

Research Department
Federal Reserve
Bank of
San Francisco

May 20, 1977

Depreciation = Inflation?

Do exchange depreciations tend to exacerbate domestic inflation? If so, what does this imply about national exchange-rate policies and the functioning of the international monetary system?

Since 1973, major currencies have been floating against one another—some (such as the European “snake” currencies) tied together in a currency bloc, and others floating separately. Many observers question whether the floating exchange-rate system might have contributed to the inflationary pressures in the world economy. For an individual country attempting to combat domestic inflation, this is a critical consideration whenever it decides to adjust the value of its currency or to let it float.

Two cases

For example, Mexico last August abandoned the fixed parity of 12.5 pesos per dollar which had been maintained for more than 22 years. At first, the rate dropped to about 20 pesos, and in late October it dropped further to more than 25 pesos per dollar. Thus, in less than two months, the peso lost more than 50 percent of its former value. Some Mexican merchants reacted by doubling or even tripling prices, and labor unions in turn demanded

a 60-percent rise in wages to compensate for the price increases. The general impression was one of massive depreciation contributing to massive inflation.

Great Britain provides another example. Because that nation has suffered significantly higher inflation than other major industrial countries, sterling has taken a severe beating in the exchange markets in recent years. From about \$2.02 at the end of 1975, it sank 20 percent to only \$1.60 by late October 1976. It has since recovered to more than \$1.70, as the U.K. accepted International Monetary Fund conditions involved in the provision of multi-billion dollar credits through the Fund. This support from major industrial countries (and also from private commercial banks) was felt necessary in order to give the U.K. time to put its house in order, and on the ground that further depreciation would only create more inflation and increase the Government's difficulties in achieving its domestic stabilization objectives.

To many observers, the common thread running through these and other similar cases is the tendency for exchange depreciation to aggravate domestic inflationary pressures. Thus, other things being

(continued on page 2)

Research Department Federal Reserve Bank of San Francisco

Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, nor of the Board of Governors of the Federal Reserve System.

equal, the maintenance of a stable exchange rate would tend to support domestic stabilization goals.

Vicious circle

How reasonable is that conclusion? One might argue that, since depreciation makes imports more expensive in terms of domestic currency, it will necessarily add to inflationary pressure at home. Moreover, since domestic inflation is often the underlying cause of exchange depreciation, and exchange depreciation produces more inflation, the analysis apparently points to a "vicious circle" of mutual causality, which could plunge a national economy into a disastrous tail-spin if unchecked by "appropriate" stabilization-policy measures.

If this vicious-circle theory is correct, depreciation will be self-defeating and destabilizing to the national economy. The theory is particularly attractive to policy makers whose political instincts favor the avoidance of abrupt policy changes. Rightly or wrongly, policy-makers and the general public still attach considerable stigma to exchange depreciation, which is often equated to official admission of policy failure.

Causes vs symptoms

Yet in arguing that inflation begets depreciation and depreciation begets more inflation, the vicious-circle theory confuses symptoms

with causes. Both exchange depreciation and domestic price inflation are symptoms of excess demand for goods and services; they are not interrelated causes.

Consider first the case of floating exchange rates. An excess demand for domestically produced goods causes a rise in domestic prices—and for foreign goods, a depreciation of the national currency. An excess demand for both will cause both domestically-produced goods prices to rise and the exchange to depreciate.

Thus, depreciation means higher domestic prices of foreign goods and depending on the extent to which foreign goods enter the nation's consumption stream, a rise in the domestic inflation rate. After all, the domestic price of a foreign good is by definition equal to its foreign price times the exchange rate of the national currency. Depreciation, therefore, must mean a higher domestic price of the foreign good. But, that is simply a tautology, not to be confused with the vicious-circle theory, which holds that inflation causes depreciation, and depreciation in turn causes more inflation. The definitional relationship, on the other hand, simply states that (given foreign prices) exchange depreciation *implies* higher domestic prices of foreign goods, and vice versa.

Some might still argue that any step toward depreciation should be resisted, because it implies higher domestic prices of foreign goods. Thus, from the point of view of the policy maker who is intent on avoiding domestic price increases, a

stable exchange rate holds great appeal. Again the argument tends to draw a wrong conclusion from a valid premise. It is true that, with a given inflationary pressure, the rise in the domestic price level will be less under fixed exchange rates than under floating exchange rates. But the difference is due not to the nature of exchange rates, but to the adjustment mechanisms under the two exchange-rate regimes.

Escape valve

Under fixed exchange rates, domestic inflationary pressures are partly worked off by domestic price increases, and partly absorbed by the excess of the nation's imports over exports. Trade deficits and domestic price increases are alternative manifestations of domestic inflationary pressures. With a given amount of domestic inflationary pressure, the larger the trade deficit, the smaller the corresponding price increase will be. The nation is, in fact, subsidizing its current expenditures at artificially low prices of both foreign and domestic goods by borrowing abroad or drawing down its foreign reserves. Under such circumstances, trade deficits serve as an escape valve for relieving domestic inflationary pressures, and domestic price increases will be less, because part of the inflationary pressure is "exported" to the rest of the world.

The major difference between fixed and flexible exchange rates is, therefore, the extent to which a country can temporarily "export" some of its domestically produced inflation. Under a flexible exchange-rate regime, all the inflationary consequences of domestic

excess demand are contained within the national economy. Under a fixed exchange-rate regime, part of the inflationary pressure can be "exported" through trade deficits. The latter policy is viable so long as the country can continue to draw on its foreign reserves or borrow abroad. But, before such a recourse runs out, the escape valve will have to be turned off by exchange depreciation or letting the currency float. Without the escape valve, the inflationary pressure will be all bottled up inside the national economy, and the domestic inflation rate will indeed be higher. On the basis of the sequence of events, the unwary observer is easily led to see causality and accept the "vicious-circle" theory. But, it is just as logical to attribute the higher inflation rate to exchange depreciation (or currency floating) and to put the blame for the greater steam pressure inside the boiler on the wrench that is used to turn off the escape valve.

By refusing to devalue or letting the currency float, the policymaker is counting on the rest of the world to absorb some of the inflation pressures emanating from the country. So long as the rest of the world is willing to accommodate, it is a perfectly sensible policy to follow. But it is a perversion of economic analysis to justify the policy in terms of the "vicious-circle" theory.

Hang-Sheng Cheng

Research Department
Federal Reserve
Bank of
San Francisco
 Alaska • Nevada • Oregon • Utah • Washington
 Idaho • Arizona • California • Hawaii

FIRST CLASS MAIL
 U.S. POSTAGE
 PAID
 PERMIT NO. 752
 San Francisco, Calif.

BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
 (Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding	Change from	Change from year ago	
	5/4/77	4/27/77	Dollar	Percent
Loans (gross, adjusted) and investments*	95,725	+ 413	+ 7,830	+ 8.91
Loans (gross, adjusted)—total	73,621	+ 672	+ 7,654	+ 11.60
Security loans	1,750	+ 183	+ 521	+ 42.39
Commercial and industrial	23,929	+ 100	+ 1,535	+ 6.85
Real estate	22,754	+ 108	+ 2,840	+ 14.26
Consumer instalment	12,838	+ 71	+ 1,822	+ 16.54
U.S. Treasury securities	8,758	- 297	- 905	- 9.37
Other securities	13,346	+ 38	+ 1,061	+ 8.81
Deposits (less cash items)—total*	93,701	- 2,002	+ 5,385	+ 6.10
Demand deposits (adjusted)	26,097	- 1,634	+ 1,626	+ 6.64
U.S. Government deposits	555	- 284	- 67	- 10.77
Time deposits—total*	65,360	- 72	+ 3,849	+ 6.26
States and political subdivisions	5,644	- 2	- 1,169	- 17.16
Savings deposits	32,071	+ 112	+ 5,932	+ 22.69
Other time deposits‡	25,850	+ 62	- 549	- 2.08
Large negotiable CD's	9,011	- 147	- 2,280	- 20.19
Weekly Averages of Daily Figures	Week ended 5/4/77	Week ended 4/27/77	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	- 2	+ 18	+ 156	
Borrowings	3	11	2	
Net free(+)/Net borrowed (-)	- 5	+ 7	+ 154	
Federal Funds—Seven Large Banks				
Interbank Federal fund transactions				
Net purchases (+)/Net sales (-)	- 424	- 1,094	- 353	
Transactions with U.S. security dealers				
Net loans (+)/Net borrowings (-)	+ 35	+ 179	- 196	

*Includes items not shown separately. ‡Individuals, partnerships and corporations.

Editorial comments may be addressed to the editor (William Burke) or to the author. . . .
 Information on this and other publications can be obtained by calling or writing the Public
 Information Section, Federal Reserve Bank of San Francisco, P.O. Box 7782, San Francisco 94128.
 Phone (415) 544-2184.