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CAN MONETARY POLICY AFFECT THE REAL ECONOMY?

The Dubious Effectiveness of Interest Rate Policy

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At a time when economies around the globe are experiencing currency crises, financial turmoil, or deep recessions, many of the world's central banks are performing an experiment in monetary policy. The failures of monetarism in the 1970s and 1980s appear to have convinced most central bankers of the futility and riskiness of setting targets for the money supply. But even as unemployment rates rise in places such as Japan and Germany, and governments such as Argentina's struggle to meet debt payments, central banks have not turned their attention to the goals of high growth and full employment. Instead, they focus on inflation targets, which they hope to reach by appointing independent specialists who set short-term interest rates. They have relegated fiscal policy and elected officials to the sidelines and assumed the mantle of economic policymaking.

The new approach to monetary policy raises two issues. The first is the theoretical underpinning of this mode of monetary policy. The second is concerned with the channels through which changes in the rate of interest may affect the ultimate goal(s) of policy. This brief examines both issues.

We begin with an analysis of the main theoretical underpinnings of the "new" monetary policy, which enables us to identify the essentials of what has been called the "new consensus" in macroeconomics (for example, McCallum 2001; Meyer 2001; Arestis and Sawyer 2002a, b). In a subsequent section we

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discuss the channels of influence of interest rate changes, including both theoretical and empirical evidence. A final section summarizes and concludes.

The “New” Monetary Policy

Although the supposedly fresh approach to monetary policy adopted in recent years has many facets, it is possible to summarize some of the key notions in a simple model, or representation of the economy. The model has a number of characteristics:

- The stock of money has no role in the model, since it is assumed to be an effect, rather than a cause, of other economic variables.
- The model includes a policy rule whereby the central bank chooses an interest rate so as to try to achieve targets for the rate of inflation or GDP.
- Prices and wages are presumed to adjust slowly in response to the level of aggregate demand. Aggregate demand is influenced by the rate of interest.
- Money is “neutral,” meaning that long-run values of real (that is, adjusted for inflation) variables, such as output and employment, are independent of the money supply.

As a former chairman of the Board of Governors of the Federal Reserve System has recently argued, monetary policy now “relies upon direct influence on the short-term interest rate and a much more fluid market situation that allows policy to be transmitted through the markets by some mysterious or maybe not so mysterious process” (Volcker 2002, p. 9). It is this process we turn to next.

Channels of Monetary Policy

Like all approaches to monetary policy, the new view is based on theories about how policy affects the economy. Perhaps surprisingly, economists have considered many avenues through which policy could possibly influence GDP and inflation; all are somewhat plausible, but it is possible that all, some, or none of these routes are important.

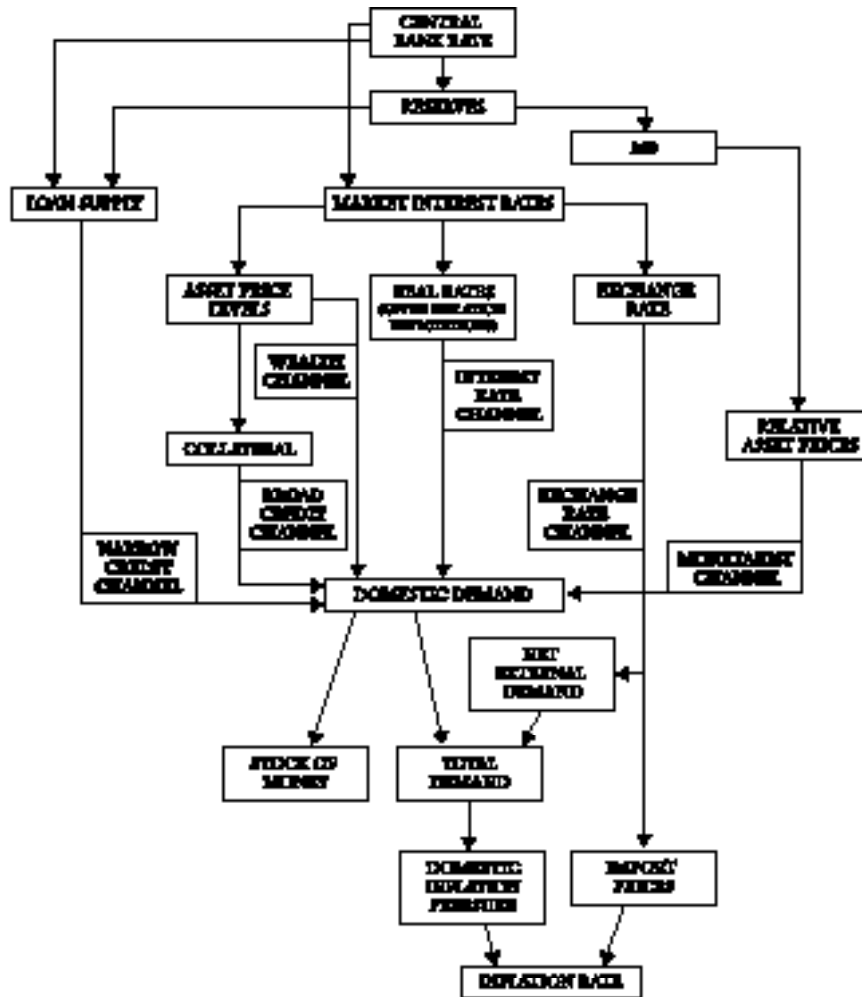
Theoretical Underpinnings

Economists envisage a complex mechanism whereby interest rates influence demand, which in turn influences inflation. Currently, six possible channels of monetary policy are regarded by at least some economists as plausible (Mishkin 1995, Bank of England 1999, Kuttner and Mosser 2002). The channels traditionally identified by economists are the interest rate channel, the wealth effect channel, the exchange rate channel, and what has been termed the monetarist channel (but which is different from the direct impact of the stock of money on prices). Two additional channels have been identified more recently: the narrow credit channel (sometimes referred to as the balance sheet channel), and the broad credit channel. Figure 1 portrays schematically these six channels.

The narrow and broad credit channels rest on insights from the economics of imperfect information. These insights are based mostly on the readily understandable idea that in the real world lenders do not have complete information about the riskiness of potential loans and investments. This means that businesses cannot always obtain loans, even to fund legitimate projects. Their ability to borrow, or at least the interest rate at which they can borrow, may depend on the collateral they can offer or the cash flow available to make interest payments. Another implication of information economics is that bank credit plays a unique and important role in the economy, because banks are able to gather information about borrowers that would not be available to the general public, or even to financial markets. This informational advantage allows banks to provide credit to firms that would be spurned by other lenders.

The narrow credit channel, also termed the bank lending channel (Hall 2001), concentrates on this role of banks as lenders (Roosa 1951, Bernanke and Blinder 1988). Banks rely on checking accounts to fund loans, and they are required to hold reserves in proportion to their deposits. When there is a rise or fall in total reserves as a result of changes in monetary policy, banks’ ability to extend loans is increased or reduced. Given that a significant number of firms and households depend on bank lending, many borrowers ultimately would fail to find alternative sources of finance, and spending would fall, reducing both output and inflation.

Figure 1. Monetary Policy Transmission



Sources: Based on Kuttner and Mosser (2002, p. 16) and Bank of England (1999, p. 1), with significant modifications

The broad credit channel, sometimes labeled as the balance sheet channel (Hall 2001), is based on the fact that the balance sheets and cash flow of borrowers can affect the supply of finance, and, ultimately, the total amount of spending in the economy (Bernanke and Gertler 1989, 1999; Bernanke et al. 1999). A policy-induced increase (decrease) in the rate of interest raises (lowers) the proportion of a given investment that must be financed from external funds. This increases (decreases) the required interest rate, since banks will lend to more heavily indebted firms only in return for a premium return. Also, the prices of some forms of collateral, such as bonds, move in the opposite direction to interest rates.

Changes in asset prices are also important in the case of the wealth effect channel. When the central bank raises interest

rates, some consumers' portfolios decline in value, leading them to reduce their purchases of consumer goods.

The interest rate channel and the monetarist channel can be taken together. The interest rate channel works because consumers and business people are likely to make more purchases when the costs of financing them are lower. The monetarist channel works through changes in the prices of financial and nonfinancial assets. Interest rate changes do not play a special role, other than as one of many relative price changes. It is relative asset prices that can have an impact on aggregate demand.

The sixth channel is the exchange rate channel, which links monetary policy with inflation via two routes. Both depend

on the theory that high domestic interest rates attract foreign investors. Suppose we are considering the effect of an interest rate increase on the U.S. economy. Foreign investors who wish to take advantage of high American interest rates must convert their home currencies to dollars before investing in American assets. These purchases of dollars have a tendency to increase the value of U.S. currency in international markets—in other words, to cause the dollar to appreciate. The appreciation cools inflation in two ways. First, it reduces the price in dollars of foreign goods. Second, it raises the prices of American goods on foreign markets, causing a reduction in export demand. As export demand falls, inflationary pressure in the markets for U.S. goods and services eases.

It is helpful and pertinent to make a number of relevant observations. First, the channels of monetary transmission are not mutually exclusive; the overall response of the economy to changes in monetary policy incorporates the combined effects of all channels. This concurrent operation entails an important challenge, namely, that it becomes very difficult to assess the strength of the individual channels and their contribution to the overall impact of monetary policy on the inflation rate.

A further and related problem is that of isolating the change in the strength and importance of the channels of monetary transmission through time; another problem is that these changes are evolutionary and may occur concurrently. Moreover, the economy affects monetary policy just as much as monetary policy affects the economy. Central banks normally relax policy in the wake of weaknesses in the economy and tighten policy when there are strengths in the economy.

Quantitative Effects of Monetary Policy

Using statistical techniques to isolate the effects of monetary policy in the eurozone, Angeloni et al. (2002) argue that there are “sizeable and plausible monetary policy effects on output and prices . . . An unexpected increase in the short-term interest rate temporarily reduces output, with the peak effects occurring after roughly one year. Prices respond more slowly, hardly moving during the first year and then falling gradually over the next few years” (p. 21). The authors estimate the effect of a shock of about 30 basis points on prices to be zero in year one and -0.07

percent in year three with a decline in output in year one of 0.15 percent and 0.05 percent in year three.

Using a macroeconomic model, economists at the Bank of England estimated the impact of increasing the interest rate by one percentage point for a period of one year. Again, the estimated effect on inflation was small. Perhaps more importantly, they estimated that the hike would result in a cumulative reduction in GDP of about 1.5 percent after four years. Ultimately, there would be a human cost in terms of increased unemployment and lost income.

Which sectors of the economy would be affected? Various studies have determined that the impact of a tightened policy would fall primarily on firms’ purchases of capital goods rather than on consumption expenditures. A reduction in capital spending is harmful to the economy, because new equipment and factories enhance productivity (the average output produced by each worker per hour).

Van Els et al. (2001) also look behind the results to find the mechanism through which monetary policy exerts its effects. They find that during the first two years after policy is tightened, the most important mechanism is the exchange rate channel described earlier. This finding suggests a limited role for monetary policy. Theory indicates that the exchange rate effect lasts only as long as a tight money policy continues; a permanent change in the rate of depreciation or appreciation would require a permanent increase in the interest rate.

The ECB’s own summary of these studies confirms the observation that the effects of monetary policy are small (ECB 2002). However, it appears to draw the wrong inferences from its results. The ECB concludes that “the impact of monetary policy is neutral in the long run, i.e., a permanent change in the money supply (associated here with a temporary change, in the opposite direction, in the central bank instrument, the policy-controlled interest rate) has no significant long-run effect on real GDP, but does lead to a permanent change in the price level” (p. 45). The same study also concludes that monetary policy has temporary effects on output. Both sets of results are consistent with the “new” consensus.

We find these conclusions somewhat misleading, in the following ways: (1) changes in the money supply in most

econometric models arise from changes in the demand, rather than from the decisions of policymakers, and the money supply does not have a causal impact on the price level (Arestis and Sawyer 2002b); (2) the ECB assumes that the interest rate cut is reversed after two years, which would account for the fact that there is no permanent change in GDP; (3) any effects of interest rate changes on investment and thereby on future productive capacity appears to be ignored; and (4) the ECB's results show a lower price level, but the corresponding effect on the inflation rate is minuscule. Because the policy intervention is assumed to last only two years, any disinflationary effect would be just as temporary as the change in output.

We draw from this brief survey the following conclusions. First, there are constraints to a permanent change in the rate of interest. One constraint is that when interest rates are high, the currency may have a tendency to appreciate continually. Second, monetary policy works primarily by generating substantial changes in the rate of investment. There is an immediate cost in the form of lost economic growth, as well as long-lasting effects, due to changes in the size of the capital stock. Third, the effects of interest rate changes on the rate of inflation are rather modest.

Summary and Conclusions

A “new” approach to monetary policy has emerged over the past decade or so. Now, monetary policy is identified with interest rate policy, with little or no reference to the stock of money. It has generally been the case that setting an inflation target is the main (and often the only) objective of monetary policy. Indeed, monetary policy can be seen as aggregate demand policy, in that the interest rate set by the central bank is seen to influence aggregate demand, which, in turn, is thought to influence the rate of inflation.

The main features of the “new” approach have been discussed, and it has been suggested that some of these can be captured in a simple macroeconomic model. However, that simple model needs to be complemented by a discussion of the many channels through which monetary policy is seen to operate. It is a long and uncertain chain of events from an adjustment in the interest rate controlled by the central bank to a desired change in the rate of inflation. In light of

the relationship between the exchange rate and the interest rate posited by economic theory, there are constraints on the degree to which the domestic interest rate can be set to address the levels of aggregate demand and inflation without destabilizing the currency.

We have suggested that the empirical results reviewed above point to a relatively weak effect of interest rate changes on inflation, and that on the basis of the evidence, monetary policy can have long-run effects on real magnitudes. This particular result does not sit comfortably with what is now the received theory of monetary policy.

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