Lessons from 1970s Experience with Flexible Exchange Rates: A Comment

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By Allan H. Meltzer

Jacob Frenkel’s paper assesses the operation of the international monetary system, after almost a decade of floating, Frenkel studies the performance of three exchange rates—the dollar-pound, dollar-French franc, and dollar-mark rates—in the years of turbulence that followed the closing of the U.S. gold window. The period includes the two oil shocks and ends with the institutionalization of chaos in Iran.

Frenkel considers three main topics. First, he looks at the relation of spot to forward exchange rates. This leads him to the second topic, the relation of actual to anticipated exchange rates. Frenkel ends his paper with a brief discussion of purchasing power parity, the third topic.

The paper is a well done, careful summary of our knowledge and ignorance about exchange rates. The reader gains from the investment of time. Hypotheses are clearly stated, and they are allowed to stand, or fall, according to their consistency with the "facts". Unlike many discussions of the instability of fluctuating rates, Frenkel’s paper makes the reader aware that stability, or variability, of prices and exchange rates is a relative matter.

The world we inhabit is subject to changes that are unforeseen and unpredictable as to timing and magnitude. Weather and technical innovation are examples. Superimposed on these changes, or shocks, are political events—wars, revolutions, and more peaceful changes in political power, in the relative size of government, in the risks to private ownership and in the extent of market freedom. Changes in the relative growth of money in different countries are far less climactic but, at times, no more predictable than the more dramatic political events.

Exchange rates reflect all the events affecting the relative position of countries. A study of exchange rate volatility, therefore, must consider the influence of events that are not—or were not—predicted accurately. And this is why Frenkel’s concern with what he calls "news" is the appropriate place to start.

Main Implications

The paper makes several points, and makes them effectively. Two implications, or
conclusions, are of particular interest for evaluating the operation of floating exchange rates. In this section, I comment on what I take to be the main implications and offer some criticisms. In the following section, I make some suggestions for further work.

One main implication is that an exchange rate is the relative price of two assets. This statement can be looked at as a truism; exchanges of domestic for foreign money are made at the exchange rate for the two monies. More is intended by the statement, however. Frenkel wants to convey that asset adjustment dominates the movement of exchange rates and that a reliable explanation of exchange rates can be developed without reference to the trade account. This is, generally, a correct statement, and Frenkel’s paper shows, as others have shown, that most changes in exchange rates can be accounted for in this way.\(^1\)

Our distinguished intellectual ancestor, David Ricardo, might have objected that Frenkel has neglected some important influences. England, he would say, produces cloth, and Portugal produces wine. When England spends more on wine than Portugal spends on cloth, gold or foreign exchange flows toward Portugal; prices in Portugal rise, with exchange rates fixed, and the escudo appreciates if exchange rates are variable. The price-specie flow mechanism is a more precise statement of the basic truth that exchange rate respond to asset movements and, later, commodity prices adjust.

But Ricardo, might add, suppose there are changes in relative technology. As an example, suppose the number of gallons of wine produced per man hour of labor falls. Then, Ricardo would say, the exchange rate must respond. Analysis of asset movements will miss the initial impact of the change in Portuguese productivity on spot and forward rates of exchange.

The example discusses a one-time change in the level of productivity that might be difficult to sort out of the purely random influences, or "white noise", affecting exchange rates. A one-time change in the growth of productivity in Portugal, however, will have a persistent or permanent effect on the exchange rate. If changes in relative productivity growth occur frequently, Frenkel’s hypothesis will miss a systematic influence on exchange rates.

An important implication of his tests is that they suggest that changes in relative productivity growth are small and/or infrequent. Or, the influence of relative productivity

growth is small compared to the factors considered—principally the forward rate at the start of the period and the error in forming expectations of differences in interest rates for the two countries. Either of these interpretations would, if correct, provide strong evidence for the asset market approach.

The point is most relevant for the tests of purchasing power parity. Price levels reflect both differences in productivity and in productivity growth. Frenkel's evidence on purchasing power parity (P.P.P.) gives relatively weak support to P.P.P. Productivity change—and its influence of the trade account—is one of the omitted factors that is capable of reconciling the evidence from asset markets with the less satisfactory evidence for, or against, P.P.P. If I am correct, the influence of productivity growth has not been dismissed by Frenkel's tests.

Frenkel's careful tests of market efficiency provide considerable evidence on the presence or absence of unused information. The tests are not complete, however. There is no test showing that the intercept terms are constant. Permanent changes in exchange rates can change the spot rate without affecting the relation of forward to spot exchange rates. If people cannot distinguish permanent and transitory changes as they occur, the intercept would adjust to the revised beliefs about the spot rate. Techniques for implementing a test of this kind are available.

The second main implication of Frenkel's paper is related to the first. The variability of exchange rates, during the period of floating, is often described by market participants and governments as "large" or even "excessive". Statements of this kind lack a standard of comparison. Frenkel shows that the variability of exchange rates arises mainly from the arrival of new information. To reduce the variability of exchange rates, we must reduce the variability induced by nature and policy arrangements.

The cost of "natural" variability borne by people can be reduced by such well-known devices as pooling of risk and diversification. Under the Bretton Woods system, international reserves were mainly in dollar assets. Once the Bretton Woods system ended, the benefits of diversification increased. Highly variable policies and rising inflation in the U.S. and Britain added to the benefits of diversification. Governments, and people, sold dollars and pounds and bought marks, yen and Swiss francs.

On the distinction between permanent and transitory changes, see K. Brunner, A. Cukierman and A.H. Meltzer, "Stagflation, Persistent Unemployment and the Permanence of Economic Shocks," JME, 6, October 1980.
Attempts by central banks, governments and people to diversify depreciated the dollar and appreciated the currencies which were purchased with the dollars sold from portfolios. The U.S. policy of refusing to reduce the stock of dollars meant that the dollar exchange for the mark, yen, and Swiss franc appreciated, but the nominal stock of dollars held by foreigners, including central banks and governments, did not fall. Countries that chose to slow the appreciation of their exchange rates bought the dollars that were offered on the market.

One way to analyze portfolio diversification of this kind is to treat some of the adjustments in the dollar exchange rates as a result of intermittent reductions in the demand for dollars and increases in the demand for the specific foreign currencies into which holders diversified. As the anticipated rate of inflation in the U.S. rose, from year to year, further reduction of desired dollar balances became appropriate.

Looked at in this way, the series of adjustments, often described as speculative "attacks" on the dollar (and the pound), are a sequence of one-time, permanent changes in desired portfolios. The attempt to diversify, to lower the cost of exchange rate changes to asset owners, produced the result that it was intended to avoid. The one-time adjustment gave a trend or drift away from purchasing power parity, particularly for bilateral exchange rates involving the so-called weak, reserve currencies—the dollar and the pound—and the stronger, emerging reserve currencies—the mark, the Swiss franc, the yen and, of course, the currencies that peg to the mark.

If my argument is correct, one should find that exchange rates for currencies that did not participate in the diversification remain closer to purchasing power parity, during the turbulent seventies, than the five currencies most subject to the one-time permanent shifts in the demand for money. By neglecting permanent shifts in demand, Frenkel has omitted a relevant part of the history of the period.

My argument supplements Frenkel's. He points out that fluctuations in exchange rates absorb uncertainty. A shift from fixed to floating exchange rates is a policy change that shifts some of the burden of adjusting to new information, "news", from the output and labor markets to asset markets. Floating rates do not leave desired portfolios unchanged. To reduce the cost of increased fluctuations in asset prices, more asset holders diversify. For a time, this increases the amount by which some, key exchange rates change.
Suggested Extensions

Some extensions of the analysis seem desirable. In this section, I discuss three ways in which Frenkel's paper can be extended and, I believe, strengthened.

I have discussed the first of the extensions in the previous section. I believe a more appropriate error structure for Frenkel's equation is

\[ S_t = a_t + bF_{t-1} + u_t \]

with

\[ a_t = a_{t-1} + v_t. \]

\( S_t \) is the current spot rate, \( F_{t-1} \) the forward rate at the start of the period and \( u_t, v_t \) are the usual normally distributed random variables. The shift in the constant, \( a_t \), permits permanent changes. This change permits portfolio diversification, relative productivity growth and other permanent shocks to change exchange rates. Estimation by adaptive regression provides the necessary information on the relative size of permanent and transitory change.

The second proposed extension would introduce the term structure of interest rates in some of the tests of market efficiency. If one country has a rising term structure of interest rates and another has a declining term structure, there is relevant information that cannot be read from the forward exchange rate and the difference in home and foreign interest rates for a single maturity. Frenkel, and many other current students of exchange rates, neglect this information.

Changes in taxes are a third, commonly neglected influence on exchange rates. Border tax adjustments, changes in relative tariffs, and shifts from income taxes to value added taxes change relevant after-tax returns and costs. The fiscal change in Britain that reduced income taxes and raised valued added taxes reduced taxes on saving and strengthened the pound relative to other currencies. The introduction of VAT in Britain, earlier, not only affected exchange rates but drove a wedge between recorded prices and purchasing power parities. A reader of most of the empirical literature on exchange rates finds few references to influences of this kind.

These suggestions for extensions, like the comments that precede them, are a request for "more". My high regard for the paper and the author's contribution to our understanding of exchange rates encourages me to believe that we can look forward to his future work with anticipation that he will continue to receive "news" about the operation of foreign exchange markets.