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# United States Inflation and the Dollar

Jacob A. Frenkel

## 9.1 Introduction

Following the move to generalized floating in 1973, United States inflation accelerated, interest rates rose, the value of the dollar in the market for foreign exchange fluctuated and the volatility of exchange rates between the United States dollar and major foreign currencies reached new heights. These developments pose several questions which are dealt with in this paper.<sup>1</sup> Among these questions are (i) What are the causes for the large fluctuations in exchange rates? (ii) What are the causes for the large divergences between the external and internal values of the dollar? (iii) Have exchange rates fluctuated excessively? (iv) Did the move to a flexible exchange rate regime contribute to the deterioration of the dollar? (v) What would be the implications of restoring fixed parities for the dollar? (vi) What would be the implications of adopting an intervention rule in the foreign exchange market? (vii) What role could the external value of the dollar play in determining the course of the Federal Reserve's policy? and (viii) How could macroeconomic policy contribute to stabilizing the internal and the external values of the dollar?

## 9.2 The Record

To set the stage for the analysis it is useful to start with a brief review of the empirical record. This review concentrates on the evolution and the interrelation of exchange rates, prices, and interest rates during the

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1970s. Subsequent sections contain the interpretation of these facts as well as the policy implications.

The first set of relevant facts concerns the turbulence of the foreign exchange market. A simple measure of such turbulence is the average absolute monthly percentage changes in the various exchange rates over some interval of time. Table 9.1 reports such measures for three major exchange rates: the dollar/pound, the dollar/French franc and the dollar/DM for the period June 1973–July 1979. In all cases the average absolute change exceeded 2% per month. In comparison the average absolute monthly percentage changes of wholesale and consumer price indices and of the ratios of national price levels were only about half that of the exchange rate.

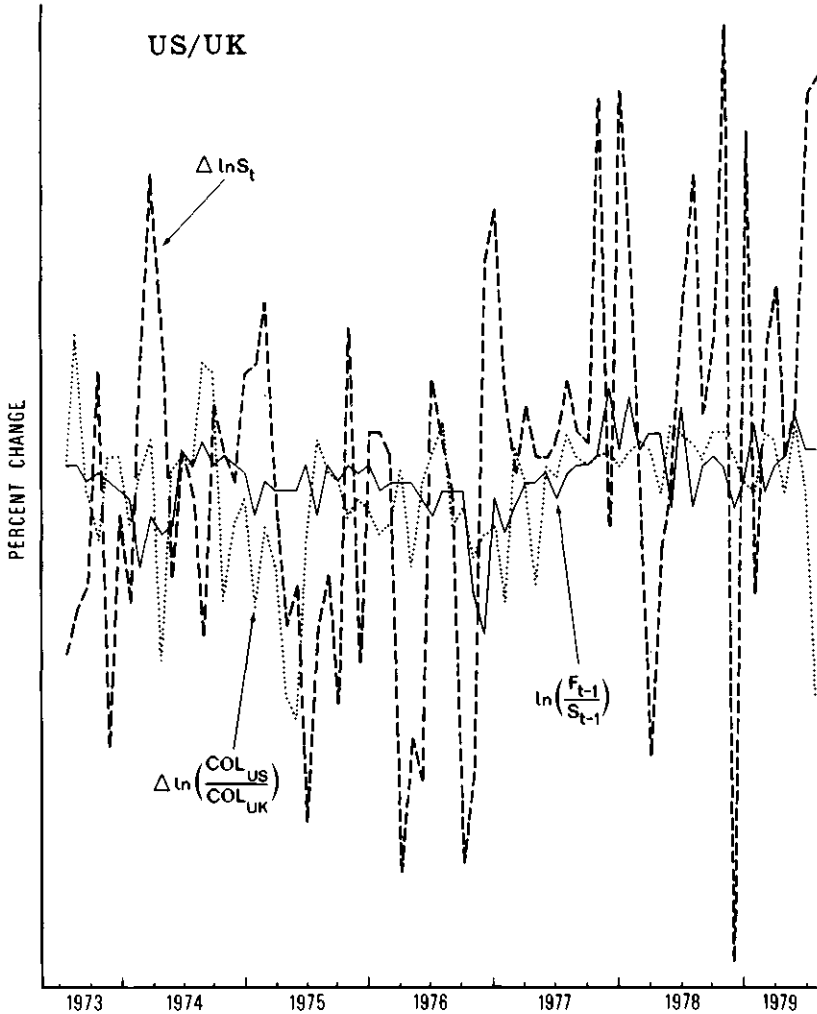
The second set of facts concerns the predictability of these changes in exchange rates. If the forward premium on foreign exchange is regarded as a measure of the market's prediction of the future change in the exchange rate, then a comparison between actual changes and the forward premium may reveal the extent to which the market was successful in predicting these changes. Figures 9.1–9.3 present plots of predicted and realized monthly percentage changes of exchange rates for the three pairs of currencies where the predicted change is measured by the lagged forward premium. The key fact emerging from these figures is that predicted changes in exchange rates account for a very small fraction of actual changes. This phenomenon is also reflected in the comparison between the variances of actual and predicted changes: in all cases the variances of the monthly percentage changes in exchange rates exceeded the variances of the monthly forward premiums by a factor larger than 20.

If exchange rates moved in accord with relative national price levels as suggested by a simple version of the purchasing power parity theory, the

**Table 9.1** Mean Absolute Percentage Changes in Prices and Exchange Rates, Monthly Data for June 1973 to July 1979

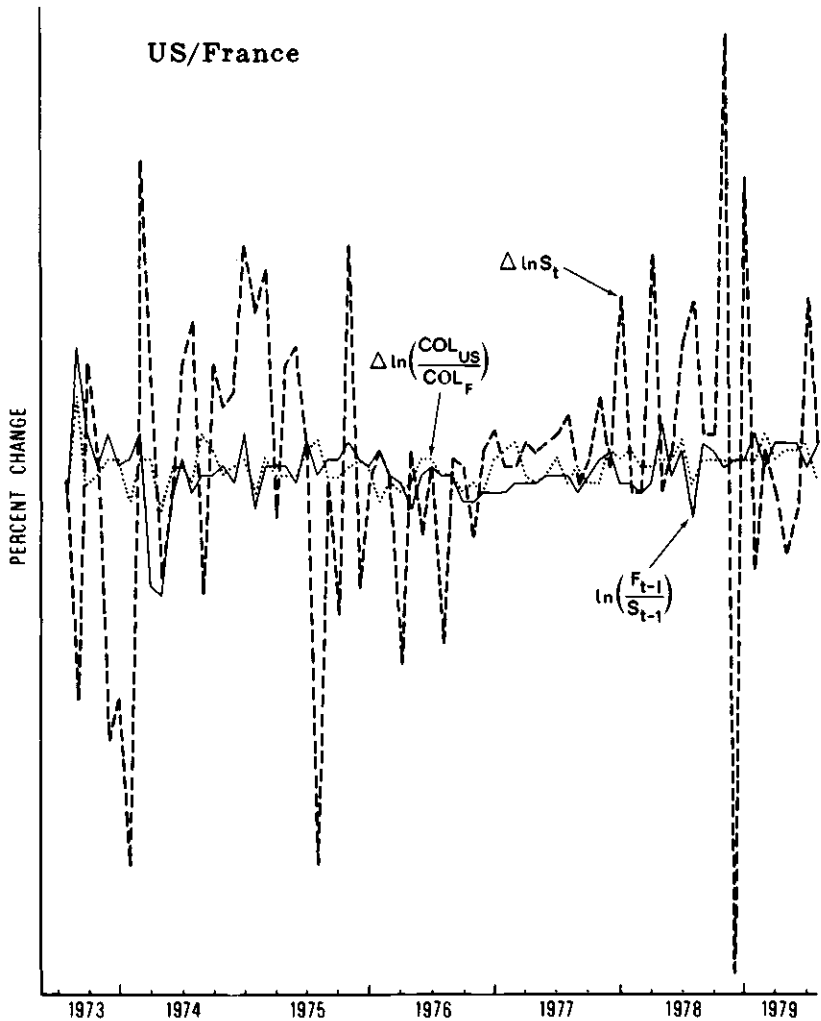
Country	Variable					
	WPI	COL	Stock Market	Exchange Rates against the Dollar		COL/COL <sub>US</sub>
				Spot	Forward	
United States	.009	.007	.037	—	—	—
United Kingdom	.014	.012	.066	.021	.021	.007
France	.011	.009	.054	.020	.021	.003
Germany	.004	.004	.030	.024	.024	.004

Note: All variables represent the absolute values of monthly percentage changes in the data. WPI denotes the wholesale price index, and COL denotes the cost-of-living index. Data on prices and exchange rates are from the IMF tape (May 1979 version). The stock market indices are from *Capital International Perspective*, monthly issues.



**Fig. 9.1** Monthly percentage changes of the us/uk consumer price indices [ $\Delta \ln (COL_{US}/COL_{UK})$ ] and of the dollar/pound exchange rate ( $\Delta \ln S_t$ ), and the monthly forward premium [ $\ln (F_{t-1}/S_{t-1})$ ], July 1973–July 1979.

volatility of exchange rates would be regarded as a manifestation of the forces underlying the volatility of national inflation rates and the turbulence of exchange rates would probably not be regarded as an additional source of social cost. The third set of facts relevant for this issue concerns the relation between exchange rates and prices. As illustrated in figures 9.1–9.3, short-run changes in exchange rates have not been closely linked to short-run differentials in the corresponding national inflation rates.



**Fig. 9.2** Monthly percentage changes of the us/France consumer price indices [ $\Delta \ln (COL_{US}/COL_F)$ ] and of the dollar/French franc exchange rate ( $\Delta \ln S_t$ ), and the monthly forward premium [ $\ln (F_{t-1}/S_{t-1})$ ], July 1973–July 1979.

Furthermore, this loose link seems to be cumulative. As illustrated in figures 9.4–9.6, divergences from purchasing power parities, measured in terms of the relation between exchange rates and the ratio of consumer price indices, seem to persist.

The fourth and final set of facts concerns the relation between the value of the dollar and the rate of interest. The record of the 1970s (at least up to mid-1979) shows that a rise in the rate of interest in the United States

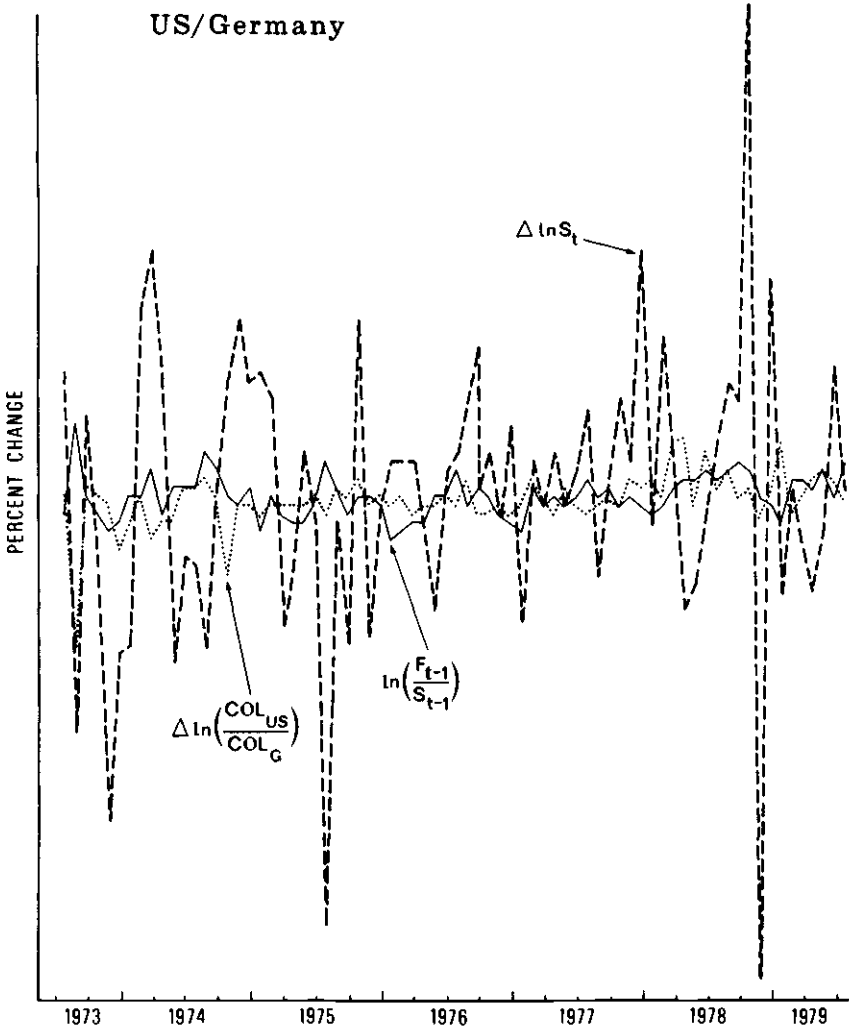
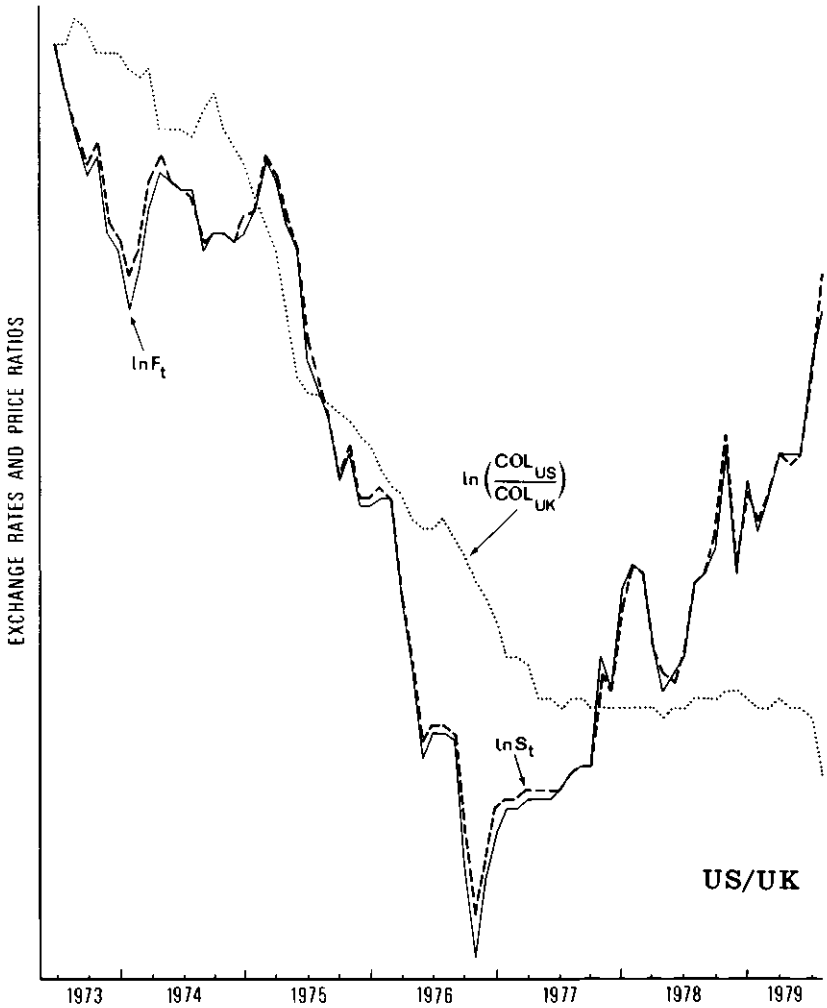


Fig. 9.3

Monthly percentage changes of the us/German consumer price indices [ $\Delta \ln (COL_{US}/COL_G)$ ] and of the dollar/DM exchange rate ( $\Delta \ln S_t$ ), and the monthly forward premium [ $\ln (F_{t-1}/S_{t-1})$ ], July 1973–July 1979.

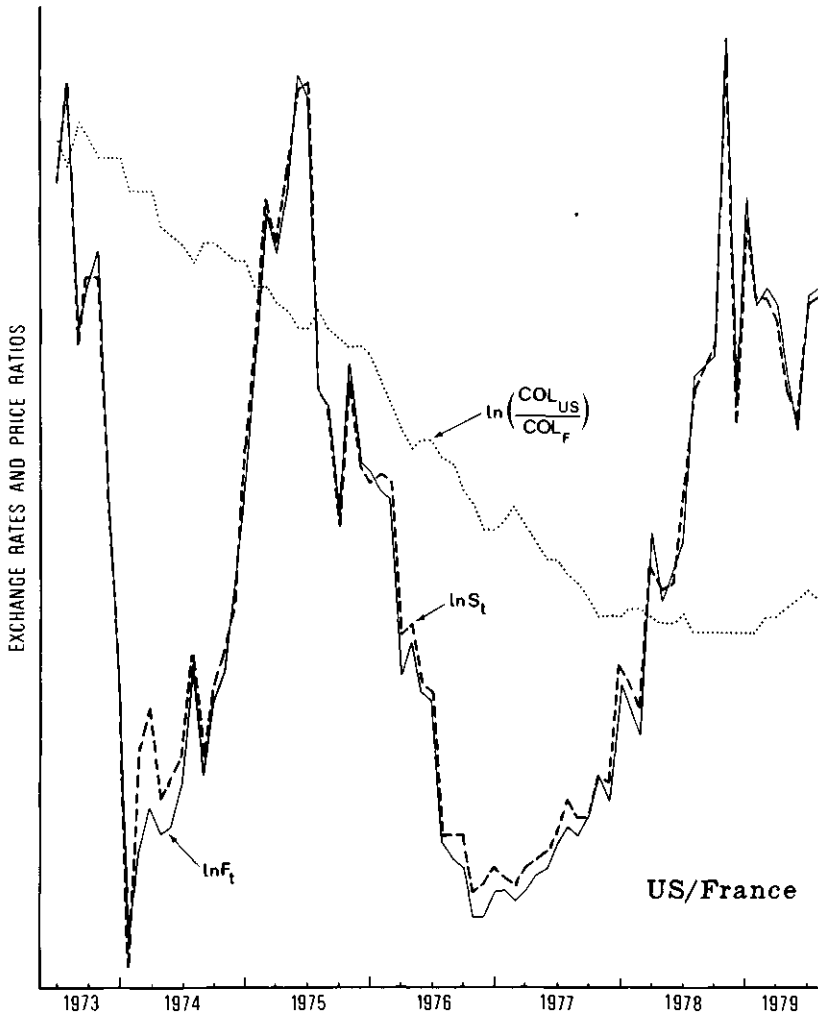
(relative to the foreign rate of interest) has been associated with a depreciation of the dollar. This fact, which is in contrast to the view that a high interest rate yields a strong dollar, is illustrated in figure 9.7.<sup>2</sup> Since mid-1979 the rise in the United States relative rate of interest has been associated with an appreciation of the dollar.

In summary, the record of the 1970s shows that (i) the foreign exchange value of the dollar was highly volatile, (ii) by and large changes in



**Fig. 9.4** Monthly observations of the dollar/pound spot ( $\ln S_t$ ) and forward ( $\ln F_t$ ) exchange rates and the ratio of the US/UK cost-of-living indices [ $\ln (\text{COL}_{US}/\text{COL}_{UK})$  (scaled to equal the spot exchange rate at the initial month)], June 1973–July 1979.

exchange rates were unpredictable, (iii) the fluctuations in exchange rates did not conform closely to movements in national price levels, and (iv) for most of the 1970s the rise in the United States (relative) rate of interest was associated with a decline in the foreign exchange value of the dollar, while beginning in mid-1979 this relationship reversed itself.

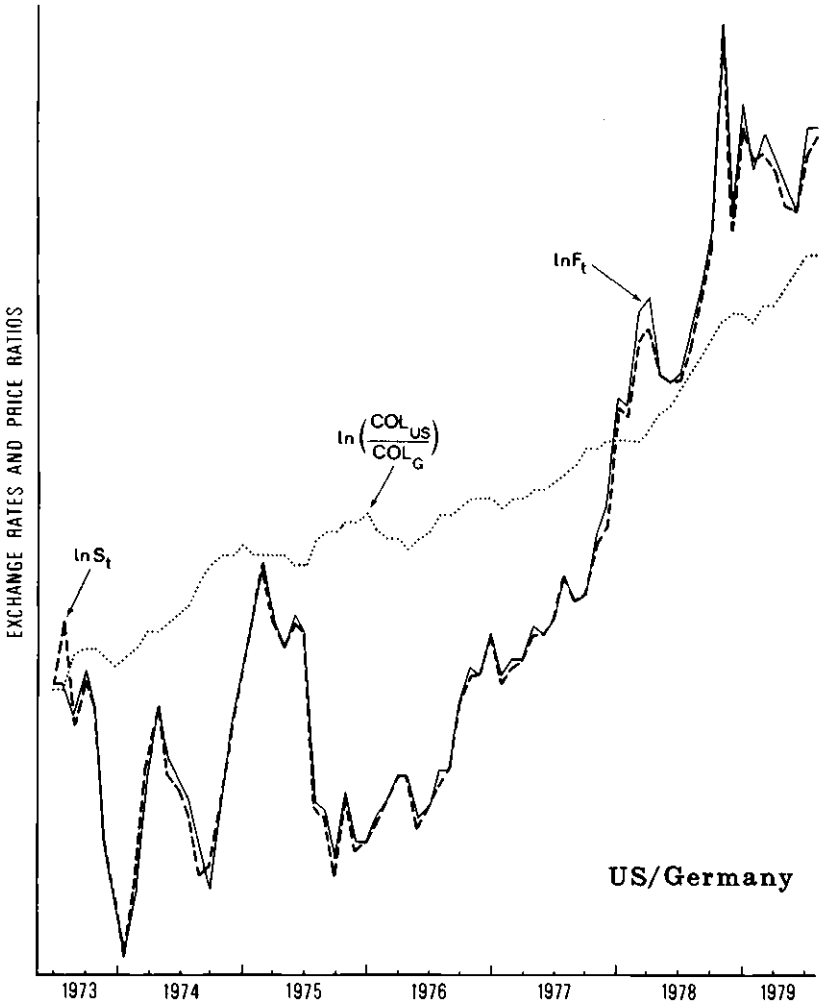


**Fig. 9.5** Monthly observations of the dollar/French franc spot ( $\ln S_t$ ) and forward ( $\ln F_t$ ) exchange rates and the ratio of the us/French cost-of-living indices [ $\ln (COL_{US}/COL_F)$ ](scaled to equal the spot exchange rate at the initial month), June 1973–July 1979.

### 9.3 An Interpretation of the Record

In this section I interpret the record of the United States dollar in terms of the modern “asset market theory” of exchange rate determination.



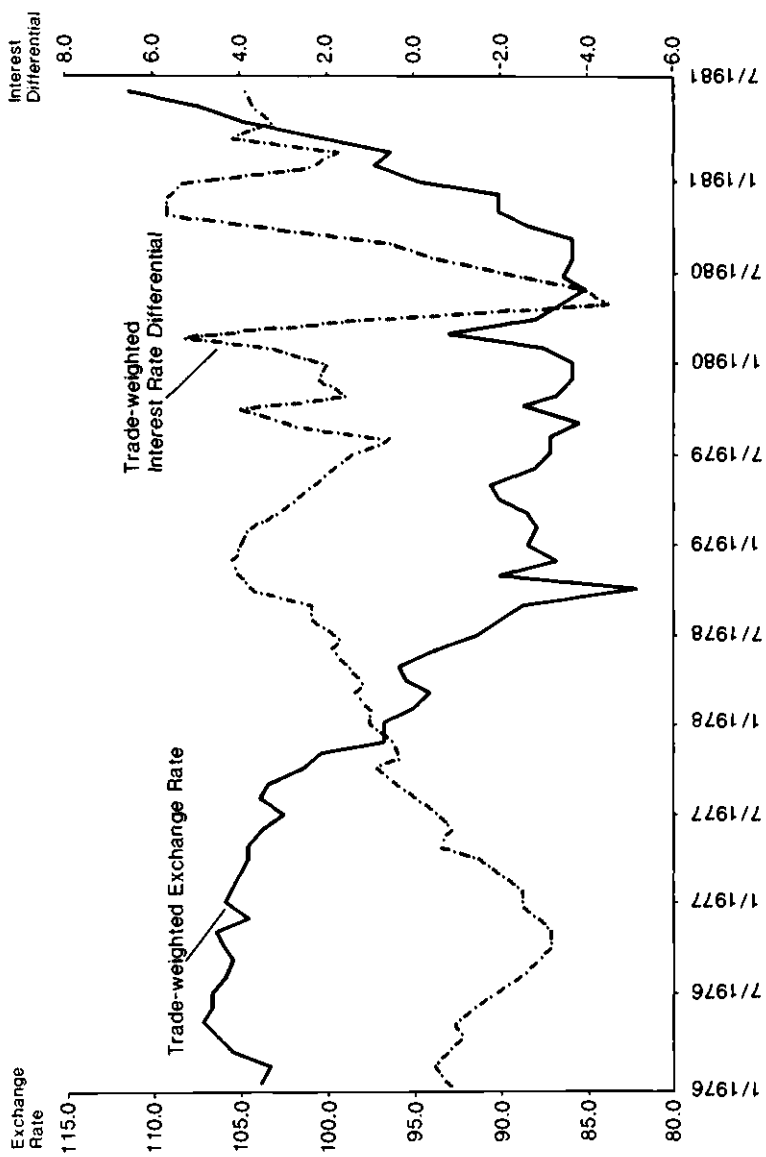


**Fig. 9.6**

Monthly observations of the dollar/DM spot ( $\ln S_t$ ) and forward ( $\ln F_t$ ) exchange rates and the ratio of the US/German cost-of-living indices [ $\ln (COL_{US}/COL_G)$ ](scaled to equal the spot exchange rate at the initial month], June 1973–July 1979.

### 9.3.1 Why Was the Foreign Exchange Value of the Dollar Volatile and Unpredictable?

The central insight of the modern approach to the analysis of exchange rates is the notion that the exchange rate, being the relative price of two durable assets (monies), can be best analyzed within a framework that is appropriate for the analysis of asset prices. The volatility and the unpre-



**Fig. 9.7**

Foreign exchange value of the us dollar and interest rate differential. The exchange rate is a trade-weighted average of the foreign currency value of the dollar; the interest differential is the us three-month commercial paper rate minus a trade-weighted foreign rate. The weights are from the *Federal Reserve Bulletin*, August 1978, p. 700.

dictability of price changes are key characteristics of auction and organized asset markets. In such markets current prices reflect expectations concerning the future course of events, and new information which induces changes in expectations is immediately reflected in corresponding changes in prices, thus precluding unexploited profit opportunities from arbitrage. The strong dependence of current prices on expectations about the future is unique to the determination of durable asset prices which are traded in organized exchange; it is less of a characteristic of price determination of nondurable commodities. The strong dependence of asset prices on expectations also implies that periods that are dominated by uncertainties, new information, rumors, announcements, or "news" which induces frequent changes in expectations are likely to be periods in which asset prices exhibit large fluctuations. It is also likely that during such periods changes in expectations are the prime cause of the fluctuations in asset prices. Since exchange rates are viewed as asset prices, they will also exhibit a relatively large degree of volatility during periods that are dominated by "news" which alters expectations. Since by definition the "news" cannot be predicted on the basis of past information, it is clear that by and large the fluctuations in exchange rates are unpredictable.

The evidence lends support to the hypotheses that in recent years the foreign exchange market behaved as an efficient asset market and that much of the volatility of exchange rates reflected frequent and large changes in expectations concerning the future. Forward exchange rates seem to be unbiased forecasts of future spot rates, and the forecast errors do not seem to contain systematic patterns which can be used to improve predictions. However, as indicated in figures 9.1–9.3, the magnitude of the forecast errors was substantial and only a small fraction of the actual change in the foreign exchange value of the dollar was accounted for by the previous period's forward premium or discount on foreign exchange. The volatility and unpredictability of the foreign exchange value of the United States dollar are consistent with the interpretation of the role of "news." They reflect the volatile character of the 1970s, which witnessed great turbulence in the world economy, large swings in government policy, and substantial uncertainties about the future course of economic and political events.

### 9.3.2 Why Did the Foreign Exchange Value of the Dollar Deviate from Purchasing Power Parities?

One of the striking facts concerning the relation between the price level and the foreign exchange value of the dollar during the 1970s (as exhibited in figures 9.1–9.6) has been the poor performance of the predictions of the simple versions of the purchasing power parity doctrine. As is known, when applied to aggregate national price levels, purchasing

power parities can be expected to hold in the long run only if most of the shocks to the system are of a monetary origin and do not require changes in relative prices. To the extent that most of the shocks reflect “real” changes (like differential growth rates among sectors), the required changes in sectoral relative prices may result in a relatively loose connection between exchange rates and aggregate price levels. The 1970s was a decade in which real shocks were not in shortage. In the context of the United States dollar, the experience during the 1970s illustrates clearly the extent to which “real” shocks (the oil embargo, supply shocks, commodity booms and shortages, shifts in the demand for money, differential productivity growth) result in systematic deviations from purchasing power parities. These “real” shocks necessitated changes in real exchange rates and resulted in the persisting deviations from purchasing power parities which were illustrated in figures 9.4–9.6.

It is pertinent to note, however, that in addition to these factors there is a presumption that, at least in the short run, as illustrated by the evidence in figures 9.1–9.3, exchange rate fluctuations would not be matched by corresponding fluctuations in aggregate price levels. The arguments in section 9.3.1 emphasized that in periods which are dominated by “news” which alters expectations, exchange rates are likely to be highly volatile. Aggregate price indices on the other hand are not expected to reveal such a degree of volatility since they reflect the prices of goods and services which exhibit some “stickiness” and which are less durable and therefore less sensitive to the “news.” It follows therefore that in periods during which there is ample “news” which induces large fluctuations in exchange rates, there will also be large deviations from purchasing power parities. There is thus an intrinsic difference between exchange rates and national price indices. Exchange rates reflect not only current circumstances but also expectations concerning the *future*. In contrast, the prices of national outputs reflect to a large extent *present* and *past* circumstances as they are embedded in existing contracts. Consequently, when there are large and frequent changes in expectations, it is likely that the future will be expected to differ greatly from the present and the past. Under such circumstances one may find large and frequent deviations from purchasing power parities when the latter are computed using current prices.

### 9.3.3 Why Did the High Interest Rate Fail to Strengthen the Dollar?

Prior to accounting for the empirical facts outlined in section 9.2 it is useful to recall the arguments of the typical analysis which predicts that high rates of interest are likely to be associated with currencies that are strong in international money markets. According to the typical explanations a higher rate of interest attracts foreign capital, which induces a surplus in the capital account of the balance of payments and thereby

induces an appreciation of the domestic currency. Another variant of this approach states that the higher rate of interest lowers spending and thus induces a surplus in the current account of the balance of payments which results in an appreciation of the currency. A third variant claims that the higher rate of interest implies (via the interest parity theory) a higher forward premium on foreign exchange and that, to the extent that at a given point in time the forward exchange rate is predetermined by past history (an assumption that is clearly rejected by the evidence on the co-movements of spot and forward rates, as illustrated in figures 9.4–9.6), the required rise in the forward premium will be brought about by an appreciation of the domestic currency. Whatever the route, this approach predicts a positive relation between the rate of interest and the foreign exchange value of the domestic currency.

While such a prediction might be appropriate for noninflationary environments, it is entirely inappropriate for inflationary environments like the one prevailing in the United States in recent years. Indeed, as indicated by figure 9.7, this prediction is inconsistent with the record. During the 1970s (up to mid-1979) the secular rise in the rate of interest in the United States (relative to the foreign rate of interest) has been associated with a secular depreciation of the dollar. The same broad facts emerge from an examination of the circumstances prevailing in a cross section of countries. Generally, countries with relatively low rates of interest (Germany, Switzerland) have relatively strong currencies while countries with relatively high rates of interest (Canada, Italy) have relatively weak currencies.

The explanation is straightforward. In an inflationary environment the primary cause for variations in rates of interest is variations in inflationary expectations. In such an environment a relatively rapid rise in prices is associated with high *nominal* rates of interest as well as with a *depreciation* of the currency in terms of foreign exchange. In an inflationary environment a rise in the nominal rate of interest may just compensate for the erosion of purchasing power without providing for a higher *real* return. Under these circumstances, a rise in the United States rate of interest may not attract foreign capital. Capital markets are much more sophisticated than what is presumed by some of the simplistic theories. The evidence indicates that higher nominal rates of interest are associated with a forward discount on the currency in foreign exchange markets without necessarily raising *real* yields and without necessarily attracting foreign capital (except, possibly, for the very short run). The reversal of the relation between interest rates and the external value of the dollar which has taken place in the United States since mid-1979 indicates that from mid-1979 to the present (mid-1981), the prime cause for the fluctuations in United States interest rates has not been variations in inflationary expectations but rather variations in the *real* rate of interest.

## 9.4 Policy Implications

The high and variable world and United States inflation resulted in high and variable rates of interest and in a depreciated dollar. The induced turbulence of the foreign exchange value of the United States dollar as indicated by the large and unpredictable fluctuations, which did not conform closely to movements in relative national price levels, is costly. It generates capital gains and losses for holders of assets denominated in different national monies; it induces asset holders to alter behavior and expend resources in an attempt to reduce risk; it interferes with the efficiency of the price system in guiding resource allocation; and it may result in economically inappropriate patterns of production, consumption, and trade. A relevant question therefore is how can government policy be managed to stabilize the dollar and reduce its costly and undesirable volatility? This section analyzes the implications of alternative policies.

### 9.4.1 Implications of Fixed Parities

Very few economists recommend fighting inflation by pegging the price level through direct intervention in commodity markets. Similar (though not identical) arguments could be made against fighting the external depreciation of the dollar by pegging the exchange rate. Both dimensions of the deteriorating dollar are reflections of macroeconomic policies, and both can be handled with the aid of macroeconomic policies. Prices and exchange rates are the manifestation of policies rather than tools that should be manipulated as instruments of policy.

It is clear that as a *technical* matter policy can reduce the fluctuations of the dollar even to the extent of a complete pegging of the rate. If the source of evil was the variability of exchange rates, then pegging the rate would have been the simple and feasible solution. The experience with the Bretton Woods system indicates that this is not the case. It must not be assumed that policies which are successful in pegging the exchange rate for a period of time are also successful in eliminating the ultimate cause that underlies the fluctuations. Such policies may only transfer the effects of disturbances from the foreign exchange market to somewhere else in the economic system. For example, it is clear that a commitment to peg the rate of exchange implies a reduced control over the course of monetary policy, which would have to be adjusted so as to ensure the fixity of the rate. In that case the attempt to reduce variability of exchange rates would result in an increased variability of the money supply. It follows that the relevant choice is not between costly turbulence and free tranquility but rather between alternative outlets to the underlying turbulence. This is one of the important constraints that the openness of the economy to international trade in goods and capital imposes on the

effectiveness of monetary policy. One could argue, however, that the obligation to peg the rate would alter the conduct of policy fundamentally by introducing discipline. Experience seems to suggest, however, that national governments are unlikely to adjust the conduct of domestic policies so as to be disciplined by the exchange rate regime. Rather, it is more reasonable to assume that the exchange rate regime is more likely to adjust to whatever discipline national governments choose to introduce.

Could one make a case for transferring the effects of disturbances from the foreign exchange market? Here it is important to emphasize that there is no presumption that transferring disturbances will reduce their overall impact and lower their social cost. On the contrary, since the foreign exchange market is a market in which risk can easily be bought and sold, it may be sensible to concentrate disturbances in this market rather than transfer them to other markets, such as labor markets, where they cannot be dealt with in as efficient a manner.

#### 9.4.2 The Implications of a Purchasing Power Parity Rule

As was indicated in section 9.2, the foreign exchange value of the United States dollar has been far more volatile than the various aggregate price indices. This different degree of volatility resulted in large deviations from purchasing power parities, and by these standards it seems that exchange rate variations were excessive. In view of the large divergences from purchasing power parities, various proposals were made concerning rules for intervention in the foreign exchange market. Some of these proposals are variants of a purchasing power parity rule according to which the authorities are expected to intervene in the market for foreign exchange so as to ensure that the path of exchange rates conforms with the path of the general price level.

There are fundamental difficulties with a purchasing power parity rule. First, as indicated in section 9.3.2, there are intrinsic differences between the characteristics of exchange rates and the price of national outputs. These differences, which result from the much stronger dependence of exchange rates (and other asset prices) on expectations, suggest that in assessing whether exchange rate volatility was excessive, a relevant yardstick should be variations in other asset prices like those of securities rather than variations in price levels. As shown in table 9.1, the variability of exchange rates was about half that of the various stock market indices. This of course does not imply that exchange rates as well as stock market indices have not been too volatile; rather, it indicates that in determining whether volatility was excessive it is not enough to point to the fact that exchange rates have moved more than the price level.

Second, since in the short run the prices of national outputs do not adjust fully in response to shocks, intervention in the foreign exchange market which ensures conformity with purchasing power parities would be a mistaken course of policy. When commodity prices are slow to adjust to current and expected economic conditions, it may be desirable to allow for "excessive" adjustment in some other prices.

Third, it is important to note that changes in real economic conditions requiring adjustment in the equilibrium relative prices of different national outputs occur continuously. Under these circumstances what may seem to be divergences from purchasing power parities may just reflect equilibrating changes. Further, if there is short-run stickiness of prices of domestic goods in terms of national monies, then rapid exchange rate adjustments are capable of changing the relative prices of different national outputs and are a desirable response to the changing real economic conditions. An intervention rule which links changes in exchange rates rigidly to changes in domestic and foreign prices in accord with purchasing power parity ignores the occasional need for equilibrating changes in relative prices.

#### 9.4.3 The Rate of Interest Is a Poor Monetary Indicator

The interpretation of the relation between the rate of interest and the foreign exchange value of the dollar during the 1970s rested on the distinction between nominal and real rates of interest—a distinction that is critical during inflationary periods. That discussion also provides an illustration of the potential danger in using the wrong monetary indicator. Traditionally, the criterion for assessing whether monetary policy was easy or tight has been the height of the rate of interest: a high interest rate was interpreted as indicating a tight monetary policy while a low interest rate was interpreted as indicating an easy monetary policy. By now it is recognized that during an inflationary period it is vital to draw a distinction between nominal and real rates of interest and, as a result, during inflationary periods the rate of interest may provide a very misleading interpretation of the stance of monetary policy. The same logic also applies with respect to the analysis of the relation between exchange rates and interest rates. A rise in the interest rate will strengthen the currency if it is due to a rise in the real rate, and it will weaken the currency if it is due to a rise in inflationary expectations. In this context inflationary expectations play a central role. As a result, policies which attempt to induce an appreciation of the dollar could be successful only if they reduced inflationary expectations. The reduction in inflationary expectations would halt the depreciation of the currency in terms of goods and in terms of foreign exchange, and would result in lower nominal rates of interest while maintaining (or even raising) real rates of interest.



#### 9.4.4 Policies Which Reduce Inflation Will Strengthen the Dollar

The recognition of the link between inflation, the nominal rate of interest, and the depreciation of the dollar is fundamental for the analysis of policy. An excessive growth of the supply of dollars relative to the demand for dollars (for given behavior of foreign monetary aggregates) reduces the value of the dollar in terms of domestic goods and services (as reflected by the domestic inflation rate) as well as in terms of foreign exchange (as reflected by the decline in the external value of the currency). Since the higher inflation rate and the higher rate of depreciation of the dollar are both symptoms of the same fundamental cause, there should be no conflict whatsoever between policies that are aimed at lowering domestic inflation and policies that are aimed at halting the external depreciation of the dollar.

Emphasis on the fact that the external and the internal values of the dollar are both endogenous variables is important in view of the recent allegation that the move to a regime of flexible exchange rates has been inflationary. Both the external and the internal values of the dollar respond to the same set of shocks, and both can be influenced by a similar set of policies. The finding that typically a depreciation of the external value of the dollar precedes and exceeds the depreciation of its internal value does not imply that as an economic matter the chain of causality runs from exchange rates to prices. Rather, it may just reflect the intrinsic difference between exchange rates and prices: exchange rates adjust faster and to a larger extent to shocks than national price levels. It seems therefore that the attribution of the rise in United States inflation to the move to a flexible exchange rate regime may reflect to some extent the fallacy of a belief in *post hoc, ergo propter hoc*.

The perspective that policies which strengthen the domestic value of the dollar are consistent with policies which strengthen its external value implies that the qualitative differences between policies that are introduced through the domestic desk and the external desk at the Fed are not as large as might have been thought. Domestic monetary policies like open market operations involve sales (or purchases) of dollars against securities. External intervention policies like nonsterilized interventions in foreign exchange markets ultimately involve sales (or purchases) of dollars against foreign exchange. Both policies result in changes in the relative supplies of United States dollars, and both therefore are expected to alter the domestic as well as the external value of the dollar. Under these circumstances the degree of coordination between the domestic and the external desks becomes an important issue. It is relevant to note that the degree of coordination between the various activities of the Fed is also important when the official intervention in foreign exchange markets alters only the supplies of nonmonetary assets avail-

able to the public. Such policies may influence exchange rates through portfolio effects and possibly more importantly through signaling to the public the intentions of the government concerning future policies. If the policies of the domestic and the external desks are coordinated, then such signals of the external desk of the Fed should be consistent with the signals provided through the policies of the domestic desk.

The foregoing arguments discussed the role of monetary policy and the conduct of the Fed. It is important to note that this emphasis does not reflect the belief that the source of the depreciation of the dollar was exclusively of a monetary origin. On the contrary, it is clear that "real" shocks were responsible for a significant share of the economic difficulties of the 1970s. It is believed, however, that macroeconomic policy can do little to offset changes in equilibrium levels of real income resulting from changes in relative prices of internationally traded goods (and the recent rise in the relative price of oil is a case in point). Further, while the depreciation might have been caused to some extent by "real" shocks, there is little doubt that the conduct of monetary policy is critical in influencing the internal and the external values of the dollar.

#### 9.4.5 The Role of the Dollar in the Design of Monetary Policy

As was already indicated, exchange rates are influenced by the whole array of (actual and expected) government policies, especially policies which affect the demand and supply of different national monies. Exchange rates, however, are not instruments of policy that may be manipulated independently of other policy tools.

The close association between policies aimed at lowering inflation and those aimed at strengthening the dollar in foreign exchange markets raises the question of the role of the dollar in the design of monetary policy. It seems that the simultaneous achievement of domestic price stability and a stable value of the dollar in terms of foreign currencies need not imply that the external value of the dollar must play an important role in guiding the course of monetary policy.

While this implication may seem to be a revival of the "benign neglect" attitude which became popular during the fixed exchange rate era, the opposite is the case. One of the major arguments for the "benign neglect" attitude was that the United States economy was relatively closed and the foreign trade sector was relatively unimportant. The typical statistic which was used to justify this position was the low share of imports in GNP. This argument was inappropriate in the past and is even less appropriate under present circumstances. The United States has always been an open economy. The relevant measure of openness to international trade in goods and services is not the share of actual trade in GNP but rather the share of tradable commodities in GNP (i. e. of potential trade), which is by

far larger than that of actual trade. Furthermore, one of the main linkages of the United States to the world economy is operating through world capital markets with which the United States is clearly well integrated.

This implication is based on the notion that the United States *is* an open economy, that the external value of the dollar *is* important, and that the restoration of price stability will automatically strengthen the external value of the dollar. Policy which views the exchange rate as an independent target or, even worse, as an independent instrument is likely to result in unstable prices. Furthermore, if monetary policy succeeds in achieving price stability, it might be useful to allow for fluctuations in the exchange rate which provide for a partial insulation from misguided foreign monetary policies.

It is of interest to note that this view that policy which ensures domestic price stability also creates an environment that is conducive for a stable dollar was also advocated by Henry Simons over thirty years ago:

The major need for international monetary stabilization will be simply the internal stabilization of the dollar itself. This is the central prescription from which hopeful planning should proceed . . . If the dollar again is violently unstable in purchasing power or commodity value, and especially if it is again debased irresponsibly by tragically inopportune tariff increases or devaluations, world economic order, large international trade, and decent national behavior in commercial policies or practices will be unattainable. If we can securely and closely stabilize our own price level and prevent recurrent aberrations of inflation and deflation, we can thereby eliminate the major obstacle to reasonable stability of foreign-exchange rates. Here is perhaps the best single contribution we can make to resumption of orderly international trade—to the ending of arbitrary exchange controls (rationing of foreign exchange), bilateralism, discrimination, and direct national control of governmental monopolizing of foreign trade . . . serving well our national interest in this matter, we may also serve well the cause of world order and reconstruction, and conversely. [Simons 1948, p. 262.]

Even when monetary policy is not guided by exchange rate targets, it might attempt to offset disturbances arising from shifts in the demand for money. Such shifts in demand may be especially pronounced under a regime of flexible exchange rates. A policy which accommodates such demand shifts by offsetting supply shifts would reduce the need for costly adjustments of exchange rates and national price levels. The difficulty with implementing this policy is in identifying when a shift in money demand has occurred. Here the exchange rate may be useful as an indicator for monetary policy, especially when frequent changes in inflationary expectations make nominal interest rates an unreliable indicator of fluctuations in money demand. Accordingly, a combination of rising nominal interest rates and an appreciation of the dollar may indi-

cate a rise in the demand for dollars that should be accommodated by an increase in supply, whereas the combination of rising nominal interest rates and a depreciation of the dollar may indicate a rise in inflationary expectations that should obviously not be fueled by an accommodative change in supply.

#### 9.4.6 Low and Stable Rates of Monetary Expansion Would Contribute to Economic Stability

An important way in which government policy can make a positive contribution to restoring price stability and reducing costly and unnecessary turbulence in foreign exchange rates is by reducing high and variable rates of monetary expansion which, for example, result from misguided attempts to stabilize nominal interest rates. This is especially important because exchange rates are affected not only by current policy actions but also by current expectations of future policy. If expectations of future policy are highly sensitive to current policy, then instability of policy can have a magnified effect on exchange rates and on the relative prices of different national outputs, thereby generating significant social costs. If, as I believe, the instability and unpredictability of policy, particularly monetary policy, has contributed significantly to the turbulence of exchange rates since 1973, then the turbulence and its associated cost can be reduced. In order to restore order and effectiveness to economic policies it is important that such policies be perceived as being consistent and permanent. A track record of erratic policies that are based on attempts to fine-tune the economy will not promote such a perception.

An open economy under fixed exchange rates cannot have a monetary rule which ensures a stable growth of nominal balances. In such an economy the autonomy of the monetary authorities is lost to the commitment to peg the rate of exchange. This autonomy is regained under a flexible exchange rate regime, but, as was noted above, shifts in the demand for money are likely to occur. Since it might be desirable to accommodate such demand shifts, the monetary rule should be formulated with some flexibility so as to allow for occasional accommodations.

During a stabilization program it is likely that some sectors will be harmed more than others. The principles of the division of responsibilities between monetary and fiscal policies suggest that since monetary policy is an aggregate policy, it need not be guided by intersectoral considerations. These intersectoral considerations are, however, extremely important. The proper instrument for dealing with sectoral difficulties is fiscal rather than monetary policy.

Recognition of these principles is critical since very frequently the period of time that the economic system needs for adjustment is likely to be longer than the period of time the political system is willing to provide.

In the past this conflict resulted in stop-and-go policies with subsequent acceleration of the rate of inflation. These costs can be avoided if the Fed maintains its independence from political pressures.

Once the Fed adopts a stable course of policy, it will minimize the costly side effects. Put differently, money is felt when it is out of order; when it is in order, it only serves as a veil over the real equilibrium of the economy. This unique property of money was best summarized by John Stuart Mill:

There cannot, in short, be intrinsically a more insignificant thing, in the economy of society, than money; except in that the character of a contrivance for sparing time and labour. It is a machine for doing quickly and commodiously, what would be done, though less quickly and commodiously, without it: and like many other kinds of machinery, it only exerts a distinct and independent influence of its own when it gets out of order [Mill 1862, book 3, chapter 7, sec. 3.]

Following a predictable stable course of policy will ensure that money is in order. Adopting such a course will not eliminate variations of exchange rates nor will it ensure that exchange rates conform with the predictions of the purchasing power parity theory. It will, however, reduce some of the unnecessary and costly fluctuations which are induced by unstable and erratic policies.

## Notes

1. Some of the arguments in this paper draw on Frenkel (1981a, b) and on Frenkel and Mussa (1980, 1981).
2. I am indebted to Dallas S. Batten for preparing this figure.

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