Monthly Review November 1952

Demand Deposits in the Money Supply

It has been estimated that over 85% of all payments made in the United States today are in the form of checks drawn against demand deposit accounts. Scarcely one hundred years ago, the use of demand deposits as a medium of exchange in the United States was on so limited a scale that they were scarcely recognized as money. Demand deposit money today makes up over half the total money supply* (currency and coin, demand deposits, and time deposits in the hands of the public). If time deposits are excluded, demand deposit money comprises three-fourths of the total.

As in the case of currency and coin,* demand deposit money accounts for about the same percentage of the total money supply today as it did a half-century ago. In 1900 it made up 50% of the total money outstanding; at the end of July of this year it was just short of 52% of the total. Demand deposit money reached its highest relative position in 1943 accounting for 55% of the total, and its lowest relative position (since 1900) in 1932 being 34% of the total.

The Importance of Demand Deposits

The proportion of the total money supply which is in the form of demand deposit money is shown by the red line in the chart on page 4. The chart also shows the importance of demand deposit money if time deposits are excluded from the definition of the money supply (black line). In the latter comparison there appears a persistent tendency for demand deposit money outstanding to increase as a per cent of the total except during periods of unusual economic stress. Following World War I, for example, demand deposit money climbed from 82% of the total (1918) to 87% in 1930. During the depression which followed it fell to 75% (1933), then climbed back to 83% just prior to our participation in World War II. By 1945 demand deposit money had dropped to 73% of the total. It has climbed steadily since then to the present 79%.

In the comparison with the total money supply (red line) there appears a downward movement in the relative importance of demand deposit money until 1930, which is contrary to the movement when time deposits are excluded (black line). This resulted from an increase in the relative importance of time deposits in the total money supply. Time deposits rose from 34% of the total in 1900 to 55% in 1931. The opposite is true from 1931 to 1943. Time deposits increased in dollar amount outstanding by less than 4% during this period, while demand deposit money increased almost threefold and currency and coin increased nearly fourfold. As a result, time deposits fell from 54% of the total money supply to under 30%.

At $95,750 million in August 1952, demand deposits (adjusted as explained in the August *Monthly Review*) were over twenty-one times greater than in 1900. On a *per capita* basis, they rose from $58.16 in 1900 to $611.42 in August of this year. Although the largest dollar increase in amount outstanding occurred during World War II (an increase of $37 billion) the growth since 1945 has been spectacular—$27 billion from June 1945 to August 1952. The *per capita* amount outstanding in 1940 was $242.74. This jumped to $522.59 by mid-1945 and has continued to increase since.

When discussing the monetary role of demand deposits, it should be clearly understood that we are speaking of the demand deposit itself—the bank's promise to pay—not the check which is conventionally used to pass title to a demand deposit. It is well recognized that checks in general are not readily accepted without question in exchange. The recipient must assure himself that the check does in fact give him legal claim to the deposit behind it. This means that there must be no doubt as to the authenticity of the signature and the adequacy of the deposit against which it is drawn.

Demand Deposits and Legal Tender Money

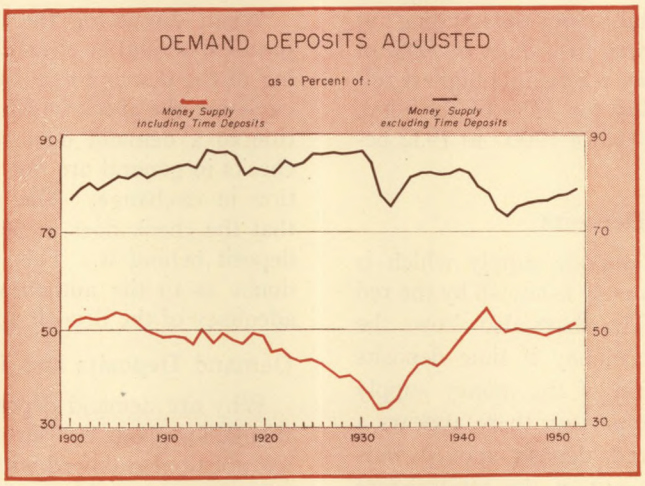
Why are demand deposits so readily accepted in exchange for goods and services? Demand deposit money has not been endowed with legal tender qualities. It is, however, convertible on demand into legal tender money. So long as confidence in this convertibility is maintained, the value of demand deposit money will remain equal to that of legal tender money. The question is: What factors tend to maintain confidence in the convertibility of demand deposits into legal tender money?

Banking experience over many decades has shown that although deposits are put on a "withdrawal on demand" basis, on balance, only a small portion will be withdrawn in a given period, the total of withdrawals being closely matched by the total of deposits. Assuming no major distortions such as war or depressions, the people generally elect to hold a certain proportion of their money in the form of currency and coin and the remainder in the form of deposits, and this proportion changes only slowly over time. So long as the relationship holds, the total withdrawals of deposits in the banking system as a whole will be matched by total deposits. It is only when we have a major disturbance of the economic pattern that the ratio between deposit money and legal tender money is upset and bankers are faced with large net withdrawals of deposits.

*The August and October issues of the *Monthly Review* of the Federal Reserve Bank of Richmond presented articles defining money and analyzing segments of the money supply.

For the individual banker, however, the situation is somewhat different. He is concerned with the ability of his bank to attract to it sufficient deposits to offset or to overbalance the demands for withdrawals which confront him as he expands his loans and investments. This is the area of most intense competition for the banker—to build up a deposit structure of such a nature as to assure that a large enough proportion of the deposit money used by the people of the community for transactions will be deposited in his bank to offset (preferably to outweigh) the normal drain of withdrawals which his bank must stand.

The prudent banker, in addition to aggressively driving to build up his deposit structure, will make provision for his daily needs (although withdrawals may be matched by deposits over a period of time, from day to day there will be net withdrawals or net deposits) in the form of a primary, that is, a cash reserve, and in addition will provide for unforeseeable contingencies with a secondary reserve consisting of assets which can be converted into cash on very short notice and without significant loss. These actions are, of course, based on a thorough knowledge of the particular bank and the community it serves and differ from institution to institution.



Legislators, first as a measure contributing to sound banking and later as a credit control device, have established laws requiring that reserves equal to a given percentage of deposits be maintained at all times. The principal legal reserve requirements that concern us here are those of the Federal Reserve System which are applicable to all member banks (approximately 85% of the country's demand deposits are held in member banks). These reserves must be kept on deposit at the Federal Reserve Bank of the District in which the member bank is located.

Demand Deposits and Reserves

The foregoing has dealt primarily with the maintenance of convertibility of demand deposits into legal tender money (currency and coin) through equating inflowing and outflowing deposits and through properly maintained reserves. This latter concept can now be turned about and examined from a point of view which becomes basically important in a consideration of the behavior of money and prices—that is, a consideration of the value of money. With a system of required reserves, reserve funds become a sort of "governor" influencing the supply of deposit money. The availability of reserve funds sets a limit to the expansion of deposits in addition to creating situations of ease or tightness for bankers and thus influencing their decisions as to extending new credit. In order to understand clearly this important principle in modern banking, it is necessary to define the relationship between banks' assets (their loans and investments) and their deposits.

Primarily, changes in demand deposit money outstanding stem from the extension of credit by banks (loans to customers and investments) and repayments to them. When a business firm borrows from its bank, it receives the proceeds of the loan in the form of a credit to its demand deposit account at the bank. The bank receives from the business firm an asset in the form of the firm's promise to pay, secured or unsecured. As a result of this transaction, demand deposits outstanding and the bank's assets (in this case "Loans and Discounts") have increased by a like amount. When the loan is repaid, the business firm will use funds in its deposit account for this purpose with the result that demand deposits will be decreased at the same time that the bank's assets ("Loans and Discounts") are decreased.

Even when the proceeds of a loan are paid out in currency and coin to the borrower, the final result will still be an increase in deposits unless we are in a period when people are showing an above-"normal" preference for legal tender money. This is true because people go into debt primarily to make needed expenditures (to pay an accumulation of past debts or to make new purchases) and seldom in order to hoard legal tender money. Thus, the borrowers' currency and coin quickly finds its way into the tills of various business firms and, in the normal course of business, is deposited in their checking accounts at their banks. These may not be the banks which originally made the loans providing the funds, but for the banking system as a whole, deposits have increased, after a short time lag, with the increase in banks' assets (customers' notes).

The same principle applies when a bank purchases securities issued by private corporations or by government bodies. The cover chart shows clearly the close correspondence between total bank credit outstanding

and the money supply. "Public credit" in the chart refers only to credit extended to the Federal Government and represented by Government securities held by the banks. "Private credit" includes all loans and discounts and investments other than Government securities held by the banks.

Since banks can lend money by simply increasing their deposit liabilities (that is, by a bookkeeping entry) and since their income is increased by each additional loan, why not continue the process indefinitely? The fundamental answer lies in the maintenance of convertibility of demand deposits into legal tender money, by keeping reserves adequate to meet current demands, which in the final analysis determines the value of deposit money thus leading people to accept it freely in exchange. If expansion continued indefinitely, the holders of deposit money would soon find that they could not obtain legal tender money in exchange for their deposits and confidence in its acceptability would soon be undermined. In actual practice, however, the answer is found in legal reserve requirements which originated in the concept of sound banking practices and have since evolved to include in addition to this concept that of over-all credit control to combat undesirable inflationary or deflationary tendencies, plus cash-on-hand requirements to meet daily needs.

The Creation of Deposits

To what extent will expansion of bank deposits continue? This principle, referred to in sophisticated quarters as "the multiple expansion of deposits under a fractional reserve system," can best be explained by illustration. Assume a new bank has just opened its doors and has paid in capital of $100,000 in the form of a deposit with its Federal Reserve Bank. Say the legal reserve requirement for this bank is 20% of demand deposits and that it will not receive time deposits. The officers of the new bank, motivated by the desire to run a profitable institution, wish to acquire earning assets in as large an amount as possible. They recognize that, insofar as the law is concerned, their reserve funds of $100,000 (on deposit with the Federal Reserve Bank) will permit them to have total demand deposits of $500,000. They also know that when they make loans to their customers many of them will make payments to creditors who are customers of other banks and who will draw funds out of their bank. They immediately recognize the imprudence of making loans (and creating deposits) of $500,000 because, then, any withdrawal would reduce their reserves below the legal minimum. A $1,000 withdrawal, for example, would reduce reserve funds to $99,000 and deposits to $499,000. Twenty per cent of $499,000 is $99,800 while they now have only $99,000 in reserves.

They may then take the opposite line of reasoning: if we make loans of $100,000 (and create a like amount of deposits) then, even if the whole amount is withdrawn, we are still "safe." But the return on $100,000 is very small. Why not begin with loans of $200,000 (creating deposits in the same amount)? The legal reserve will be $40,000. We could, therefore, lose a third of our deposits to other banks and still be within the legal requirements: Say we lost $70,000. Reserve funds are reduced to $30,000 which would cover $150,000 of deposits while our deposits have now been reduced to $130,000. As a result of this reasoning they extend loans to local customers in the total amount of $200,000, setting up deposits to their credit for this amount.

To keep the illustration simple, assume that as a result of this experiment the officers of the bank find that new deposits coming into the bank exactly offset deposits lost to other banks so that deposits and reserves remain unchanged. Confidence grows in the continuation of this condition and the officers decide it is safe to expand their loans (and deposits) still further since they have reserves of $60,000 in excess of those legally required. However, they do need some cash on hand to meet daily needs because, although over a period of time new deposits equal lost deposits, from day to day they either lose or gain on balance. It is decided to maintain cash on hand equal to 5% of total deposits making a total reserve (legal and voluntary) of 25% of deposits. Applying this reserve ratio, the officers of the bank decide to lend to the maximum knowing that if they should begin to lose deposits on balance, they can sell some of their assets to meet the drain or else they may borrow from their Federal Reserve Bank. One hundred thousand dollars is 25% of $400,000, so the officers of the bank make additional loans of $200,000 increasing total deposits to $400,000. Thus, $100,000 has given birth to $400,000 of deposit money, $300,000 of it newly created.

If our bank had suffered losses of deposits, it could not have carried the deposit expansion to its ultimate limit. However, the banks to which these deposits were lost would then be in possession of reserve funds and would themselves have carried the expansion on. We have assumed throughout that there was at all times a ready outlet for loans. The expansion may have been stopped because businessmen were not willing to borrow.

It is clear from this simplified illustration that banks create money when they increase the total of their assets. It follows then that the activities of bankers (but not of bankers alone) is very closely related to the economic stability of the country. The immediate effect of putting new money into circulation is to increase the force of the demand for available commodities and services. If, as a result of the new money, additional commodities and services are produced, then the first inflationary influences are offset and society as a whole is benefited by the increased production. If, as is the case during wartime, new money is created which does not bring additional commodities and services to the markets, the inflationary pressures are crystalized into higher prices. —R. P. L.