

Research Department  
Federal Reserve  
Bank of  
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## U.S. and World Inflation

The nation's relatively low rate of inflation in 1976 clearly could have been anticipated, and the same is true of the accelerating inflation of 1977. That, at any rate, is the conclusion suggested by the world monetary developments of the 1970's, which have been reflected in U.S. price movements several years later.

The rates of monetary expansion in the ten major industrial countries went through three phases in the first half of the decade. First was the expansionary period of 1971-73, which generated the severe inflation of 1973-74. This was followed by the 1973-74 contraction in world money supplies, which showed up in the decelerating inflation of the 1975-76 period. But a new monetary expansion in 1974-75, undertaken largely in response to the severe recession of that period, created the tinder for the recent speed-up in prices.

### Basic assumptions

This close relationship between world money and U.S. inflation is based upon two key assumptions. First, the United States can no longer be treated, in either theoretical or empirical terms, as a closed economy. Improvements in communications and reductions in transportation costs have so expanded the range of potential internationally-traded goods that foreign influences now exert a major impact on the U.S. economy. In fact, roughly 50 percent of the

wholesale price index, 25 percent of the consumer price index, and 20 percent of the GNP price index are influenced significantly by world market prices.

The second key assumption is that flexible exchange rates cannot completely isolate the United States from foreign inflation pressures in the short run. According to the standard theory, if the British inflation rate is 10 percent higher than the U.S. inflation rate, the exchange value of the pound will decline relative to the value of the dollar, leaving the dollar price of British goods in the United States unchanged. While this proposition continues to be true for the U.S. vis-a-vis any one country, it is not necessarily true for the U.S. vis-a-vis all other countries.

When the rest of the world moves in a synchronized business-cycle pattern, the U.S. responds in effect as a small open economy would—it cannot completely isolate itself from the inflationary influences of the rest of the world. Given a change in the world price of an internationally-traded good, competitive pressures will insure that U.S. producers of that good keep their price in line. The resulting rise in U.S. prices will not be limited simply to export and import goods, but to all those U.S. goods which are potentially tradeable. No goods will be sold in the U.S. at a lower price than they could be sold abroad.

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Consequently, the prices of at least one-fifth of the nation's output of goods and services could rise (at least temporarily) as a result of world inflation. Such increases could be made a permanent part of the U.S. price structure if labor responds to the higher prices by demanding proportionally higher wages. The available evidence suggests that roughly 60 percent of the higher prices would be translated into higher wages after about a year's time. In other words, about 40 percent of the higher world prices would eventually be offset by an appreciation of the dollar, and 60 percent by higher prices in the United States.

This approach suggests that the appropriate monetary variable to be considered in an analysis of inflation is the world money supply, as well as the domestic money supply. The implications are important, not just for domestic prices, but also for employment, output, and interest rates. To the extent that world monetary developments increase the variance in U.S. inflation, they will create uncertainty in the minds of U.S. households and businessmen, and thereby affect their spending decisions.

Households will typically, in the face of uncertainty, raise their savings rate and reduce consumption out of a given level of disposable income. Businesses similarly will reduce investment because of difficulties in analyzing the cost of new investment and the expected rate of

return from that capital stock. Thus, an increase in both the inflation rate and its variance will reduce consumption and investment, and thereby increase the rate of unemployment. Inflation in this context will lead to a higher rate of unemployment, even in the short run—contrary to the standard Phillips-curve analysis of the inflation-unemployment relationship.

#### **What the data show**

How does this theory of international inflation stand up against our actual inflationary experience? First, there was no systematic worldwide business-cycle pattern during the 1950's and 1960's, except briefly in 1958; generally, an expansion in one country was balanced by a contraction in another, so that worldwide monetary growth (and thus aggregate demand) grew at a relatively stable rate. This was measured by the movements of the "world" money supply—that is, the weighted average of the money supplies of the ten major industrial countries. In the 1950's the average growth in the world money supply was in a narrow range around 6 percent, and in the 1960's it was around 8 percent. This pattern was roughly consistent with stable prices for internationally traded goods in both decades. Substantial fluctuations occurred in sensitive commodity prices, and to a much lesser extent in export prices, but always around a zero trend line.

The pattern changed sharply in the 1970's. World money growth accelerated from a 6-7 percent range in 1970 to a 13 percent range in the period from 1971 through early

1973. This was followed by a monetary contraction in 1973-74 and an expansion in 1975-early 1976. This cyclical pattern of world money growth induced, with a lag, a parallel movement in world aggregate demand and later still in prices.

The accelerated money growth of the 1971-73 period was associated with the breakdown of the Bretton Woods regime of fixed exchange rates. After that crisis ended with the adoption of flexible rates in March 1973, worldwide money growth rapidly decelerated towards an 8-percent trend growth in 1973-74. However, the resulting rise in unemployment quickly triggered a reversal in policy, and money growth returned to growth rates almost equal to those in the previous expansion, before slackening off in the last half of 1976.

Given the lags in the system, a change in the world money supply tends to affect world commodity prices after about one year, and the broader-based measures of industrial export prices in about two years. Thus, the acceleration in world money in 1971 led to rising commodity prices in 1972 and to rising export prices in 1973. The same pattern can be observed on the downside; the deceleration of world money growth in 1973 led to a 1974 deceleration in commodity prices and to a 1975 deceleration in general export prices.

The effects of this pattern can be seen in the movements of the U.S. wholesale-price index—and to a lesser extent (and with longer lags) in the movements of the U.S.

consumer-price index. Apparently, the sharp rise in U.S. wholesale prices from late 1972 through the end of 1974 was largely due to the rise in world trade prices, and the sharp deceleration in 1975-76 was associated with the removal of that influence. By the same token, this year's upsurge in U.S. wholesale and consumer prices—and the rise since mid-1976 in prices of internationally traded goods—can be attributed to the upsurge in world money which occurred in 1975 and early 1976. However, the same analysis would suggest some deceleration in U.S. prices in late 1977 and early 1978, as a consequence of the deceleration in world money growth since mid-1976.

It should be remembered, however, that despite the important influence of foreign developments on U.S. prices, the dominant influence comes from U.S. domestic developments. Thus we can generate a home-grown inflation without foreign influences if we do not control our domestic fiscal and monetary policy. Nonetheless, our analysis suggests that the way to avoid an unstable world economy is to follow policies which encourage stable monetary conditions, not only in the U.S., but also in other major industrial countries. Efforts to encourage other nations to follow strongly stimulative policies could be counterproductive, because such policies soon thereafter would contribute to yet another round of world inflation.

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

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 6/22/77	Change from 6/15/77	Change from year ago	
			Dollar	Percent
Loans (gross, adjusted) and investments*	98,409	- 308	+ 9,448	+ 10.62
Loans (gross, adjusted)—total	75,027	- 151	+ 7,881	+ 11.74
Security loans	1,923	- 343	+ 454	+ 30.91
Commercial and industrial	23,826	+ 142	+ 1,676	+ 7.57
Real estate	23,511	+ 138	+ 3,258	+ 16.09
Consumer instalment	13,204	+ 29	+ 2,042	+ 18.29
U.S. Treasury securities	9,906	- 128	+ 157	+ 1.61
Other securities	13,476	- 29	+ 1,410	+ 11.69
Deposits (less cash items)—total*	95,790	- 1,712	+ 7,373	+ 8.34
Demand deposits (adjusted)	26,937	- 1,133	+ 2,924	+ 12.18
U.S. Government deposits	278	- 707	- 159	- 36.38
Time deposits—total*	66,942	+ 16	+ 4,342	+ 6.94
States and political subdivisions	5,540	- 50	- 741	- 11.80
Savings deposits	31,600	0	+ 5,683	+ 21.93
Other time deposits‡	27,627	+ 42	- 399	- 1.42
Large negotiable CD's	10,799	- 37	- 1,909	- 15.02
<b>Weekly Averages of Daily Figures</b>	<b>Week ended 6/22/77</b>	<b>Week ended 6/15/77</b>	<b>Comparable year-ago period</b>	
<b>Member Bank Reserve Position</b>				
Excess Reserves (+)/Deficiency (-)	+ 1	- 50	+ 8	
Borrowings	4	32	20	
Net free(+)/Net borrowed (-)	- 3	- 82	- 12	
<b>Federal Funds—Seven Large Banks</b>				
Interbank Federal fund transactions				
Net purchases (+)/Net sales (-)	+ 83	+ 733	+ 370	
Transactions with U.S. security dealers				
Net loans (+)/Net borrowings (-)	+ 295	+ 689	+ 176	

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

Editorial comments may be addressed to the editor (William Burke) or to the author. . . .  
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