

the lag that one would expect simply on the basis of the relationship of expenditure to interest rates.¹⁰

If one assumes that limiting variation in monetary growth would have the effect of increasing interest rate variation seasonally, it is reasonable to expect that economic efficiency would be improved and that unemployment variation over the year would be reduced, though perhaps not very much. The argument is that where interest rate variation is moderated over the year, the economy loses the effect of one kind of price change that could direct factors of production to employment during periods that would otherwise be slack. Over the year there are periods of intense employment utilization, peaking at the end of the harvest season and the pre-Christmas production in October. The high point in unemployment is in June when the labor supply is increased after school-leavings; and hard on its heels comes the low point in industrial production in July. One should expect that relatively lower interest rates before and during June would make it easier for businesses to finance their operations and to increase their utilization of labor in June and July and that relatively higher interest rates later in the year would marginally shift production to earlier periods. If there is no financial penalty to operating during periods of high level resource utilization, other than the relative scarcity of labor, then part of the potential power of the price mechanism in directing resources toward employment during slack production periods is emasculated.

The potential effects of interest rates on the allocation of resources are much greater over cycles than seasons. Low interest rates in recession serve a purpose in stimulating demand. As mentioned, if monetary policy actions and acceleration in monetary growth lag behind cyclical peaks, it follows that a more stable rate of monetary expansion at cyclical peaks would speed declines in interest rates. Similarly, it could stimulate an earlier increase in interest rates where the economy approaches full utilization of resources. Gradual declines in interest rates after cyclical peaks have been the bane of F.R. policy. Since policy actions affect the economy with a lag, it is incumbent to introduce counter-cyclical policies of sufficient magnitude to have a measurable effect and not to delay their introduction. Where the need for policy response is established, gradualism in declines in interest rates or increases in free reserves have often got the F.R. into the difficulty of taking policy actions that were actually perverse in preventing interest rates from falling as far as they would have in the absence of actions.¹¹ This has typically been associated with a misconception on the part of the F.R. It has often interpreted declining interest rates or easing money market conditions as expansionary and rising interest rates or tightening money market conditions as contractionary without taking account of the independent effect of its own actions.

The actual change in quantity of money (and bank credit) can give important clues about whether policy actions have been sufficiently expansionary in the face of a declining economy or sufficiently contractionary in the face of inflation. The money supply might not always increase even with expansionary policy actions, because of the effect of factors outside the control of the F.R. Nevertheless, where there has been a decline in the demand for commodities at the onset of recession, it would be reassuring that the impulse of policy was in the right direction if the money supply actually increased, at least at the average rate it had grown in the past. And where there has been an inflationary increase in the demand for commodities, it would be reassuring that the impulse of policy was in the right direction if the money supply actually increased at not more than its long period average rate. By this standard money grew too little in the year ended June 30, 1960, as the economy moved into recession and too much in 1967 in opposite circumstances. The rate of growth in the supply of money can be given the interpretation of early election returns which provide an indicator of the final outcome of an election. The quantity of money can reflect the thrust of policy action on the economy before the actual effects of those actions are felt in expenditure, employment, and prices. This has been the main point of my colleague, Karl Brunner's argument with respect to the interpretation

¹⁰ Donald P. Tucker, "Income Adjustments to Money-Supply Changes," *American Economic Review* (June 1966), 433-449, and a related empirical study, Harold T. Shapiro, "Distributed Lags, Interest Rate Expectations, and the Impact of Monetary Policy: An Econometric Analysis of a Canadian Experience," *American Economic Review* (May 1967), 444-461.

¹¹ The episode of the 1959-60 decline in money is discussed in William G. Dewald, "The Monetary Policy Guide," Money and Banking Workshop, Federal Reserve Bank of Minneapolis, May 1961 and "Free Reserves, Total Reserves and Monetary Control," *Journal of Political Economy* (April 1963), 141-153.