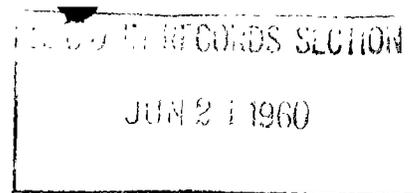




BOARD OF GOVERNORS  
OF THE  
FEDERAL RESERVE SYSTEM  
WASHINGTON



June 20, 1960.

TO: Federal Open Market Committee

FROM: Mr. Young.

For your information, there is enclosed a copy of a memorandum dated June 7, 1960, prepared by Mr. Gaines, Assistant Vice President of the Federal Reserve Bank of New York, on money supply and liquidity.

Enclosure

OFFICE CORRESPONDENCE

JUN 21 1960

DATE June 7, 1960

TO Mr. Hayes

SUBJECT: Money Supply and

FROM T. C. Gaines

Liquidity

Copies to members of the Informal Credit Policy Group

The position of the money supply in its relation to other financial assets has for years been the subject of intensive study. While there have been important conceptual contradictions among many of the analyses, a more or less generally accepted central core of thinking has been developed. This memorandum briefly summarizes the "accepted doctrine" and attempts to extend the analysis so as to incorporate conclusions suggested by developments in this country since the end of the Second World War.

Assets of all types may be arrayed in terms of their "liquidity", with liquidity measured by the cost or difficulty involved in translating the economic value represented by an asset into a claim upon other assets. The array would run in fine gradations from money, which is by definition the asset representing an immediate and costless claim upon other assets, to the least liquid assets such as, e.g., steel mills, which ordinarily can be converted into claims upon other assets only with considerable cost and difficulty, if at all. In the total asset holdings of an individual or institution, each asset throughout the full liquidity range is a substitute for all other assets. Decisions as to the proportion of total assets that each type of asset will represent in a holder's total balance sheet are dictated by the absolute need for the type of service uniquely provided by the asset, by the implied cost of holding one asset rather than another (the cost of holding money is the range of returns available from other assets), by the risk of loss or prospect of gain in one asset as against another, and by the general state of expectations as to prospective changes in the relative value of assets.

The first of these determinants--the absolute need for the service uniquely provided by a type of asset--places limits upon the extent to which assets may be substituted for one another. Other highly liquid assets may substitute for money, for example, as a medium for holding precautionary or speculative balances, but there is no efficient substitute for money as medium for making payments. It is in this connection that the seemingly arbitrary definition of "money supply" as including only currency outside banks and demand deposits adjusted is wholly logical. No other asset, however liquid, can efficiently perform the transactions function of money for the private economy, and their inclusion in the definition of money would blur an important distinction.

At any particular time, only a part of the money supply actually in existence is required for transactions purposes. Conceptually, the absolute minimum level of money supply needed by the economy at a given time may be defined as the level of check float (plus currency outside banks). That is to say, the absolute minimum level of demand deposits adjusted would be reached at that point where deposits on bank ledgers were exactly equal to the value of checks in the mail or in the process of collection and where, accordingly, deposit balances on holders' records were equal to zero. In actual fact, however, the practical minimum for deposit balances is somewhat greater than this conceptual minimum, for a number of more or less rational reasons.

The portion of the money supply above the minimum needed to effect economic transactions, i.e., precautionary and speculative balances, is the portion for which other assets of varying degrees of liquidity may, under specified conditions, substitute. The most important determinant of the extent to which these other assets will, in fact, substitute for cash holdings in the balance sheets of individuals and institutions is the availability of other

assets occupying a position in the liquidity spectrum quite close to money. In an economy where the asset structure consisted only of money and relatively illiquid assets (such as real property, long term bonds, etc.) the money supply, all else equal, would have to be greater to achieve a given liquidity coefficient than in an economy that had a substantial supply of near-money financial assets and an active market in which these assets might be traded. Variety as well as amount of money substitutes is also important, since different types of nonmoney financial assets might appeal to different types of holders of "idle" cash balances.

The principal inducement for holders to rearrange their balance sheets toward relatively less money and relatively more nonmoney liquid assets is, of course, the rate of return available on these assets relative to the zero rate of return earned on cash balances. It should be stressed, however, that change in interest rates is not an independent, initiating influence in this process. Interest rates change in response to changes in the availability of nonmoney liquid assets relative to the availability of money, moving to a level at which the balance sheet realignments necessary to adjust to the changed relationship of money substitutes to money will be made. The changed relationship which generates the interest rate movement may result from changes in the relative supply either of money (in response to Federal Reserve policy) or of nonmoney liquid assets, or of both simultaneously.

Another influence upon holders' decisions as to the distribution of their holdings among money and various other assets is the state of expectations with respect to the direction of interest rate movements in the rather near-term future. Relatively more money tends to be held if it is expected that interest rates will rise, relatively less if it is expected that they will fall. It is unlikely, however, that expectations--except of a very short time horizon--

play a significant role in holders' decisions as between money and near-money assets; the principal influence of expectations is upon the movement of funds between relatively illiquid (or longer-term) assets, on the one hand, and liquid assets including money, on the other. Since this paper is directed at analyzing the relationships between money and nonmoney liquid assets, expectations will have only a minor part in the discussion.

The monetary developments in the United States during recent years are explainable in terms of the preceding, highly simplified outline. Money supply proper at the end of the Second World War was substantially greater than needed for transactions purposes, and nonbank balance sheets since that time have almost steadily shown greater relative growth in holdings of nonmoney liquid assets than in holdings of money. A measure of the extent to which the "surplus" money supply has been absorbed is found in the significant increase that has taken place in the velocity of money. It is worth noting that the increase in the velocity of money that has taken place would not have occurred, at least to the same extent, if there had not been the very large generation of other short-term liabilities, i.e. nonmoney liquid assets, that there has in fact been. That is to say, at least some part of the net credit creation through nonbank sources that has been reflected in enlarged nonbank holdings of short-term claims of all sorts would have been forced into the banking system if the creation of the credit had not simultaneously generated liquid claims which nonbanks were willing to hold as a substitute for money.

There is no satisfactory way of determining at any time how close to the minimum (transactions balances money supply) the total money supply actually is, and thus there is no way of judging how close velocity is to its conceptual ceiling. In fact, it is likely that the practical lower limit on the money supply relative to transactions needs--which it has been noted is always somewhat

above the absolute transactions balances minimum--changes from one period to the next, and thus it is likely that the realistic ceiling for velocity also changes over time. For example, as interest rates have moved into higher and higher ranges since the end of the Second World War, an increasing number of individuals and institutions have learned to "economize on cash balances". Once having learned to operate on minimum cash, and having established staff and procedures for managing cash, the tendency is to continue to hold minimum cash balances even though the interest rate incentive that originally was responsible for the closer control of cash balances may temporarily have vanished. In other words, changes in the relationship between cash and noncash liquid assets in balance sheets in response to changes in interest rates probably is not symmetrical over time.

There also is no satisfactory way to measure the effect on nonbank liquidity of the substitution of nonmoney liquid assets for money. To be sure, if the total of money supply plus the most widely-held substitutes for money were to decline relative to some aggregate measure of the need for money, such as Gross National Product, it probably would be possible to conclude that nonbank liquidity had declined. But if the relationship of money supply plus "money substitutes" to GNP or a similar measure is constant or increasing, a clear conclusion on what has happened to liquidity is not possible. So long as the money supply is greater than the transactions balances minimum--i.e., so long as an absolute shortage of money does not appear--it is likely that many nonmoney liquid assets are considered by their holders to be perfect substitutes for money. Liquidity is largely a psychological concept, and so long as cash flows can be scheduled so that nonmoney liquid assets may be converted to cash as cash is needed, and the reverse, at little or no out-of-pocket cost, it is reasonable that holders should consider these assets the equivalent of cash.

And let it be noted that under the specified circumstances no holder of liquid assets can be considered "short of cash" except as his total liquid holdings fall short of his cash requirements; or, stated another way, under normal circumstances it is the total of money and money substitutes, rather than money supply alone, that is the significant magnitude. Of course, the progressive substitution of nonmoney liquid assets for money increases the vulnerability of the economy, in the sense that any development(s) which affect psychology so as to increase significantly the desired ratio of money to total balance sheets may cause a money panic--a manifestation of an absolutely inadequate money supply. What had been adequate liquidity may thus become severe illiquidity.

The commercial banks are a special case in this analysis. Since bank liabilities are the largest source of money supply, a process through which the nonbank public is induced to alter the ratio of money to nonmoney liquid assets will have an influence upon the growth rate of commercial bank liabilities (and assets) relative to the economy's rate of growth. But the differential growth rate does not necessarily affect commercial bank liquidity even when, as in recent years, the relatively slow average rate of growth in total bank assets and liabilities is accompanied by substitution on bank balance sheets of non-marketable loans for marketable securities. The resulting increase in "loan-deposit ratios" may, at least temporarily, convince some bankers that they are illiquid and "loaned up". But the record of recent years suggests that this frame of mind is adaptable to new loan demands. There is, of course, an absolute upper limit on the extent to which ideas about acceptable loan-deposit ratios may be ratcheted upward, but short of that absolute limit, judgments as to bank liquidity at any loan-deposit ratio should be carefully hedged.

One side result of a process that, in effect, substitutes nonbank credit for bank credit might be noted. To the extent that certain borrowers rely

proportionately more upon bank credit than do other borrowers, a squeeze upon bank credit may affect the distribution of credit availability. But to conclude that this result has, in fact, occurred it is necessary to establish that bank loans, rather than total bank credit, have not grown in pace with total credit growth. This does not appear to have been the case at any time in recent years, in spite of the relatively restrained rate of growth of total bank credit.

Certain conclusions applicable to recent Federal Reserve policy may be drawn from the foregoing. First, the rate of money supply growth possibly has been inadequate, but this conclusion can not be established by looking at money supply alone. Obviously, money supply has not fallen below transactions requirements, so that any "inadequacy" of growth would necessarily refer to balances in excess of transactions needs. The fact that short-term rates of interest have been declining in recent months would suggest that money supply has been excessive relative to the pre-existing equilibrium relationship of money to other liquid assets, rather than the reverse. Alternatively, it might be argued that it is the availability of bank credit rather than money supply that has been inadequate. This conclusion by itself probably would not be too meaningful so long as the total of credit of all types was growing at a rate judged to be adequate in terms of the economy's needs for credit. The latter judgment is a policy matter and may have been justified in the last few months, in spite of the mammoth credit growth in 1959, but it should have been based upon a conclusion that total credit availability should be increased not that bank credit-- or its resultant, demand deposits--was inadequate.

Second, it is likely that a conscious effort by the Federal Reserve System in the present setting to force some predetermined rate of increase in the money supply would--unless accompanied by other supporting circumstances-- probably require very significant reductions in short-term market rates of

interest. In a simple, static illustration, if nonbank balance sheets are in the desired balance between money and money substitutes, and nothing else changes, to force some holders to substitute more money for money substitutes would require that rates of interest be drawn down to a point where they were indifferent as between money and the interest-earning substitutes for money. The preceding analysis suggests that the necessary rate adjustment might be very sharp. Since an important element of nonmoney liquid assets has been reduced in the first half of 1959 (Treasury short-term debt), it would appear that the static illustration, while it does not allow for economic growth, might be roughly applicable.

This memorandum attempts no more than an outline of the analysis, and it completely omits reference to many matters that would be included in a full treatment of the subject. But it may cast some light into a terribly murky corner of economic analysis. The most important conclusion it suggests is that the critical magnitude with which Federal Reserve policy should be concerned is the volume of total new credit, not bank credit alone nor the money supply. In some respects, bank credit is unique, but as a general proposition it seems apparent that bank credit may most usefully be analyzed in terms of its relation to flow of all credit rather than as a separate magnitude. Similarly, money possesses unique capabilities, but for most purposes it may most usefully be studied as part of the total structure of liquid financial assets. Our financial economy is structured in such a way that additions to the money supply tend to be generated as they are needed, only requiring Federal Reserve acquiescence under existing policy guide lines, not requiring initiating Federal Reserve action. But that is another story.