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Money: Demand And Control

A better understanding of the public's demand for money is important because of the impact of money on output and prices and the central role assumptions about money demand play in the making of monetary policy. The two articles in this *Review* shed light on the inter-relationship of money demand and strategies to control the money supply. In the first article, John Judd describes and assesses the Federal Reserve's existing strategy for short-run control of the monetary aggregates. In the second article, John Judd and John Scadding establish that independent changes in the money supply, such as those that result from monetary control policies, affect the behavior of money demand.

John Judd, in his article notes that, through the middle of 1982, monetary control had improved on an annual basis but monetary aggregates had become more volatile on a shorter term since the Federal Reserve changed the way it controlled money (from establishing targets for short-term interest rates to focusing on targets for bank reserves.) The article was written prior to the major deregulation of deposit interest rates at the end of 1982. It abstracts from issues concerning monetary variables targeted and annual numerical ranges for monetary aggregates raised by this development to discuss approaches to achieving whatever monetary targets the Federal Reserve chooses.

The Federal Open Market Committee, which sets target ranges for the growth rate of the monetary aggregates, has followed a strategy whereby it attempts to return monetary aggregates to the target range gradually. According to Judd, a major rationale for this practice is that much of the volatility is believed to be self-correcting. Attempts to reduce such variations can add unnecessarily to interest rate fluctuation in the short-run.

Judd warns, however, that there are money supply deviations caused by persistent disturbances to the economy that, if left unchecked, have adverse effects on prices and GNP. Moreover, he argues that

“a larger number of unnecessary reactions (on the part of the Federal Reserve) might be less costly to the economy than a smaller number of large persistent monetary control errors.”

Judd focuses on the size of changes in nonborrowed reserves initiated by the Fed as a measure of the aggressiveness of monetary control actions. He uses the Money Market model developed at the San Francisco Federal Reserve Bank to estimate the size of changes in short-term interest rates needed for various rates of M1 re-entry into the annual target ranges.

A key element of the model is a provision for the effect of bank loans on the money supply. Most conventional models do not incorporate this relationship.

Using the San Francisco Money Market model, Judd finds that, once the effects of a change in nonborrowed reserves on both open market interest rates and bank lending are accounted for, “given changes in M1 can be accomplished with smaller changes in interest rates.” Thus, the costs, as measured by increased interest rate volatility, of closer control of M1 are lower than conventional models would suggest.

He concludes that “a more aggressive approach (to returning monetary aggregates to target) would reduce the incidence of persistent deviations that have significant effects on GNP and prices. Such an approach would also reduce the risk that the Fed would have to resort to inducing persistent swings in short-term interest rates to eliminate large money deviations. Finally, a more aggressive approach might contribute to the stability of long-term interest rates, which are especially important for the performance of the economy.”

Judd and Scadding, in their article, test alternative specifications of short-run money demand dynamics to find the one which best predicts the level of real money balances. The two authors note that the conventional specification “went seriously off

track” when it tried to predict the shift in money demand from 1974 to 1976, leading some observers to question whether this was due to the conventional assumption “that the money supply is endogenous, adjusting to exogenous changes in income and interest rates operating through the demand for money.”

Judd and Scadding question whether the conventional assumption is appropriate for situations in which shocks occur in the supply of money rather than the demand for money.

They believe that the correct specification of the short-run dynamic adjustment in the money demand function “depends critically on which variables are made exogenous and which endogenous.” They, therefore, study nine specifications of money demand with different adjusting and exogenous variables. The nine can, however, be grouped into two major categories. The first includes the conventional specification and its variants, in which the quantity of money adjusts with a lag to changes in the demand for money. Specifications in the second

group share the feature that money demand adjusts with a lag to changes in the supply of money. The specifications differ among themselves as to which argument of the money demand function bears the burden of adjustment—interest rates, income, prices, or, in one case, a combination of these.

All the equations were put into the same canonical form and estimated with real money balances as the dependent variable. The sample data used in the estimation spanned the period from the first quarter of 1959 to the second quarter of 1974. The equations that yielded reasonable estimation results were then used to simulate money dynamics in the period from the third quarter of 1974 to the third quarter of 1980.

Judd and Scadding found that “money demand equations in which prices adjust to exogenous changes in money, interest and income outperform equations in which money is the adjusting variable. Equations in which money is the adjusting variable, in turn, outperform equations where interest rates and income are the adjusting variables.”