European and Japanese central banks were known to intervene more often, and more heavily, over the same period. As usual, the Fed refused to reveal the details of its more recent--and substantially heavier--interventions in February and early March 1985.

But this emphasis on direct intervention is misplaced, and so is some of the secrecy that veils the precise goals of these interventions.

With the integration of the American, European, and Japanese capital markets, gross stocks of private financial claims on--and liabilities to--foreigners tend to dwarf official exchange reserves. For example, by the end of 1983, private Japanese claims on foreigners were about ten times as high as official exchange reserves; and with the further Japanese financial liberalization in 1984, these gross private claims again increased. In financially open European economies like Germany and Britain, the ratios of gross private claims on foreigners to official exchange reserves are even greater than in the Japanese case.

The upshot is that exchange reserves are too small for direct government intervention to have a significant impact on the huge inter-

nationally mobile private holdings of stocks and bonds. Indeed, ample evidence in 1984-85 suggests that official attempts to intervene in the absence of monetary coordination, and without influencing the (adverse) expectations of private traders, did wash out for all practical purposes. For stabilizing the exchange rate, official intervention will be ineffective unless it is accompanied by a supporting monetary policy. And these mutual monetary adjustments--as described above--need not require direct interventions in the foreign exchanges.

That said, there remains a limited role for direct official intervention to correct disorderly conditions in exchange markets over a short period--say, one trading day.

Having posted target zones for exchange rates (according to our hypothetical monetary agreement), the triumvirate of central banks could treat as "disorderly" any substantial exchange-rate movement away from these official targets. For example, if the target is 2.1 to 2.3 DM/dollar, and the rate suddenly moves from 2.8 to 3.0 or more, then the market is disorderly: the movement is both large and in the wrong direction.

Indeed, such a perverse movement indicates that private traders are not properly informed of official intentions--or that the official exchange-rate targets lack credibility. To reaffirm the central banks' objective of guiding exchange rates into their target zones, some stabilizing intervention is warranted.

To be both limited in magnitude and decisive in result, any such intervention should be reinforced by discrete monetary adjustments beyond

previous measures. This is most easily accomplished by ensuring that interventions in the foreign exchanges are symmetrically unsterilized in their impact on each country's monetary base.

For example, to prevent the dollar from increasing further, suppose the Bundesbank--in consultation with the Fed--purchases 200 million dollars worth of marks in the open foreign exchange market. They could agree that the Bundesbank would retire those marks from circulation while the Fed expanded the American monetary base by 200 million dollars. Consequently, interest rates would likely rise in Germany and fall in the United States, thus helping to drive the dollar down.

This is powerful medicine. If the distribution of monetary base between the two countries is affected, even modest official exchange interventions have great leverage--as private traders will quickly realize.

Need Dollar Depreciation Be Inflationary?

Suppose the dollar exchange rate is pushed down into the target zones suggested above. Is it possible to avoid reigniting the kind of rapid price inflation associated with the depreciating dollar of the unhappy 1970s?

Yes, because of the inherent symmetry in the above proposal for monetary coordination. When the Fed expands, the other principal central banks contract below normal growth--and vice versa. The result is no unusual growth in the monetary base for the system as a whole--even as the dollar is pushed down to its purchasing power parity.

The great dollar depreciations of the 1970s were associated with increased monetary growth in the United States coupled with sometimes explosive monetary growth in Europe and Japan--as shown in Table 1. The reason for this loss of monetary control abroad was due to foreign central banks' resisting (not very successfully) having their own currencies appreciate when international portfolio preferences had shifted sharply away from dollar assets. Through direct interventions to buy dollars and sell their own monies, or through equivalent domestic monetary expansions to reduce interest rates, they lost monetary control.^{1/}

This fundamental asymmetry in the world dollar standard, where other central banks react to the dollar exchange rate but the Fed usually does not, is seen in Figure 2. For 1971 though 1985, one can see the strong negative correlation between percent changes in money growth in the rest of the industrial world (ROW) and percent changes in the dollar exchange rate. With unsmoothed individual quarterly observations, the simple correlation is -0.305 as shown in the upper panel; whereas the correlation becomes stronger at -0.620 if a 5-quarter moving average is used--as shown in the lower panel of Figure 2.

The system went askew in the 1970s because the U.S. Federal Reserve System failed to contract when international demand unexpectedly shifted into foreign currencies at a time when the dollar was not overvalued--at least not by today's standards. Because the principal player, the Fed, was not playing the game correctly, the other central banks were simply overwhelmed.

Accidental or not, the great increase in "world" money growth in the 1970s had a strong inflationary impact on the prices of internationally tradable goods--whether manufactures or primary commodities. And all the major industrial economies experienced this price inflation (Table 2)--particularly those like the United States whose currencies had depreciated relative to the others. Undoubtedly, these foreign monetary repercussions help explain why fluctuations in the dollar exchange rate display the strong (lagged) effects on the American price level shown in Figure 5.

Through mid-September 1985, however, the situation was quite different. The dollar was truly overvalued by any reasonable standard. The portfolio pressure in the foreign exchanges was strongly in favor of dollar assets--which increases the derived demand for U.S. base money. The situation was one of price stability--indeed, one of undue deflationary pressure in those sectors of the American economy that must compete on world markets.

In these circumstances, it would be relatively safe to increase monetary expansion in the United States to drive the dollar down--and dangerous not to. But as long as the Fed remains expansionary, the other central banks must agree to maintain tight money during the transitional correction in the dollar exchange rate. Once exchange rates were aligned, the three central banks would, ideally, have have also agreed to manage their joint money supply to stabilize the common price level into the indefinite future.^{2/}

Then private expectations would be favourable, and the unfortunate

inflationary experience of the 1970s need not be repeated.

Of course, even if the dollar depreciates under these controlled circumstances, there will be a one time increase in the dollar prices of tradable goods, and a simultaneous decrease in their prices when measured in marks or yen. But this change in relative prices is necessary to rescue unprotected American farmers, manufacturers, and miners from heavy taxation imposed on them by the dollar's overvaluation, and prevent an outbreak of protectionism in the United States.

After this one-and-for-all correction in the dollar exchange rate, the principal central banks would begin their regular program of ongoing coordination. Nominal exchange rates would be kept within their preassigned bands and the common international price level would be better stabilized into the indefinite future. Governments could then more realistically negotiate new rounds of the General Agreement on Tariff and Trade (GATT) to remove NTBs--many of which developed in the era of floating exchange rates--and the modest remaining tariff barriers. With a sufficiently stable international price level, even the difficult job of liberalizing trade in agricultural products would be more likely to succeed.

Addendum

After this paper was completed, on the week-end of September 21-22, 1985, a major exchange-rate agreement was announced among the Finance Ministers and Central Bank heads of the five principal industrial countries: Britain, France, Germany, Japan and the United States. Their stated intention was to undertake strong financial measures (not spelled out) to drive the dollar down. The announcement effect was quite dramatic--the dollar fell by more than 10 percent over two trading days. That a better alignment for the dollar exchange rate has now become an objective of official policy is a major step forward in the preservation of free international trade.

On the other hand, it is far from clear that the officials involved have worked out a sufficiently coordinated program of mutual and symmetrical monetary adjustment--as sketched above--to sustain a better alignment of exchange rates and preserve price stability into the future. No details of a monetary program were released.

Rather, the emphasis seemed to be on massive official interventions in the foreign exchange markets--which, however big, will tend to wash out unless the market views such interventions as harbingers of monetary adjustment to come.

Similarly, the agreement hinted that the Europeans and Japanese would cut taxes. But, as suggested above, the exchange-rate effects of such fiscal adjustments by themselves are ambiguous.

It remains to be seen whether a coherent program of monetary coordination successfully evolves.

Footnotes

- 1/ For a more complete description of how the international money multiplier works, see R. McKinnon, "Currency Substitution and Instability in the World Dollar Standard," American Economic Review, June 1982, Vol. 72, No. 30.
- 2/ This paper has not dealt with the precise definition of monetary targets for the three countries which would secure price stability in the longer run. This subject is treated in McKinnon, 1984, Ch. 5. Such a monetary program would avoid sharp changes in the collective money supply while gearing its long-term growth to maintain a stable purchasing power over a common, broad basket of internationally tradeable goods.

References

Frenkel, Jacob and Michael Mussa, May 1980 "The Efficiency of the Foreign Exchange Market and Measures of Turbulence" American Economic Review Vol. 70, No. 2.

Frenkel, Jacob and Michael Mussa, 1985 "Asset Markets, Exchange Rates, and the Balance of Payments" ch. 13 in R. Jones and P. Kenen Handbook of International Economics Vol. 2 North Holland, Amsterdam.

McKinnon, Ronald I., "A New Tripartite Monetary Agreement or a Limping Dollar Standard?" 1974 Princeton Essays in International Finance No. 106, Princeton N.J.

_____, "Currency Substitution and Instability in the World Dollar Standard" June 1982 American Economic Review, Vol. 72, No. 80, June 1982.

_____, An International Standard for Monetary Stabilization 1984 The Institute for International Economics, Washington D.C.

_____, "The Dollar Exchange Rate as a Leading Indicator for American Monetary Policy": August, 1985, Stanford University (unpublished).

Williamson, John, The Exchange Rate System, 1983 Institute for International Economics, Washington, D.C. 1983.

TABLE 1
Money growth in domestic currencies, 11 industrial countries
(percentage change in annual averages of M1)

	Belgium	Canada	France	Germany	Italy	Japan	Nether- Lands	Sweden	Switzer- land	United Kingdom	United States	World average	Rest of world ^a
(Weights: GNP 1964)	(.0132)	(.0394)	(.0778)	(.0892)	(.0494)	(.0681)	(.0144)	(.0167)	(.0113)	(.0796)	(.5408)		
1956	2.9	-1.2	10.3	7.2	8.5	16.4	-3.7	7.4	6.0	1.0	1.1	3.78	6.94
1957	-0.1	4.0	8.6	12.1	6.3	4.1	-2.0	3.4	1.8	2.7	-0.6	2.43	6.01
1958	5.8	12.8	6.4	13.1	9.9	12.8	11.9	1.6	9.2	3.0	4.3	6.47	9.04
1959	3.2	-3.2	11.4	11.8	14.0	16.5	4.5	18.0	6.1	4.6	0.1	4.53	9.74
1960	1.9	5.1	13.0	6.8	13.5	19.1	6.7	-1.2	10.2	-0.8	-0.4	3.72	8.58
1961	7.7	12.4	15.5	14.8	15.7	19.0	7.7	10.7	8.1	3.2	2.9	7.39	12.68
1962	7.2	3.3	18.1	6.6	18.6	17.1	7.5	5.6	16.6	4.4	2.1	6.18	10.99
1963	9.8	5.9	16.7	7.4	16.9	26.3	9.8	8.1	8.9	0.3	2.8	6.86	11.65
1964	5.6	5.1	10.3	8.3	6.7	16.8	8.5	7.7	0.2	5.0	4.1	6.16	8.59
1965	7.4	6.3	9.0	8.9	13.4	16.8	10.9	6.4	12.8	2.7	4.3	6.59	9.30
1966	6.7	7.0	8.9	4.5	15.1	16.3	7.2	9.9	3.1	2.6	4.6	6.31	8.33
1967	4.7	9.5	6.2	3.3	13.6	13.4	7.0	9.8	6.0	3.2	3.9	5.49	7.37
1968	6.8	4.4	5.5	7.6	13.4	14.6	8.8	-1.8	11.5	6.0	7.0	7.51	8.12
1969	2.3	6.9	6.1	8.2	15.0	18.4	9.4	2.0	9.5	0.4	5.9	7.00	8.30
1970	-2.5	2.4	-1.3	6.4	21.7	18.3	10.6	7.3	9.8	6.4	3.8	5.80	8.15
(Weights: GNP 1977)	(.0172)	(.0487)	(.0885)	(.1122)	(.0471)	(.1404)	(.0228)	(.0195)	(.0148)	(.0572)	(.4316)		
1971	10.3	12.7	13.7	12.0	22.9	25.5	16.7	9.0	18.2	11.8	6.8	12.45	16.74
1972	15.0	14.3	13.0	13.6	18.0	22.0	17.7	11.8	13.4	13.1	7.1	12.21	16.10
1973	9.8	14.5	9.9	5.8	21.1	26.2	7.4	9.6	-1.0	8.6	7.3	11.06	13.91
1974	6.8	9.3	12.6	6.0	16.6	13.1	3.1	16.3	-1.7	4.8	5.0	7.78	9.88
1975	12.4	13.8	9.9	13.8	8.3	10.3	18.7	15.2	2.4	15.6	4.7	8.83	11.96
1976	9.6	8.0	15.0	10.4	20.5	14.2	11.8	14.0	7.3	13.8	5.7	9.91	13.10
1977	8.0	8.4	7.5	8.3	19.8	7.0	14.3	8.3	4.7	14.4	7.6	8.72	9.57
1978	6.7	10.0	11.2	13.4	23.7	10.8	5.3	13.6	12.7	20.1	8.2	10.99	13.11
1979	3.5	6.9	12.2	7.4	23.9	9.9	2.7	12.7	7.8	11.5	7.7	9.23	10.39
1980	-0.2	6.3	8.0	2.4	15.9	0.8	4.2	21.1	-5.4	4.9	6.2	5.53	5.01
1981	3.6	4.3	12.3	1.2	11.1	3.7	2.6	12.0	-0.9	10.0	7.2	6.50	5.96
1982	3.4	2.0	14.9	3.5	9.9	7.1	4.9	9.8	3.1	8.3	6.5	6.96	7.31
1983	5.0	10.2	12.1	10.3	17.3	3.0	10.6	11.4	7.6	13.4	11.1	10.1	9.48
1984	3.3	2.3	8.2b	3.3	8.4b	2.9	4.1	2.4b	2.5b	14.9b	6.9	6.08	5.45

- Not available

Source: Federal Reserve Bank of St. Louis, "International Economic conditions," June and August 1985
a United States excluded.

b preliminary.

TABLE 2
Price inflation in tradeable goods, 11 industrial countries
(percentage change in annual averages of WPIs)

	Belgium	Canada	France	Germany	Italy	Japan	Nether- Lands	Sweden	Switzer- land	United Kingdom	United States	World average	Rest of world ^a
(Weights: GNP 1964)	(.0132)	(.0394)	(.0778)	(.0892)	(.0494)	(.0681)	(.0144)	(.0167)	(.0113)	(.0796)	(.5408)		
1958	-4.4	0.4	5.1	-0.5	-1.7	-6.5	-1.3	4.3	-3.2	0.8	1.5	0.68	-0.30
1959	-0.3	0.8	7.2	-0.8	-2.9	0.9	0.2	0.9	-1.6	0.3	0.2	0.57	1.00
1960	1.2	0.2	3.5	1.3	0.8	1.1	0.0	4.1	0.6	1.3	0.2	0.81	1.54
1961	-0.2	0.2	3.0	1.5	0.0	1.1	-0.2	2.2	0.2	2.6	-0.4	0.47	1.50
1962	0.8	1.1	0.6	0.9	3.2	-1.6	0.3	4.7	3.3	2.3	0.2	0.64	1.16
1963	2.5	1.3	2.9	0.5	5.3	1.6	2.4	2.9	3.9	1.0	-0.4	0.72	2.03
1964	4.7	0.9	3.5	1.0	3.0	0.4	6.1	3.4	1.3	3.1	0.2	1.15	2.27
1965	1.1	1.3	0.7	2.5	1.8	0.7	3.0	5.2	0.6	3.5	2.0	1.98	1.95
1966	2.1	2.9	2.8	1.7	1.5	2.4	5.0	6.4	1.9	2.9	3.4	3.02	2.57
1967	-0.9	1.9	-0.9	-1.0	-0.2	1.7	1.0	4.3	0.3	3.1	0.2	0.45	0.75
1968	0.2	2.2	-1.7	-0.7	0.6	1.0	1.9	2.0	0.1	4.1	2.4	1.68	0.83
1969	5.0	3.7	10.7	1.9	3.6	2.0	-2.5	3.5	2.8	3.7	3.9	3.99	4.09
1970	4.7	2.4	7.5	5.0	7.4	3.7	4.6	6.8	4.2	7.1	3.6	4.54	5.65
Weights: GNP 1977)	(.0172)	(.0487)	(.0885)	(.1122)	(.0471)	(.1404)	(.0228)	(.0195)	(.0148)	(.0572)	(.4316)		
1971	-0.5	2.0	2.1	4.3	3.3	-0.8	4.5	3.2	2.1	9.1	3.3	2.94	2.67
1972	4.0	4.3	4.7	2.5	4.1	0.8	5.1	4.6	3.6	5.3	4.4	3.74	3.24
1973	12.4	11.2	14.7	6.6	17.2	15.8	6.9	10.3	10.7	7.4	13.1	12.42	11.91
1974	16.8	19.1	29.1	13.5	40.8	31.4	9.6	25.3	16.2	22.6	18.8	22.00	24.43
1975	1.2	11.2	-5.7	4.6	8.5	3.0	6.7	6.4	-2.3	22.2	9.3	6.93	5.12
1976	7.1	5.1	7.4	3.7	23.8	5.0	7.8	9.0	-0.7	17.3	4.6	6.58	8.09
1977	2.4	7.9	5.6	2.7	16.6	1.9	5.8	9.2	0.3	19.8	6.1	6.35	6.55
1978	-1.9	9.3	4.3	1.2	8.4	-2.5	1.3	7.6	-3.4	9.1	7.8	4.99	2.86
1979	6.3	14.4	13.3	4.8	15.5	7.3	2.7	12.5	3.8	12.2	12.5	10.73	9.39
1980	5.8	13.5	8.8	7.5	20.1	17.8	8.2	13.9	5.1	16.3	14.0	13.33	12.82
1981	8.2	10.1	11.0	7.7	16.6	1.7	9.2	11.6	5.8	10.6	9.0	8.50	8.13
1982	7.7	6.0	11.1	5.8	13.9	1.8	6.6	12.6	2.6	8.6	2.1	4.80	6.85
1983	5.2	3.5	11.0	1.5	10.5	-2.2	1.8	11.2	0.5	5.5	1.3 ^b	2.73	3.82
1984	7.4	4.1	13.3	2.9	10.4	-0.2	4.2	7.9	3.3	6.2	2.4	3.98	5.18

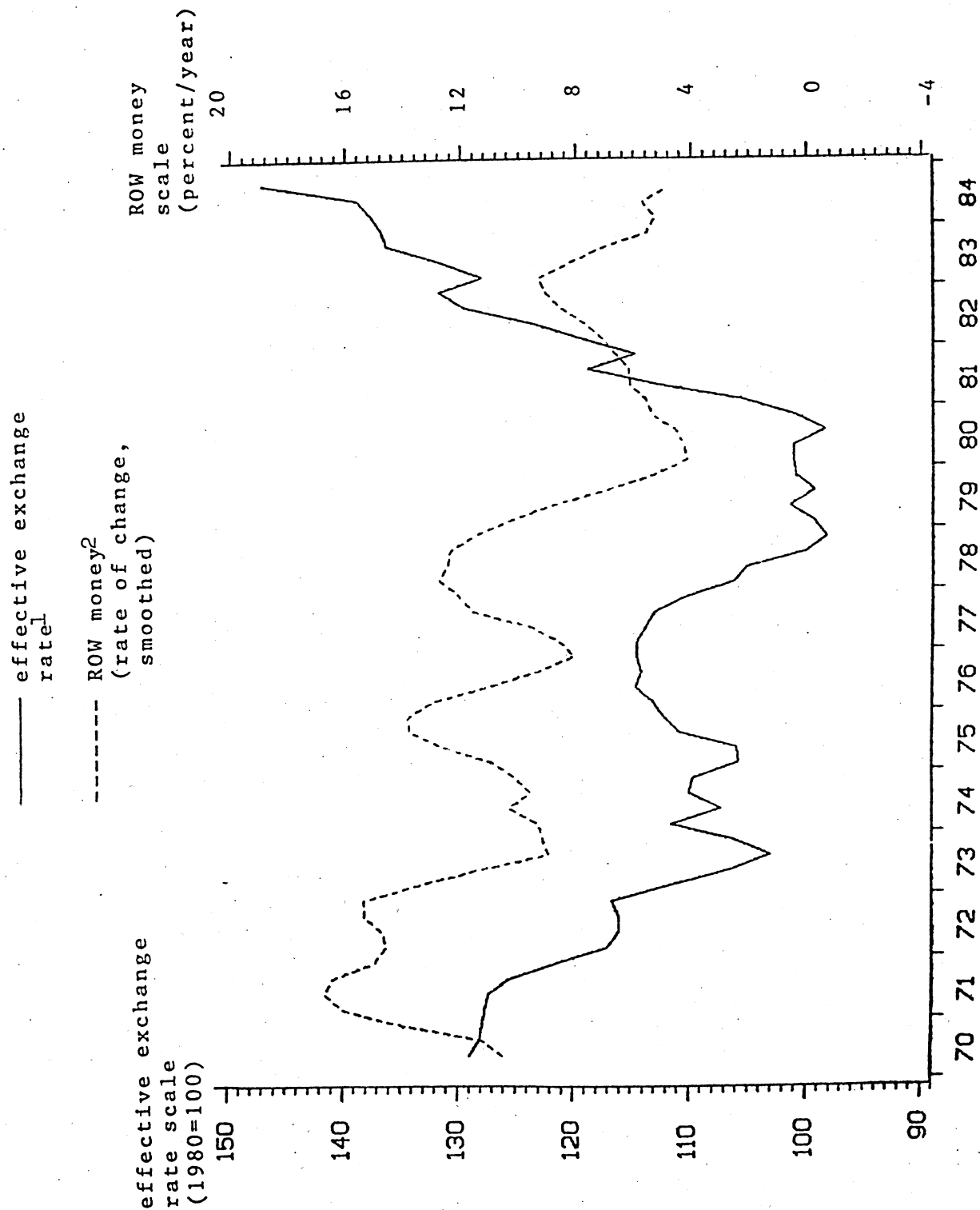
- Not available

Source: IMF, International Financial Statistics, 1984 Yearbook and July 1985, line 63, wholesale price indices including finished goods and primary products.

^a United States excluded.

Figure 1

U.S. EFFECTIVE EXCHANGE RATE AND THE REST OF THE WORLD MONEY
(quarterly observations)

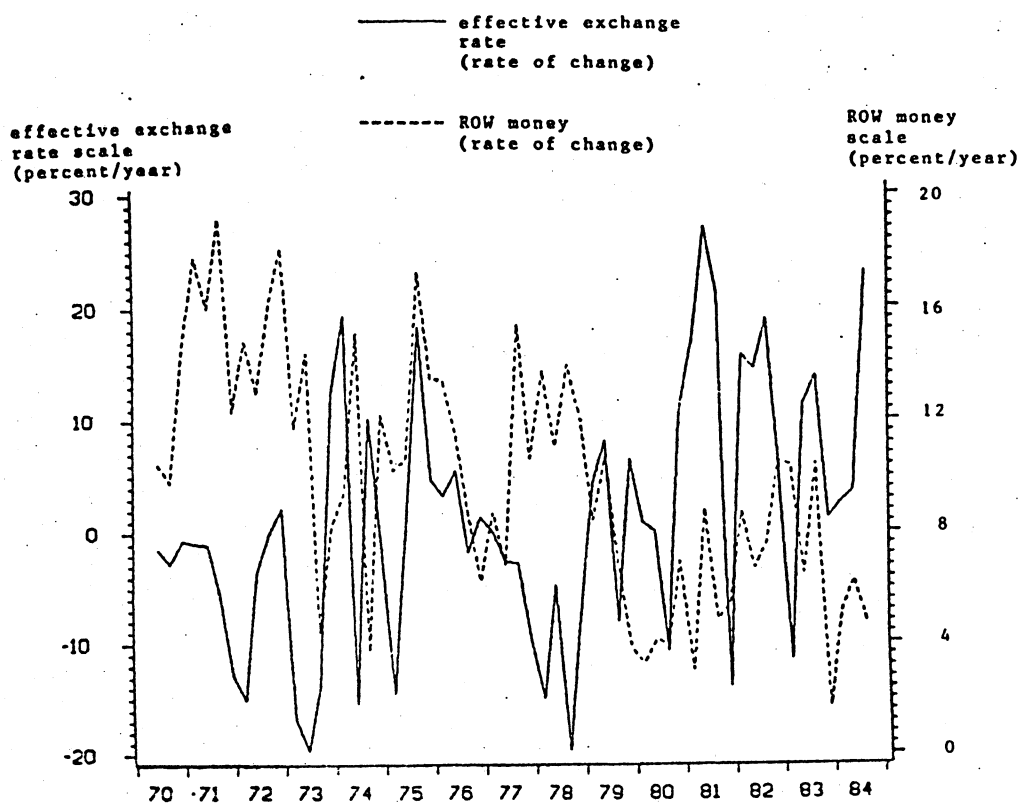


¹IMF definition: MERM (trade) weighted nominal rate against 17 countries.

²Percent growth in nominal money in 10 industrial countries other than U.S.: see Table 1.

Figure 2

U.S. EFFECTIVE EXCHANGE RATE AND THE REST OF THE WORLD MONEY



U.S. EFFECTIVE EXCHANGE RATE AND THE REST OF THE WORLD MONEY

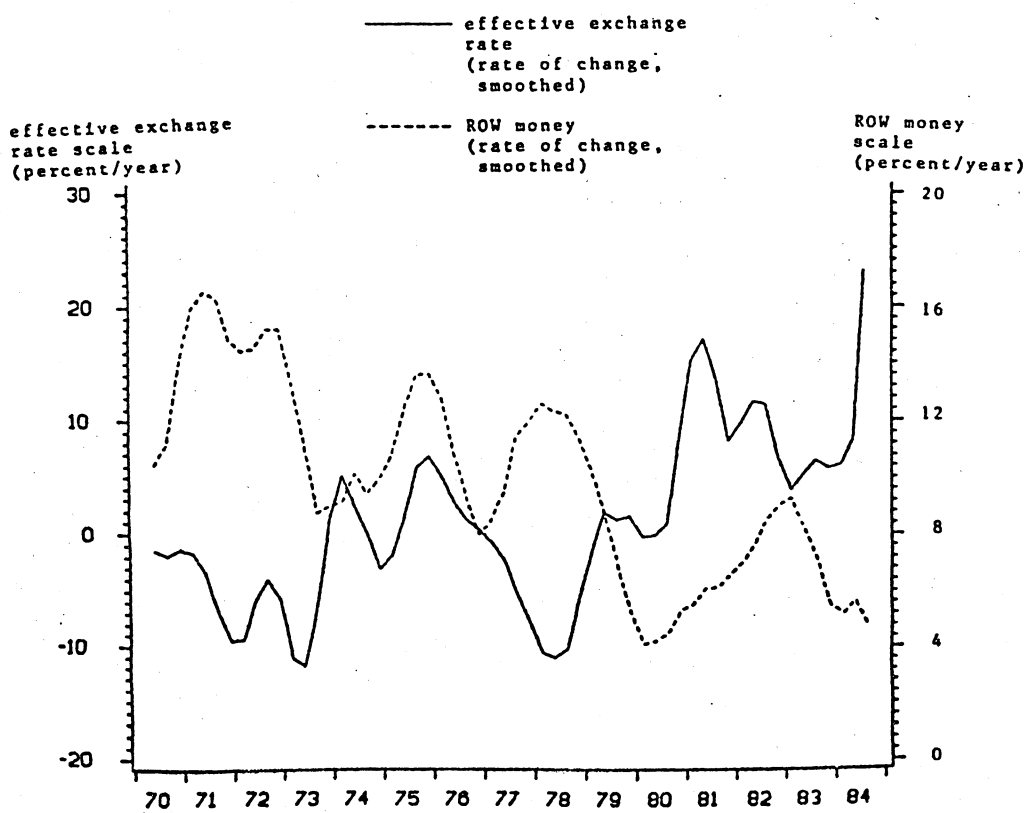
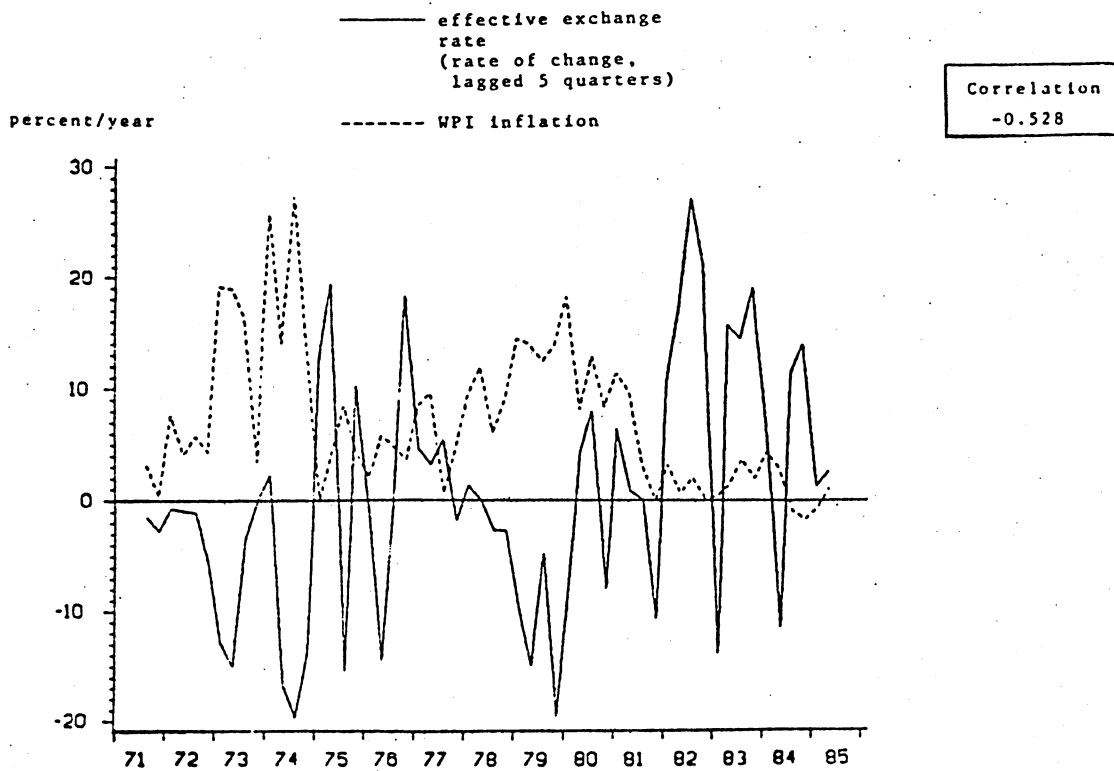
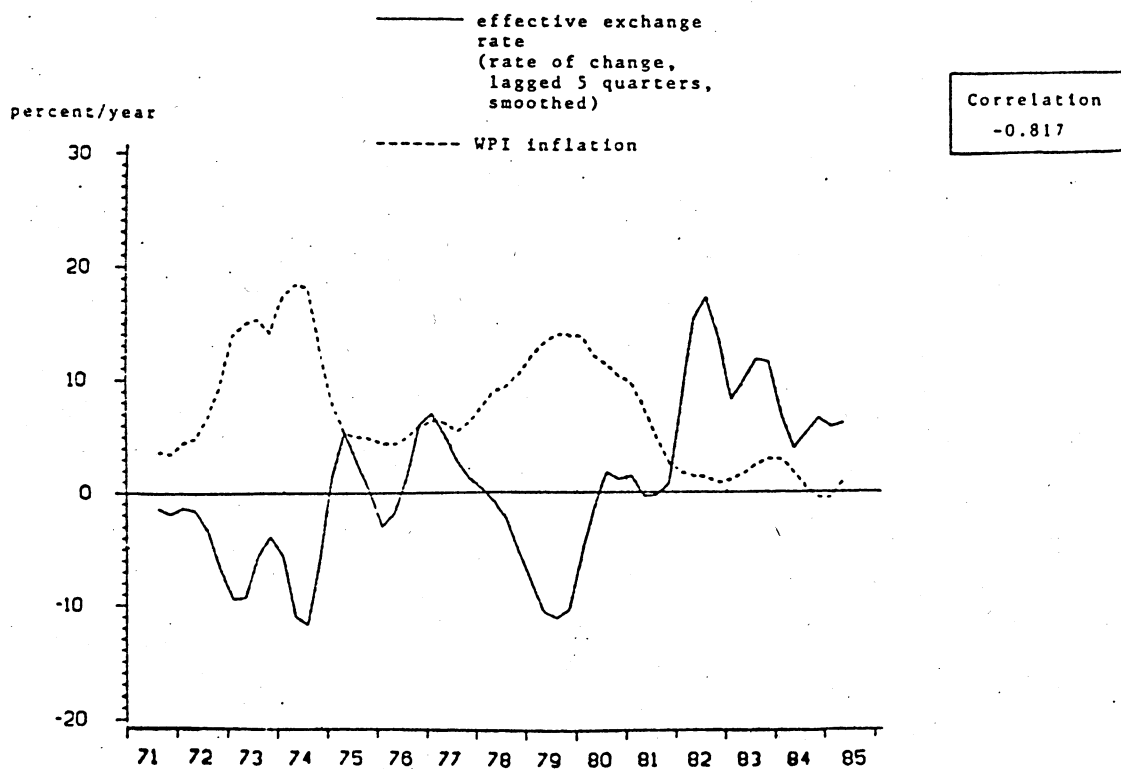


Figure 3

U.S. EFFECTIVE EXCHANGE RATE AND WPI



U.S. EFFECTIVE EXCHANGE RATE AND WPI



CENTER FOR ECONOMIC POLICY RESEARCH
100 Encina Commons
Stanford University
Stanford, California 94305

CEPR Publication Series

1. Paul A. David, "Microelectronics and the Macroeconomic Outlook," Two Papers for the OECD Working Party on Information, Computer and Communications Policy, April 1982.
2. Timothy F. Bresnahan, "The Impact of Proposed Emissions Rollbacks on the Automobile Industry," April 1982.
3. Ronald I. McKinnon, "A Program for International Monetary Stability," January 1983.
4. Timothy F. Bresnahan, "Automobile Price Indexes by Continent of Origin," November 1982.
5. Ronald I. McKinnon, "Why U.S. Monetary Policy Should Be Internationalized," April 1983.
6. Robert M. Coen and Bert G. Hickman, "Tax Policy, Federal Deficits and U.S. Growth in the 1980's," April 1983.
7. Ronald I. McKinnon, "Dollar Overvaluation Against the Yen and Mark in 1983: How to Coordinate Central Bank Policies," May 1983.
8. Lawrence J. Lau, "The Measurement of Productivity: A Lecture in Memory of Professor Ta-Chung Liu," July 1983.
9. Bert G. Hickman, "Growth, Inflation and Unemployment in the United States," August 1983.
10. Michael J. Boskin, Kenneth Cone and Sule Ozler, "The Federal Budget and Deposit Insurance," November 1983.
11. Michael J. Boskin and Bradford L. Barham, "Measurement and Conceptual Issues in Federal Budget Treatment of Loans and Loan Guarantees," revised December 1984.
12. Claudio R. Frischtak, "Choice of Technology and Economic Growth: A Reassessment," December 1983.
13. M. Elisabeth Paté-Cornell, "Probabilistic Assessment of Warning Systems: Signals and Response," January 1984.
14. Bruce D. Spencer, "Avoiding Bias in Estimates of the Effect of Data Error on Allocations of Public Funds," April 1984.
15. Carson E. Agnew and Richard G. Gould, "Frequency Coordination and Spectrum Economics," Revised March 1984.

CEPR Publication Series (con't)

16. Timothy F. Bresnahan and Peter C. Reiss, "Dealer and Manufacturer Margins," CEPR Technical Report, February 1984.
17. B. Douglas Bernheim, "Dissaving After Retirement: Testing the Pure Life Cycle Hypothesis," CEPR Technical Report, revised March 1984.
18. Bruce D. Spencer, "Sensitivity of Benefit-Cost Analysis of Data Quality," CEPR Technical Report, May 1984.
19. I.P.L. P'ng, "Liability, Litigation, and Incentives to Take Care," CEPR Technical Report, revised May 1984.
20. M. Elisabeth Paté-Cornell and Timothy S. O'Grady, "Reduction of Fire Risks in Oil Refineries: Costs and Benefits of Camera Monitoring," CEPR Technical Report, January 1984.
21. Ben S. Bernanke and James L. Powell, "The Cyclical Behavior of Industrial Labor Markets: A Comparison of the Pre-War and Post-War Eras," revised May 1984.
22. Yoram Weiss, "The Effect of Labor Unions on Investment in Training: A Dynamic Model," CEPR Technical Report, December 1983.
23. Paul A. David, "The Reaper and the Robot (The Diffusion of Micro-electronics-Based Process Innovations in Historical Perspective)," revised May 1984. (Same as TIP Working Paper No. 1)
24. Paul A. David and Trond E. Olsen, "Anticipated Automation: A Rational Expectations Model of Technological Diffusion," revised April 1984. (Same as TIP Working Paper No. 2)
25. Josep M. Vegara-Carrio, "Software Technological Change: An Economic Approach," May 1983. (Same as TIP Working Paper No. 3)
26. Michael J. Boskin, Marc S. Robinson, Terrance O'Reilly and Praveen Kumar, "New Estimates of the Value of Federal Mineral Rights and Land," revised August 1984.
27. B. Douglas Bernheim, "Life Cycle Annuity Valuation." August, 1984.
28. Arthur T. Denzau, William H. Riker and Kenneth A. Shepsle, "Strategic Behavior in the Theory of Legislatures," CEPR Technical Report, revised June 1984.
29. John E. Chubb, "The Political Economy of Federalism," June 1984.
30. Mathew D. McCubbins and Thomas Schwartz, "The Politics of Derustication: Court-Ordered Redistricting and Its Policy Effects," July 1984.

CEPR Publication Series (con't)

31. Melvin J. Hinich; "Policy Formation in a Representative Democracy," CEPR Technical Report, revised June 1984.
32. John Mendeloff, "OSHA and Regulatory Theory," June 1984.
33. Timothy F. Bresnahan and Dennis A. Yao, "The Nonpecuniary Costs of Automobile Emissions Standards," CEPR Technical Report, June 1984.
34. Norman Frohlich, Joe Oppenheimer and Cheryl Eavey, "Tests of Rawls' Distributive Justice: An Experimental First Cut," June 1984.
35. John Ferejohn and Roger Noll, "Promises, Promises: Campaign Contributions and the Reputation for Services," CEPR Technical Report, August 1984.
36. Linda Cohen and Roger Noll, "The Electoral Connection to Intertemporal Policy Evaluation by a Legislator," CEPR Technical Report, September 1984.
37. Thomas E. MaCurdy and John Pencavel, "Testing Between Competing Models of Wage and Employment Determination in Unionized Markets," CEPR Technical Report, September 1984.
38. Ben S. Bernanke, "Employment, Hours, and Earning in the Depression: An Analysis of Eight Manufacturing Industries," CEPR Technical Report, revised October 1984.
39. Masahiko Aoki, "The Japanese Firm in Transition," CEPR Technical Report, January 1985.
40. Bruce D. Spencer and Lincoln E. Moses, "Needed Data Quality for an Ambiguous Decision Problem," CEPR Technical Report, January 1985.
41. Michael J. Boskin and Marc S. Robinson, "Energy Taxes and Optimal Tax Theory," revised December 1984.
42. Alan S. Manne, "On the Formulation and Solution of Economic Equilibrium Models," CEPR Technical Report, November 1984.
43. W. Brian Arthur, "Competing Technologies and Lock-In by Historical Small Events: The Dynamics of Allocation Under Increasing Returns," November 1983, revised January 1985. (Same as TIP Working Paper No. 4.)
44. Paul A. David, "Clio and the Economics of Qwerty," December 1984. (Same as TIP Working Paper No. 5.)
45. A. Mitchell Polinsky, "Fixed Price Versus Spot Price Contracts: A Study in Risk Allocation," February 1985.

CEPR Publication Series (con't)

46. Paul A. David, "New Technology Diffusion, Public Policy, and Industrial Competitiveness," revised April 1985. (Same as TIP Working Paper No. 7)
47. Michael J. Boskin and Laurence J. Kotlikoff, "Public Debt and U.S. Saving: A New Test of the Neutrality Hypothesis," May 1985.
48. Partha Dasgupta and Paul A. David, "Information Disclosure and the Economics of Science and Technology," April 1985. (Same as TIP Working Paper No. 8)
49. Paul A. David and Paul L. Stoneman, "Adoption Subsidies vs Information Provision as Instruments of Technology Policy," April 1985. (Same as TIP Working Paper No. 6)
50. Robert M. Coen and Bert G. Hickman, "Social Security and Macroeconomic Activity in 1985-2010: A Forecast with the Hickman-Coen Annual Growth Model," June 1985.
51. Partha Dasgupta and Eric Maskin, "The Economics of R & D Portfolios," April 1985. (Same as TIP Working Paper No. 9)
52. Michael J. Boskin, "Theoretical and Empirical Issues in the Measurement, Evaluation, and Interpretation of Post-War U.S. Saving," July 1985.
53. Masahiko Aoki, "Learning By Doing Vs. The Bounded-Rational Control: An Approach to U.S.-Japan Comparison of Industrial Organization," July 1985.
54. James L. Sweeney and Michael J. Boskin, "Analysing Impacts of Potential Tax Policy changes on U.S. Oil Security," July 1985.
55. Ronald I. McKinnon, "The Dollar Exchange Rate as a Leading Indicator for American Monetary Policy," August 1985.
56. Ronald I. McKinnon, "Protectionism and the Misaligned Dollar: The Case for Monetary Coordination," October 1985.

