

cash, it is by virtue of a prior saving decision. It seems unlikely that, having just decided to save this money, they should then turn around and spend it on consumer goods. The most likely use of excess money saved would seem to be for financial assets, for residential housing, and conceivably for durable consumer goods, if these are regarded as assets. In the case of households, therefore, a "direct effect" seems to be precluded except in the narrow areas of housing and durables.

For firms, saving means to retain profits. The resulting cash balances can be spent on any of the assets that firms acquire—receivables, inventories, fixed assets—or for debt repayment. Here the range for a "direct effect" is wider.

Any demand for physical assets—plant and equipment, inventories, homes—will stimulate economic activity. This demand may be influenced by the liquidity of households and firms. Very importantly, this demand will depend, however, on the rate of return that the assets yield, and on the rate of return that potential asset holders want to obtain. Anything that raises the return on assets, e.g. technological improvements, or reduces the return that asset holders expect, e.g., a fall in rates of return on financial assets—will increase the demand for physical assets and stimulate economic activity. The rate of money growth will affect economic activity insofar, directly or indirectly, it affects these key elements. This is considerably more complex a process than one described by the statement "more money means more demand."

For the setting of a precise rule it is important to know whether money tends to grow faster, as fast, or more slowly than real income. This decisive question unfortunately remains unsolved. According to one theory, money is a luxury good. It follows that the demand for it should expand more rapidly than per capita income, i.e. the velocity of circulation tends to fall. According to a second theory, there are economies of scale in the use of money that allow larger transactors to operate with relatively smaller balance, i.e. velocity tends to rise. The historical evidence shows that there have been long periods of declining velocity of money, which would seem to confirm the "luxury good" theory. Since World War II, however, velocity of money has greatly increased. This change has been accompanied by a rise in interest rates, by a growing expectation that inflation will be a permanent condition, and by various technological improvements that permit economies in the holding of balances.

Another factor that may possibly influence the velocity of money is the proportion of the money supply based upon government debt and international assets ("outside money"). According to the findings of the attached paper, which must be considered highly tentative, a decline in this proportion tends to increase velocity. In the United States, this proportion has in fact declined substantially in the post-war period.

Some progress has been made in estimating the quantitative impact upon velocity of these various determinants. But even if we were prepared to rely on such calculations in setting a money growth rule, which is premature, it would remain necessary to estimate future levels of the determinants. It would be necessary, that is to say, to forecast such factors as interest rates and inflationary expectation as would prevail given any proposed rate of money growth. Only then would we know what the appropriate rate of money growth should be. To set a fixed rate of money growth without knowing these determinants is hazardous in the extreme. In the post-war period, for instance, a rule based on money growth during the interwar period would have been highly inflationary.

The manner in which money is created may also count, especially in the short run. Money created through bank loans and therefore spent immediately may have a more stimulating effect than money created through banks' purchase from investors of highly liquid short-term assets.

Likewise, the phase of the business cycle may affect the appropriate rate of money growth. Historically, velocity has increased during periods of cyclical expansion, even during epochs when the long run trend of velocity was downwards. The same money growth rule may not, therefore, be equally appropriate for all cyclical phases, assuming that even under a fixed money growth rule some cyclical fluctuations will remain.

Finally, it is necessary to point out that all these relationships are highly aggregative. Households with different income levels and firms with different kinds of cash flows have different individual velocities. National velocity is an average. Changes in the mix of households and firms almost certainly would alter average velocity and hence the appropriate growth rate of money.