

Monetary Policy and Real Economic Growth

by Owen F. Humpage

The media frequently take central banks to task for failing to encourage real economic growth. Usually, such criticisms center on the business cycle, with analysts calling for monetary ease when growth falls below its recent trend and, somewhat ironically, chiding policymakers for responding too quickly when growth rises above trend.

Recently, with long-term U.S. economic growth apparently slowing, the focus of these criticisms has shifted somewhat. News reports are now increasingly asking whether an easier monetary policy stance might not boost investment and the nation's economic potential.

Most economists will concede that monetary policy can affect real economic growth, at least in the short term, but caution that it may do so only when the public fails to anticipate the policy change and then misinterprets the accompanying price adjustments. Frequent attempts to exploit such connections will eventually be noticed. Then, an expansionary monetary policy could actually backfire.

This *Economic Commentary* traces the connections between policy changes, shifts in aggregate spending, and adjustments to production. In response to those who advocate monetary ease as a stimulant for growth and employment, I emphasize the precarious nature of the assumptions about price expectations that typically underlie their beliefs.

■ Monetary Policy Transmission

According to the standard view, monetary policy affects total spending primarily by altering interest rates.¹ The Federal Reserve System's main instrument for conducting monetary policy is the purchase and sale of government bonds in the secondary market (open-market operations).² When the Fed buys government bonds, it pays for them by crediting the reserve accounts of the appropriate commercial banks. These banks then have additional (excess) reserves, which they will lend or invest in other securities. To expand their lending (and through the act of purchasing other securities), commercial banks reduce interest rates. This in turn encourages an expansion of such interest-sensitive spending as business fixed investment and residential construction, according to the conventional view.

Under our present system of floating exchange rates, an exchange-rate change can augment the traditional interest-rate channel of monetary policy. As U.S. interest rates fall, international investors may shift their portfolios from dollar-denominated assets to foreign-currency-denominated assets, which now have higher yields. As they do, dollar exchange rates will fall, making U.S. exports more attractive than foreign goods and services. World demand will shift toward the U.S. market.

The ability of monetary policy to influence real economic growth and employment depends on whether the public correctly anticipates the policy change and the resulting price pressures. In the long run, individuals have complete access to policy and price information, so central banks determine only the inflation rate.

Many economists believe that connections between aggregate spending and monetary policy are substantially broader and more complicated than those described by the conventional interest-rate view, even as modified with an exchange-rate effect. Following an expansionary open-market operation, for example, individuals may find themselves with too much liquidity and may attempt to acquire additional assets, both financial (stocks and bonds) and real (houses and durable goods). This reshuffling of portfolios can also raise stock prices. A rise in the market value of firms (as reflected in equity prices) relative to the replacement costs of capital offers businesses another incentive to undertake new investments. In addition, the higher stock prices also increase household financial wealth, which could

further stimulate consumption spending. Likewise, if land and housing prices rise, household wealth and consumption may get an additional boost.

An expansionary open-market operation may have an independent effect on financial institutions' willingness to make loans, quite apart from their gain of additional excess reserves. By raising equity prices and lowering interest rates, a policy change can increase the net worth and cash flow of businesses and households. As net worth and cash flow improve, these borrowers become better credit risks, so banks are more likely to lend to them. Investment (business and residential) and durable-goods spending will rise.

■ The Short Run: Spending to Production

That monetary policy can affect the overall level of spending through these myriad connections does not necessarily imply that it can increase real output and employment. A shift in spending may simply lead to higher prices rather than to additional output. The upshot depends on whether individuals correctly anticipate the monetary change and the resulting price pressures.

Most economists believe that a nation's long-term economic growth depends on its ability to accumulate capital, the expansion of its workforce, and improvements in its productivity. They also contend that ultimately, money determines only the price level. Nevertheless, the majority of economists concede a short-term connection between money and output. Indeed, in most of the largest industrialized countries, faster money growth seems to precede faster economic growth by one year (see table 1).

The causal connection, however, requires that information about policy-induced price changes be imperfect. This may happen if some sectors of the economy have embedded outdated price expectations in contracts that cannot be broken, if certain segments of the economy have better access to current price information than others, or if people generally have complete knowledge about the wages they earn and the prices they charge, but

TABLE 1 SHORT-RUN GROWTH OF MONEY AND OUTPUT

(Correlation, year-over-year percent change)

	M2 lagged one year	M2 lagged two years
France	0.17	0.06
Germany	0.74 ^a	-0.13
Japan	0.72 ^a	0.51 ^a
United Kingdom	0.18	-0.19
United States	0.35 ^a	0.16
Canada	-0.17	-0.11
Italy	0.62 ^a	0.42 ^a

a. Indicates that the correlation coefficient is more than two standard deviations away from zero. For the United States, the correlation coefficient falls within the two-standard-deviation band by 0.004.

SOURCE: International Monetary Fund, *International Financial Statistics*.

not about other prices. When this information is neither perfect nor equally shared, a monetary expansion will initially create profit opportunities (or the perception of such) for some individuals, inducing them to work more and to expand production.

Essentially, two versions of this story exist.³ The first interpretation, which relies on contracts and assumes that prices and wages are set in noncompetitive markets, seems to be a plausible description of the behavior of big labor unions and large producers.⁴ According to this model, workers set a wage rate based on the inflation rate they expect over the duration of the contract. If the actual rate of inflation turns out to be higher, the cost of labor falls relative to the prices received for their output. This increased profitability causes firms to lengthen work hours, hire more crews, and expand production. Only when workers renegotiate their contracts will wages rise as high as goods prices and dissipate profit opportunities. In this scenario, when monetary policy expands, firms benefit temporarily relative to workers.

Similarly, faced with an increase in demand, firms with noncompetitive market power may delay raising their prices simply because small, frequent price changes are costly to institute. They may instead accommodate an increase in aggregate spending through additional

short-run production, even though their profits, which exceed competitive levels to begin with, may suffer. Such firms will eventually adjust their prices when they can do so advantageously. In this scenario, output expands temporarily at the expense of profits.

Another explanation relies on asymmetric information about price changes and applies to more competitive labor and goods markets. As applied to labor, this explanation assumes that workers have less reliable information about prices than producers do. Firms initially perceive price increases and raise wages, but by less than the increase in prices. Workers, uncertain about the overall rise in prices and believing that their wages have outpaced prices, agree to work longer hours. Employment and output expand, but only until workers learn that prices in general have actually risen by more than their wages; then labor supply declines.

To apply the same argument more generally, assume that all individuals have good information about the prices of things in which they specialize (that is, their wages and the goods they produce), but that they have rather imprecise information about other goods and services. Therefore, they quickly perceive a change in their special prices, and believe that it represents a relative gain to them. They produce more until they discover their mistake.

FIGURE 1 MONEY AND REAL OUTPUT GROWTH^a

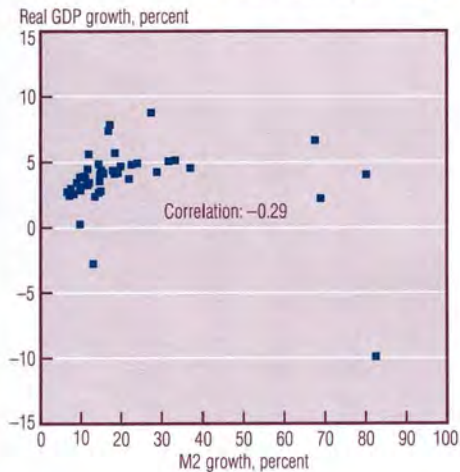


FIGURE 2 MONEY GROWTH AND INFLATION^a

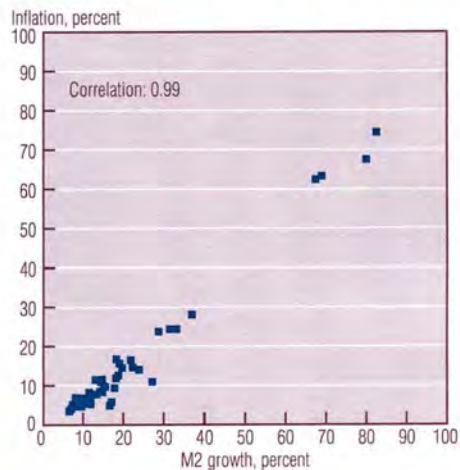
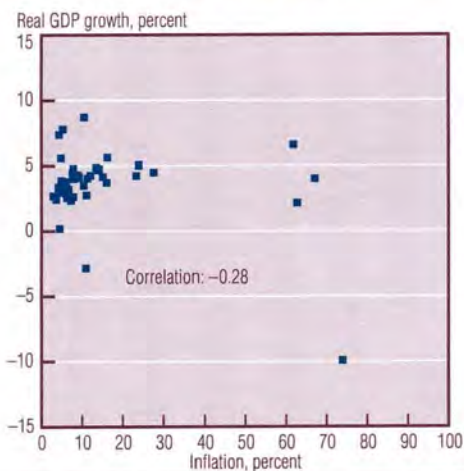


FIGURE 3 INFLATION AND REAL OUTPUT GROWTH^a



a. Average annual percent change.
SOURCE: International Monetary Fund, *International Financial Statistics*.

■ The Long Run: Spending to Inflation

In economics, the long run is not a specific period of time, but an interval over which all economic adjustments are feasible. In our case, it implies a period in which all individuals have complete access to information and can adjust contracts for changes in their expectations. This may be many years. Nevertheless, in the long run, after expectations adjust, an increase in the money supply will raise neither output nor employment. Across the sample of 45 countries portrayed in figure 1, faster rates of money growth are not correlated with higher rates of long-term real economic growth.⁵

In the long run, a monetary-policy-induced increase in aggregate demand seems only to raise prices. Figure 2 illustrates a tight, proportional relationship between money growth and inflation across these same 45 nations.

If anything, attempting to promote economic prosperity through expansionary monetary policies could have a detrimental effect on long-term economic growth. Money contributes to economic efficiency by reducing the transaction costs associated with economic exchange. In so doing, money plays its familiar textbook roles as a medium of exchange, a unit of account, and a temporary store of value.

The ability of money to reduce transaction costs ultimately depends on its general acceptance. If people question the stability of a monetary asset's purchasing power, they will reduce their holdings of it, look for substitute monetary assets, and devise alternative, less efficient, methods of exchange. When the efficiency of money is compromised, transaction costs rise. Moreover, as inflation accelerates, households and businesses will spend more time, energy, and resources protecting their financial wealth from inflation. Fewer resources will go into capital accumulation or productivity-enhancing innovations. To the extent that the government bases taxes on nominal values, inflation levies an unlegislated tax, further crimping the resources available for private investment.

How extensive these costs are for society is not clear. Although the correlation between inflation and real output growth in figure 3 is negative, as the discussion above predicts, it is not significantly different from zero. Other studies have found that a 10-percentage-point increase in the long-run average inflation rate is associated with declines of 0.2 to 0.7 percentage point in long-term economic growth. While seemingly small, the implied output loss cumulates through the years.⁶

■ Conclusion

The short-term connection between monetary expansions and real economic growth capitalizes on imperfections in the public's information about prices. People respond inefficiently in the sense that under perfect information, they would not have altered their behavior. At best, one party gains at another's expense.

A central bank may periodically exploit this connection, but frequent attempts—as some seem to advocate—may ultimately distort the allocation of resources from productive uses to protective enterprises. Countries with high inflation rates tend to have larger financial sectors relative to GDP, not faster rates of economic growth.⁷ In the long run, money growth seems to translate only into proportionally higher inflation; it does not foster real economic growth or employment. Ultimately, a central bank can best contribute to a nation's economic health by eliminating the price uncertainties associated with inflation.

■ Footnotes

1. See Frederic S. Mishkin, "Symposium on the Monetary Transmission Mechanism," *Journal of Economic Perspectives*, vol. 9, no. 4 (Fall 1995), pp. 3-10. See also the associated articles printed in this volume.
2. The Federal Reserve can also conduct monetary policy by changing either its discount rate (the rate at which it makes temporary loans to financial institutions) or its reserve requirements.
3. This exposition generally follows N. Gregory Mankiw, *Macroeconomics*, New York: Worth Publishers, 1992. His work contains references to many original contributions in this area.
4. These models assume that wages or prices exceed their competitive market level. This results in an excess supply of workers at current wage levels in the labor-market model and a cushion of profits in the goods-market model.

5. Detailed cross-country evidence on the relationships between money, prices, and output is found in George T. McCandless, Jr. and Warren E. Weber, "Some Monetary Facts," Federal Reserve Bank of Minneapolis, *Quarterly Review*, vol. 19, no. 3 (Summer 1995), pp. 2-11.
6. See V.V. Chari, Larry E. Jones, and Rodolfo E. Manuelli, "The Growth Effects of Monetary Policy," Federal Reserve Bank of Minneapolis, *Quarterly Review*, vol. 19, no. 4 (Fall 1995), pp. 18-32.
7. Moreover, the effect of inflation on the size of the financial sector is bigger in high-income countries. See William B. English, "Inflation and Financial Sector Size," Board of Governors of the Federal Reserve System, Finance and Economics Discussion Series No. 96-19, April 1996.

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