

as currency-plus-demand deposits, more broadly to include as well time deposits at commercial banks, or more broadly still to include other types of liquid assets. But however defined, the quantity of money is in itself of little importance. What is far more important is the behavior of total demand for output, or GNP at current prices. All the evidence indicates that there is not a constant relationship between the stock of money and the rate of flow of expenditures for output. Rather, the two are linked in a variable way by income velocity, or its inverse, the amount of money balances demanded by business and the public relative to their expenditures. These have fluctuated significantly both cyclically and over longer terms, and there is no reason to expect that they will be stable in the future.

There is good reason to believe that the American economy, with its rising capacity to produce, will need a secular increase in the money supply. But no one can forecast far in advance the rate of increase of the money supply that will be required to keep aggregate demands for output in line with the economy's capacity to produce. For example, the money supply, narrowly defined, has increased since 1947 at an average annual rate of about $2\frac{1}{2}$ percent, while GNP, or expenditures for output, has grown more than twice as fast, at an average rate of more than 6 percent. Thus, the average income velocity of money has grown at an annual rate of 3.4 percent, and from an arithmetic point of view has accounted for more than half of the rise of spending for output. It is difficult to account fully for this rise of income velocity, or greater economizing on money balances. A part is probably due to the general rise of interest rates. Some of this may disappear if interest rates fall to lower levels, though we do not know how much. Clearly, however, a considerable part of the increase stems from financial innovations of a more lasting nature, such as improved corporate cash management, invention of various competing financial instruments, and greater financial sophistication of households.

It is almost in the nature of things that we cannot forecast far ahead what further financial innovations will occur, how fast they will spread, or how much they will affect income velocity. There are, however, great potentialities in the spreading use of bank credit cards, instant credit, and computers. In view of such uncertainties, it would not seem wise to order the Federal Reserve to increase the money supply steadily at some predetermined rates.

Also damaging to the prescription of a steady rate of increase of the money supply are the cyclical variations in the income velocity of money. That income velocity does fluctuate in a procyclical manner, rising in booms and falling during recessions, is a well-documented fact. Even Professor Friedman admits this, though he plays down its significance. But it is significant. For example, even a 10-percent decline in income velocity—a fall from the present figure of about 4.4 per year to 4 per year—would be associated with a decline of more than \$80 billion in the value of GNP, the money supply remaining constant. In effect, this is equivalent to a 10-percent reduction of the money supply, which would obviously be significant. Fluctuations of income velocity by 10 percent or more over the course of a cycle are by no means uncommon.

If the rule of a steadily increasing money supply were adopted, income would continue to fluctuate over the business cycle, if for no