Research Department
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Money and Exchange Rates

Eight major industrial countries now establish annual targets for the growth of their monetary aggregates: the U.S., Germany, Japan, Canada, the U.K., France, Italy and Switzerland. In many cases they have done so because of their concern with controlling domestic rates of inflation, in the aftermath of the 1973 breakdown in the system of fixed (or almost fixed) exchange rates. Under the earlier Bretton Woods system, fixed exchange parities required countries with balance-of-payments surpluses to "monetize" their surpluses; that is, central banks essentially converted the surplus foreign exchange into central-bank assets, thereby expanding that country's domestic money supply.

In the absence of fixed exchange rates, countries could, in theory, pursue different monetary policies, allowing the exchange rates to adjust to bring about an equilibrium between the supply and demand for a country's currency by its trading partners. But by the same token, countries which desired to pursue more rapid monetary growth than their trading partners would over time have to expect a depreciation in their currencies.

Central bankers have been very mindful of the potential for conflict between exchange-rate objectives and money-supply objectives. Dr. Otmar Emminger, President of the Deutsche Bundesbank, wrote recently in the Princeton University series, *Essays in International Finance (No. 122)*, "It is significant that more and more countries have in recent years adopted a monetary policy emphasizing the quantitative control of monetary aggregates. Any commitment to intervene in the foreign-exchange markets in order to maintain fixed exchange rates is bound sooner or later to conflict with such controls of the money stock." While the major central banks have stated time and again that they have little desire to "fix" exchange rates, conflicts can still arise between money-supply objectives and any existing configuration of exchange rates. Where "inconsistencies" arise among money-supply objectives, some currencies could appreciate and others depreciate. The only question is: which ones?

Alternative framework

Most U.S. academic economists argue that domestic monetary policy ought not to be aimed at achieving a given objective for either the balance of payments or the foreign-exchange value of the dollar. They argue that the "tail does not wag the dog," where the domestic economy is the dog and the foreign sector, the tail. While this is admittedly true, there are times in which the tail contains a good deal of information which the dog is ignoring. To analyze what the tail is trying to tell the dog, we need an alternative perspective on the balance of payments and exchange rates. Under any such approach, we should focus attention on the entire balance of payments — trade account and capital account — and not simply on the trade account, as has been done recently in discussions of the U.S. dependency on imported energy sources.

This alternative approach — the monetary approach to the balance of payments — has two basic propositions. First, international money flows are the

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consequence of money *stock* disequilibria – that is, differences between desired and actual *stocks* of domestic money – and are in essence transitory and self-correcting. Secondly, domestic money can be created *either* by domestic monetary policy via domestic credit expansion *or* by international policy via a balance-of-payments surplus.

In a world of *fixed* exchange rates, an excess supply of domestic money leads to an outflow of funds – a balance-of-payments deficit – thereby restoring equilibrium in the domestic money market. This outflow is then absorbed by foreign central banks, who monetize it and thereby expand their money supplies. In a world of *flexible* exchange rates, the incipient balance-of-payments deficit leads to a decline in the foreign-exchange value of the domestic currency. Thus, equilibrium in the domestic money market is restored by a price change – a decline in the international value of the domestic currency. Hence, the adjustment which restores equilibrium in the domestic money market may take place by a quantity adjustment (under fixed exchange rates) or a price adjustment (under flexible exchange rates). In either case the domestic money market is stabilized by eliminating the *stock* disequilibrium – that is, the excess demand or supply of domestic money.

What about oil?

This "new approach" emphasizes a point which is often ignored – namely, that the adjustment of desired to actual stocks of money may occur through *either* the trade account *or* the capital account. The financial press, in contrast, has tended to emphasize only the trade account, in the form of 1977's massive $31-billion merchandise trade deficit.

While oil imports and the resultant trade-balance deficit help explain the declining value of the dollar, they are by no means the whole story. Indeed, it is quite conceivable that the U.S. could solve its energy problem and still be confronted with an exchange-rate problem. For if the U.S. did not have an excess supply of money, the deficit on trade account would be appropriately matched by an equivalent surplus on capital account. According to the monetary argument, equilibrium in the balance of payments is equivalent to the equilibrium between the desired demand and actual supply of the existing stock of nominal money balances. Consequently, overall balance-of-payments equilibrium will be restored only when the U.S. reduces the excess supply of nominal money balances. This, of course, is not an easy task, but the Federal Reserve's establishment of long-run targets is designed to help eliminate any excess money supply without sacrificing domestic economic considerations, such as output and employment.

Price story

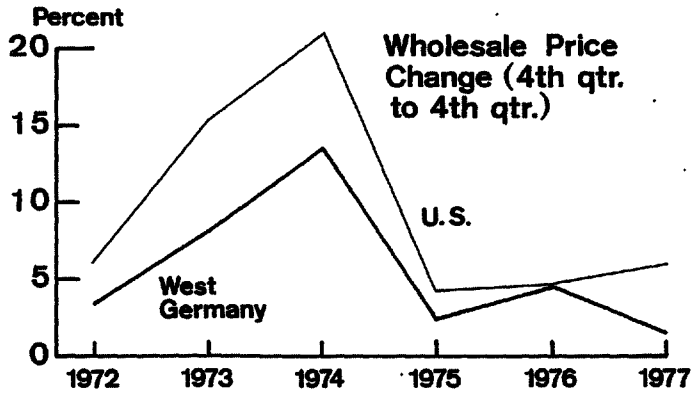
Over long periods of time, excess money growth feeds into prices, and price-inflation differentials across countries are reflected in exchange-rate adjustments. This can be demonstrated by the wholesale-price performance since 1972 of the U.S. and West Germany (see chart). During

1973, for example, the U.S.-German inflation differential was a wide 7.2 percentage points. Given that similar traded goods tend to sell for the same price (adjusted for exchange rates) in different countries, this wide a differential would suggest the necessity for a major exchange-rate realignment between Germany and the U.S.—as indeed occurred during the switch to floating exchange rates in the spring of 1973.

The U.S.-German inflation differential remained high during 1974 but then almost disappeared during the 1975–76 period. However, during 1977 this differential widened to 4.3 percentage points, suggesting the need for a further exchange-rate adjustment between the dollar and the Deutschemark. (Admittedly, the Deutschemark appreciation during 1977 was much larger than the widened U.S.-German inflation differential. This may represent discounted expectations of a future increase in differential price behavior, or "over-adjustment" to the widened inflation differential.) In terms of the monetary approach, the worsening U.S. price picture and the improved German price performance implied an excess supply of the U.S. money stock, precipitating a U.S. balance-of-payments deficit, and an excess demand for the German money stock, precipitating a German balance-of-payments surplus and an appreciation of the D-Mark.

Consequently, according to the monetary approach, stable exchange rates and a balance-of-payments equilibrium will be restored only when each country eliminates any disequilibrium (excess supply or demand) in its own money stock and, in the long-run, when consistency is achieved between both countries' money-stock targets. Otherwise, the balance of payments will not be in equilibrium for either country, and the exchange rate will continue to fluctuate as attempts are made to restore equilibrium in each country's domestic money market.

Joseph Bisignano



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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 3/15/78	Change from 3/8/78	Change from year ago Dollar	Change from year ago Percent
Loans (gross, adjusted) and investments*	108,356	+ 500	+ 13,416	+ 14.13
Loans (gross, adjusted)—total	84,864	+ 319	+ 12,526	+ 17.32
Security loans	2,137	+ 147	− 59	− 2.69
Commercial and industrial	26,074	− 30	+ 2,724	+ 11.67
Real estate	28,588	+ 210	+ 6,392	+ 28.80
Consumer instalment	15,033	+ 64	+ 2,629	+ 21.19
U.S. Treasury securities	8,784	− 146	− 493	− 5.31
Other securities	14,708	+ 327	+ 1,383	+ 10.38
Deposits (less cash items)—total*	106,173	+ 822	+ 12,214	+ 13.00
Demand deposits (adjusted)	29,026	− 616	+ 2,202	+ 8.21
U.S. Government deposits	861	+ 642	− 131	− 13.21
Time deposits—total*	74,353	+ 827	+ 9,812	+ 15.20
States and political subdivisions	6,395	− 61	+ 1,003	+ 18.60
Savings deposits	31,610	+ 107	+ 49	+ 0.16
Other time deposits‡	33,539	+ 723	+ 8,004	+ 31.35
Large negotiable CD's	15,347	+ 700	+ 6,418	+ 71.88

Weekly Averages of Daily Figures	Week ended 3/15/78	Week ended 3/8/78	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves(+)/Deficiency (−)	− 40	+ 106	− 3
Borrowings	16	9	1
Net free(+)/Net borrowed (−)	− 56	+ 97	− 4
Federal Funds—Seven Large Banks			
Interbank Federal fund transactions			
Net purchases (+)/Net sales(−)	+ 1,059	+ 1,328	+ 79
Transactions with U.S. security dealers			
Net loans (+)/Net borrowings (−)	+ 529	+ 657	+ 461

*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 7702, San Francisco 94120. Phone (415) 544-2184.