Interpreting the Monetary Indicators *

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Your Chairman has asked me to present a brief description of some of the key monetary statistics and their use in interpreting credit market conditions and the direction of monetary policy. This is a very large order given the time constraints, and so my presentation will have to be both quite selective and highly condensed. I will in fact briefly describe some of the major monetary and money market statistics and their significance. I will also have something to say about their use in interpreting policy. I will mention some recent modifications in the *modus operandi* of Federal Reserve open market policy, but I will have nothing at all to say about current policy itself, nor will I attempt any interpretation of recent movements in the monetary data.

The monetary statistics I want to discuss can conveniently be divided into three groups: the reserve aggregates, the monetary aggregates, and the money market indicators. Turning first to the reserve aggregates, there are four concepts that are widely discussed. The first is total reserves of Federal Reserve System member banks. This figure consists of member bank deposits at the Federal Reserve Banks plus their vault cash. The size of this reserve aggregate is determined in part by the volume of Federal Reserve open market operations, in part by certain technical market factors (such as Federal Reserve float), and in part by the member banks themselves as they make decisions on whether and how much to borrow at the Federal Reserve discount window—subject of course to the Fed's rules regulating such borrowings. A closely related reserve concept is the so-called "monetary base" or, as it is known in some of the older money and banking textbooks, "high-powered money". The monetary base is simply total reserves of member banks plus cash held by nonmember banks and by the nonbank public. Both these measures, total reserves and the monetary base, are also often presented in the form of variants that subtract borrowings of member banks at the discount window. In this guise they are called, obviously enough, nonborrowed (or sometimes unborrowed) reserves and the nonborrowed monetary base.

All these reserve aggregate measures are of intense interest to the monetary specialist. They are obviously key factors in determining the volume of the money supply and bank credit. In my view, however, the nonspecialist can profitably economize on the use of his time by working directly with the money and bank credit aggregates themselves. Consequently I shall have little further to say about the reserve aggregates.

As you may know, arguments rage interminably as to just what statistical concept best captures the abstract, textbook notion of the "money supply". Henry Wallich, the Yale professor, Government adviser, and *Newsweek* columnist, claims to have discovered at least ten definitions in actual use. There are really only two definitions with widespread acceptance, however. The first treats as "money" the nonbank public's holdings of coin and currency plus demand deposits other than interbank deposits and United States Treasury deposits. This definition is often called the "narrowly defined" money supply or, simply, "M_1". The second definition of money in common use ("broadly defined" money, or "M_2") adds time and savings deposits at commercial banks to the narrowly defined money supply.

As in the case of the reserve aggregates already mentioned and of bank credit, which I am about to mention, both the money supply series have strong seasonal patterns and as a rule should be looked at in seasonally adjusted form—this is true despite the fact that seasonal adjustment procedures often raise some real problems. It should also be noted that meaningful analysis of the

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money supply series involves the *rates of growth* in these items rather than their absolute levels. These rates of growth are almost always measured in terms of annual percentage rates of change.

Turning to the concept of bank credit, this is simply total loans and investments of commercial banks with some minor adjustments. Unfortunately, data on total bank credit at all commercial banks are available only on a last-Wednesday-of-the-month (or call date) basis. The Federal Reserve System in fact makes use of a so-called "bank credit proxy" for member banks, which is available on a daily average basis week by week. Very briefly, this uses total deposit liabilities of member banks to approximate total loan and investment assets (or bank credit) on the other side of the balance sheet. Total deposits are by no means a perfect proxy for total loans and investments since there are many other, often volatile, items on both sides of the banking system's balance sheet. Thus for many purposes it is desirable to try to make adjustments for some of these items. In recent years, movements in member bank borrowings from their own foreign branches have been a particularly important consideration. Also, an adjustment is usually made to add back the bank credit that disappears from the statistics when banks sell off loans to the parent one-bank holding companies, which, in turn, finance their loan purchases by issuing commercial paper.

A very lively debate has existed for a long time within the Federal Reserve System and among economists in general as to which of the three main monetary aggregates—M_1, M_2, or bank credit—is the best indicator of the banking and monetary system's impact on the subsequent course of the economy as a whole. In fact, the actual behavior of these three aggregates tends to be broadly similar, so that the debate is perhaps not as consequential as it sometimes seems. Again broadly speaking, these three aggregates tend to have roughly similar cyclical turning points and have roughly equal correlation with movements in gross national product and other economic measures. Under present circumstances, I—and perhaps at least a plurality if not a majority of economists—tend to prefer M_1, the narrowly defined money supply, to the other two measures. Bank credit has the disadvantage of being a total of some very heterogeneous items, ranging all the way from bank investments in Treasury bills to twenty-year home mortgages. To me, it seems hard to say anything very meaningful about the market demand for such a hodgepodge. Secondly, the significance of movements in both bank credit and M_2 tends at times to be distorted, in my view, by the effect of Regulation Q on time and savings deposit interest rates and thus on the ability of banks to market such deposits. The argument back and forth on this matter is very complicated and I simply don't have time to go into it. In any case, I would opt for following M_1 on balance as against the other two aggregates, but I doubt that the matter is of really first-class importance.

As I noted a moment ago, interpretations of movements in the monetary aggregates almost always concentrate on seasonally adjusted percentage changes computed at annual rates. In using these data, it is absolutely vital to understand that they contain a tremendous amount of statistical "noise"—that is, random short-run movements tend to be large relative to trend and cyclical movements. (Actually, of course, the time paths of first differences of most economic series contain substantial amounts of noise even when *levels* in the same series show a fairly regular behavior.)

A second and related point to keep in mind about growth rates in money and bank credit is that, contrary to the impression often given in undergraduate economics, the Federal Reserve System does *not* have the tools to control movements in money and bank credit growth rates with any very high degree of precision in the short run. The System can of course exert a powerful influence through its open market operations. Nevertheless, the monetary aggregates are very importantly influenced by other factors not under direct Federal Reserve control. Since the behavior of these other factors may be highly unpredictable in the short run, it may be impossible to know how to adjust day-to-day or week-to-week open market operations to offset their effect. Moreover, incoming preliminary data may at times prove highly inaccurate, making it difficult to know what actions need to be taken. Finally, there are many short-run influences on the money supply that the System may be simply powerless to offset—again in the short run—even if it knows about them. For example, an increase in the demand for bank credit in a given statement week will tend to raise bank deposits and credit and, *within that week*, there will be virtually nothing the Federal Reserve can do about it. I hope these comments on the difficulties of precise short-run control of the monetary aggregates will not appear as a "cop out". Actually, they simply reflect a fact of life that interpreters and users of monetary statistics would do well to keep in mind.

The practical moral to be drawn from the fact that the monetary aggregates may be dominated by erratic and often uncontrollable movements in the short run is that users of these data must avoid the pitfall of overinterpreting short-run developments. Under the circumstances, it will be a wise strategy to adopt some sort of longer run span or moving average technique to force the raw data into a reasonably interpretable form.

There are, to be sure, some problems involved in using devices such as moving averages or moving spans. If the

length of the moving span or moving average is too short, it will not filter out enough of the noise in the data. On the other hand, if it is too long, it will filter out fundamental movements along with the noise and will tend to distort the timing of significant turning points. I will not try to pinpoint precisely an optimal time span for examining growth rates in the money supply and bank credit. Nevertheless, some suggestions are in order. Thus I would think data for a single week are absolutely useless for the analyst. Indeed I would think even data for a month are of very dubious significance. Measurements taken over a quarterly span or in terms of three-month moving averages may be about the minimum length of time for which meaningful readings of these data can be obtained.

Actually, even three-month spans present problems. Data constructed on this basis still display a fair degree of noise. Moreover, even on a three-month basis, the relationship between the amount of reserves the Federal Reserve supplies or permits to be supplied bears a by-no-means airtight relationship to the volume of deposits and credit created. Thus it may also be useful to look at developments over longer periods of, say, four to six months.

The third set of measures I want to mention briefly are the measures of money market conditions. These measures include the so-called "marginal reserve measures": they are the levels of member bank excess reserves, member bank borrowings at the discount window, and net free reserves, i.e., excess reserves less borrowed reserves. (To complicate matters further, free reserves are usually called "net borrowed reserves" when borrowings exceed excess reserves.) These various marginal reserve measures can be thought of (somewhat loosely) as reflecting the balance between supply and demand in the market for bank reserves. As a result, movements in them have tended historically to show a rough parallelism with movements in short-term interest rates, such as the Federal funds rate, the rates on call loans to Government securities dealers posted by banks, and Treasury bill rates. The often-discussed concept of money market "tone" may be thought of as representing some sort of weighted average of all these various marginal reserve and short-term interest rate measures.

Over much of the 1950's and 1960's, the Federal Open Market Committee (FOMC) tended to rely on money market tone as a focus of short-run operating decisions by the Open Market Account management. The precise money market tone aimed at was of course varied by the FOMC from time to time in line with its broader objectives regarding rates of growth in the monetary aggregates and/or broader measures of credit market conditions, and its ultimate objectives with respect to real growth, employment, prices, etc. To detect changes in the money market tone sought by the Federal Reserve, analysts tended to concentrate their attention on the behavior of free reserves and some of the other money market measures just mentioned. In recent years, there has been an evolution toward a more direct role for the monetary aggregates as targets influencing the short-run conduct of open market operations. The increased stress on monetary aggregates is evident in the published report of the January 15, 1970 meeting of the FOMC.

> The Committee concluded that in the conduct of open market operations increased stress should be placed on the objective of achieving modest growth in the monetary aggregates, with about equal weight being given to bank credit and the money stock. It was agreed that operations should be directed at maintaining firm conditions in the money market, but that they should be modified if it appeared that the objective with respect to the aggregates was not being achieved.

Note that the Committee report does not pick out a single aggregate but mentions *both* bank credit and the money supply. The report speaks of giving "about equal weight" to these two aggregates, but presumably the weights could be altered from time to time if conditions seemed to favor use of one or the other aggregate. Note also that the Committee makes reference to the money market conditions (or tone) it expects to be compatible with its objectives as regards the aggregates. However, it instructs the Account Manager to modify these conditions, if such modification is needed to approach the objectives concerning the monetary aggregates.

The procedure adopted by the FOMC at its January meeting suggests that the growth rates of the money supply and bank credit should prove more directly sensitive to the intent of policy makers than was sometimes the case in the past. Having said this, however, I want immediately to remind you again of the extent to which the short-run behavior of the aggregates reflects factors other than the influence of Federal Reserve actions. It remains true that reasonably meaningful statements about the trend of monetary and bank credit growth rates can only be made over reasonably long periods.

A second implication of the FOMC's new approach is that somewhat greater variability might be expected in some of the traditional measures of money market conditions, such as free or net borrowed reserves and the Federal funds rate, than was true in much of the 1950's and 1960's. Again, however, I think a qualification is in order. It is important to note that increased room for short-run

flexibility in money market conditions does *not* mean that the Federal Reserve has ceased to be concerned about the condition of the money market. There is no disposition to allow large short-term fluctuations in money market conditions.

To summarize briefly, the task of interpreting monetary data unfortunately has major inherent difficulties. There are a large number of these measures; as a group they are quite capable of widely *divergent* movements in the short run; taken singly, many of them are equally capable of very *erratic* movements in the short run. I have noted that the System has moved toward increased attention to the money supply and bank credit aggregates, but that it has retained its interest in the state of the money market. Since these objectives may at times conflict in the short run, attempts to read changes in policy into weekly movements in the data are perhaps even more dangerous now than they may have been in the past. Thus the moral would seem to be: for heaven's sake, don't try to overinterpret short-run movements in any of these figures. To measure the Federal Reserve's intentions, look, instead, to the longer run trend of money and bank credit growth rates.