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THE FUNCTION OF BANK RESERVES

The term "bank reserves" is one that may have several meanings. It may be used to refer to the total amount of reserves which qualify for meeting legal requirements of commercial banks or it may be used to include quick assets that banks hold as secondary reserves. Both commercial banks and the Federal Reserve Banks hold reserves but these are quite different in form. In our discussion today, when I refer to bank reserves I shall in general be referring to the reserves that member banks hold on deposit with the Federal Reserve Banks, of which a part are legally required reserves and a part may be excess reserves. Nonmember bank reserves take several forms in accordance with various state laws, but the bulk of them are held in vault cash and on deposit with correspondent banks. Reserves of the Federal Reserve Banks consist of gold certificates held in their vaults.

For more than a century, it has been an accepted feature of the nation's banking system that commercial banks should be required to hold a certain fraction of their deposit or note liabilities in reserves. As our monetary and banking institutions have developed, however, our conception of the primary function of legal reserves of banks has undergone significant change. Originally the principal purpose of legally required reserves was to assure the ability of individual banks to meet liabilities on demand during a period of strain. That is to say, it was to provide for the convertibility of bank notes and bank deposits into cash. With the establishment of the Federal Reserve System, the role of bank required reserves was greatly modified, and today they serve mainly to set a limit on the total volume of bank credit and the money supply.

Reserve requirements against circulating bank notes became a part of American banking law a century ago, and requirements against bank deposits were introduced by the National Bank Act in 1863 and by two States even earlier. At first each bank's reserves comprised the specie in its own vaults. Later these reserves came to include funds which a bank might have on deposit with another bank in a financial center.

In the course of time it became evident that reserves alone were not an adequate protection to banks and their depositors. The reserves which a bank was legally required to maintain were not reserves which the bank could pay out. In other words, required reserves did not assure the ability of a bank to honor its obligations on demand. Moreover, since part of these reserves was held on deposit with correspondent banks, their recall for meeting the demands of local depositors only transferred to the correspondent banks the problem of raising cash to liquidate banking system liabilities. In fact, in deposit withdrawal emergencies, outlying banks tended to rely on borrowing from their correspondent banks with whom they maintained deposits. But these banks could use only their excess reserves for such lending, and the scattered excess reserves of the entire banking system were inadequate when a large number of banks were facing unusually heavy depositor withdrawals.

Gradually it became more clearly understood that the ultimate safety of bank deposits depended much more upon the availability of a reservoir of reserve funds, to be drawn upon in case of need, than upon legal reserves. That is, what was needed was an institution to provide additional money and reserves in emergencies; and, more important, to provide additional means of payment, under appropriate regulatory safeguards in accordance with the growth of agriculture, industry and commerce.

The Federal Reserve System was established primarily to meet these needs. The Reserve authorities were empowered to issue money. They were also empowered to lend to member banks or to buy United States Government securities or certain kinds of commercial paper in the open market, a process that creates member bank reserves in the form of member bank deposits at the Reserve Banks. It was provided that member banks could not legally reduce their reserves below the statutory minimum and since excess reserves do not produce income, it was expected that member banks would not ordinarily keep excess reserves. The Federal Reserve System, through its discount and open market instruments, was given authority to exercise a regulatory influence over the volume of deposits which member bank lending and investing activities could create.

These facts gave bank reserves and reserve requirements a new significance. Instead of serving largely as an individual bank's main guaranty of readiness to honor its obligations, they became the means by which the central banking authorities exert a restrictive or expansionary influence, as public economic interest directs, on the ability of banks to extend credit and expand deposits.

Relationship of reserve requirements to the volume of deposits:

The two factors I have just mentioned--the volume of bank reserves and legal reserve requirements--serve as a team to set a limit to the total volume of deposits at any time. I shall have more to say later about the volume of bank reserves. First, I should like to examine with you, as I have before, the present-day role and significance of bank reserve requirements--that is, the percentages of demand and time deposits that banks are required to hold as reserves.

At existing levels of reserve requirements, one dollar of reserves will support over 6 dollars of bank deposits. Stated in another way, a given addition to bank reserves makes possible about a six-fold increase in bank deposits. A contraction in reserves of a given amount tends to produce a six-fold contraction of deposits.

The basic principle underlying this possible expansion and contraction is that bank deposits have their principal source in bank lending and investing. If there were only one bank in the country and if we can assume that people hold their money in the form of bank deposits, the bank could expand its deposits indefinitely by making loans to its customers and crediting the proceeds of the loans to its customer checking accounts. Being the only bank, it would not need to fear loss of deposits to other banks. Those who receive checks drawn on the bank would deposit them at the bank, the effect would be merely a transfer of deposit ownership on the books. The only limitation on the expansion in

deposits would arise out of the amount of reserves in proportion to its deposits which the bank maintained, either because of its own rules or because of legal reserve requirements. At the present time member bank reserve requirements average about 15 per cent of total deposits. Fifteen per cent reserves permit deposits to expand about six and two-third times. Thus, if there were but one large commercial bank serving the entire country and holding all the deposits of the people, its deposits could expand to $666 for each additional $100 of reserves.

But we have not one bank but approximately 14,000 commercial banks. Therefore, in the actual competitive situation that exists no bank can expand its deposits by making by itself new loans and investments of six times the amount of any newly acquired reserves. It can not do so because bank customers do not borrow with the expectation of leaving the borrowed funds on deposit; they borrow in order to spend, and the funds they borrow are more apt to be checked out to another bank than to remain with the bank which lent them. Consider an illustration of how credit and deposit expansion tends to occur, using an average reserve requirement for all banks of 15 per cent. When a bank receives a deposit of $100, it must put aside $15 as a reserve against the deposit and it can lend $85. When it has done this it has both the $100 deposit and the $85 deposit put to the account of the borrower. But this $85 will probably be transferred by a payment to a depositor of a second bank. The second bank receiving the $85 deposit must increase its reserves by 15 per cent of the deposit; that is $12.75. It then has $72.25 left which it can lend and which will probably find its way through a payment to a third bank.

This process may continue through a succession of banks, assuming a demand for bank credit, until taking all the banks together a result is reached which is the same as would be reached if there were only one bank. That is, all banks taken together constitute a system comparable to a single bank performing all the banking business. Deposits may shift from bank to bank but, as a general thing, they do not leave the banking system. So, the process of lending and moving funds from bank to bank with resulting increases in deposits and in required reserves can continue through a succession of banks until the total of the new deposits, counting the original deposit of $100 at the first bank and the deposits created through the successive loans and investments, will amount to $666. The reserves set aside by the banks involved will total $100, which is the 15 per cent required against the aggregate deposit of $666.

From this illustration we may draw two important generalizations. First, the lower the percentage reserve requirements of banks are, the greater the volume of credit and deposit expansion a given volume of additional reserves will support and the greater the volume of credit and deposit contraction a given loss of reserves will tend to require. Second, with our system of 14,000 independent banks, legal reserve requirements at some level are an essential element in the mechanism through which the total volume of bank credit and deposits may be brought under some over-all control.

<u>Reserve requirements of the Federal Reserve Banks:</u>

I believe it is helpful for a fuller understanding of the modern role of commercial bank reserves to contrast the significance of commercial

bank reserve requirements and the requirements in gold certificate reserves applicable to the Federal Reserve Banks. It needs to be recognized that as far as reserve requirements are concerned, as in other respects, there are important differences between commercial banks and Federal Reserve Banks. As we have seen, the principal present-day function of commercial bank reserves is as a mechanism through which the total amount of money in the country may be influenced. What is the purpose or role of the reserve requirements imposed by law on the Federal Reserve Banks?

The reserve of 25 per cent against deposit and note liabilities that the Federal Reserve Banks are required to hold in gold certificates has importance in connection with two major kinds of functions performed by the Federal Reserve System. Such reserve requirements could, in a period of vast credit expansion, restrain the System from expanding Reserve Bank credit beyond a certain point. This would then tend to put an automatic limit, although sometimes a high one, on the total monetary and credit expansion that could take place. The System, however, does not expand its credit irresponsibly; substantial increases in Reserve Bank credit have been made only to meet national emergencies of depression and war. Moreover, if the System were disposed to act in an irresponsible way to expand credit in a period of inflation, it has now more than enough leeway of excess reserves to cause very serious damage before its reserve limits would even begin to be effective.

While the limit on the expansion of Federal Reserve credit which is set by the gold reserve requirement is not an effective or necessary device for curbing monetary expansion, it may at some stage hinder the Federal Reserve in meeting a financial emergency. The System is the agency responsible for assuring the convertibility of bank deposits (and today perhaps I should also add Savings Bonds) into currency, should anything cause the people to want to hold currency rather than bank deposits or these other liquid assets. The System also is responsible for providing needed elasticity in the supply of available bank reserves. The reserve requirements on the Reserve Banks serve to limit their capacity to perform these functions. It seems to me that under the kind of a monetary and banking system we now have, there is no reason for any mechanical limitation on the capacity of the Federal Reserve to insure the convertibility of bank deposits into currency or to extend needed credit to member banks.

Federal Reserve influence over the volume of bank reserves:

As I pointed out earlier, two factors limit the volume of deposits that banks may create and hold: the volume of bank reserves, and the reserve requirements of banks. When the volume of bank reserves increases, banks as a group may expand their deposits by a multiple amount; conversely, a loss of reserves tends to induce a multiple contraction of deposits. Thus if the Federal Reserve can influence the volume of bank reserves it can restrain or promote the expansion of bank deposits and help to bring about their proper adjustment to the needs of the economy.

There are three principal instruments which the Federal Reserve System may employ to alter the volume of bank reserves. One means of control has been through changes in Reserve Bank rediscount rates. When a

member bank has lent or invested all of its available funds, it may obtain additional reserves by rediscounting or borrowing at its Federal Reserve Bank. Although when a member bank applies for such accommodation the Reserve Bank is under no obligation to grant credit, a member bank with satisfactory collateral can usually obtain it. Federal Reserve policy of encouraging or discouraging borrowing by member banks is expressed principally not in the granting or refusing of loans but in the rate charged for rediscounts and advances. When the Federal Reserve believes that it is in the public interest to encourage credit expansion, it traditionally sets its rediscount rate low in relation to prevailing market rates. When it wishes to discourage credit expansion, it raises the rediscount rate.

Banks, and the entire money market as well, also have access to Reserve Bank credit through Federal Reserve buying of bills. These may be either Treasury bills or bankers' acceptances, but the latter while of great importance in the 'twenties are not widely used today. The influence of the System over the extent of such access to Reserve Bank credit is traditionally made effective by raising or lowering interest yields or rates at which the Federal Reserve will purchase these market instruments. Relatively low Federal Reserve buying rates encourage the money market to sell these to the System; high rates discourage such sales. The bill avenue has been traditionally the cheapest way to Federal Reserve credit, and today the Treasury bill is playing an important role in the adjustments in reserve positions made by banks, particularly the money market banks. Recent actions taken by the System to increase the flexibility of market interest rates to adjust to changing credit situations may tend to give the bill instrument an even more pivotal role in the credit mechanism.

With both the rediscount instrument and the bill buying mechanism the Federal Reserve operates essentially passively to influence the volume of bank reserves. That is, having set for the time its rediscount and bill buying rates, the System traditionally awaits the action of banks and the money market in general to seek out Federal Reserve credit. The Federal Reserve has an active instrument of control over the volume of bank reserves in its open market policy. That is, it can enter the market at its own initiative to sell Government securities to contract Reserve Bank credit and to buy Government securities to expand that credit. Bank reserves may thus be contracted or expanded by the System as it seems in the public interest to do so.

Federal Reserve authority to change member bank reserve requirements:

As you know, the Board of Governors has the power to vary the reserve requirements of member banks. The basic requirements established by law against demand deposits are 13, 10, and 7 per cent for central reserve city, reserve city, and country banks, respectively. These may be raised by the Board to a maximum of 26, 20, and 14 per cent, respectively. Reserve requirements on time deposits at all member banks may range from 3 per cent to 6 per cent. In August, last year, Congress, as an anti-inflation measure, gave the Board temporary authority to impose additional reserve requirements on member banks up to 4 per cent on demand deposits and 1-1/2 per cent on time deposits. Under this authority, which expired at the end of June, the Board raised reserve requirements last September, and lowered them in May and June.

The instrument of changes in reserve requirements is not one that is well adapted to frequent use for influencing the total volume of bank credit and bank deposits. It is instead a measure to be used from time to time as needed for contracting or expanding the liquidity position of the banking system and for bringing the other credit control instruments of the Federal Reserve into broad contact with the credit situation. In the period of financial reconversion from war through which we have now largely passed, however, changes in bank reserve requirements assumed exceptional importance as an instrument for credit and inflation control. This was the case because the System's other instruments for influencing the total volume of money and credit were severely limited in use by special circumstances arising out of the financing of the war and the absence of real peace after the war. Recent developments, which I shall discuss shortly, indicate that perhaps greater emphasis may now safely be placed on other monetary instruments and that the instrument of changes in reserve requirements may play a more balanced role in the future.

Recent Federal Reserve Credit Action:

A year ago, when I discussed the subject of bank reserves at a seminar session of this School of Banking, circumstances were such that these Federal Reserve instruments for affecting the volume of bank reserves were very severely limited in their usefulness. At that time, with financial transition to peace-time conditions only partially accomplished and with the international situation as it was, stability in the Government securities market was an overriding consideration. Open market operations, therefore, were not then usable for the purpose of affecting aggressively the volume of bank reserves. For exercising some measure of restraint on monetary expansion over the period of postwar inflation, monetary authorities were obliged to rely on use of the then substantial Treasury cash surplus, on a modest rise in short-term rates, and on increases in reserve requirements.

By the end of last June circumstances were such that the Federal Open Market Committee was able to announce a change in policy which should help to restore the effectiveness of certain traditional instruments for influencing the volume of bank reserves. Purchases, sales, and exchanges of Government securities are now made with primary regard to the general business and credit situation. The policy of maintenance of a relatively fixed pattern of rates has been discontinued, although it will continue to be the System's policy to maintain orderly conditions in the Government security market, and the confidence of investors in Government bonds.

About the time the change in open market policy was announced, excess reserves of member banks were expanded approximately 800 million dollars by the expiration of the special reserve requirement authority that Congress granted to the Board a year ago. These free funds, seeking investment, pressed down the market yields on all Government securities, but particularly short-term interest rates. After the short-term yields had declined about 1/4 of 1 per cent it became clear that these rates were under such pressure that further precipitous declines were likely, and the System made short-term Government securities, largely bills, available from its portfolio in order to avoid a disorderly market situation.

In early August the Board announced further reductions in reserve requirements, and over August and early September these reductions are making available to member banks an additional 1,800 million dollars of excess reserves. Short-term Government securities, again primarily bills, are being supplied in the market from the System portfolio so that banks may find at least temporary investment for these funds without pressing down short-term yields to an undue extent.

Generally speaking, the Board's reserve requirement actions coupled with the change in open market policy of the System have had two major effects that should help to promote the availability of bank credit at this time. Member bank liquidity positions--that is, their holdings of cash, excess reserves, and short-term Government securities--have been expanded by about 2,600 million dollars. At the same time the yields on short-term Government securities are down considerably from what they were in the early summer, and accordingly the attractiveness of these investments is much reduced as compared with say a loan to a business concern or to a farmer. I should also mention the fact that the Reserve System is no longer freely selling Government bonds to keep their yields from declining. With the adoption of this policy by the System, pressure of market forces brought about a decline in yields on medium, and long-term Government securities, with an accompanying tendency for investors to seek corporate and municipal securities as outlets for the funds they have available for investment. I believe that these credit actions by the Federal Reserve have had some influence in making the current economic situation somewhat more favorable than in general it promised to be a few months ago.

How should the burden of holding reserves be distributed among banks?

In order to keep the volume of money in the country at a level which is appropriate to economic conditions, we have seen that under our banking system it is essential that banks be required to hold reserves, and that the Federal Reserve be able to influence the volume of reserves available to banks. At any given time, there is an appropriate volume of total reserves that banks as a group need to hold to promote monetary stability. But bank reserves are immobilized assets that cannot be loaned or invested to earn an income. The required reserves which an individual bank holds represent, therefore, a contribution which the bank makes to effective national monetary policy. The basis or principle for allocating the total burden of holding required reserves as among different banks thus becomes extremely important.

The Federal Reserve System has studied the problem of allocating the reserve burden among banks for a long time. As you all doubtless know, the existing statutory basis for member bank reserve requirements dates back to the establishment of the National Banking System over 85 years ago. The requirements are related to the geographic location of the bank. That is, a bank's classification for reserve requirement purposes depends on whether it is located in a central reserve city or in a reserve city, or whether it is outside of these cities--a so-called country bank. A member bank located for example in a reserve city must under this scheme hold reserves at the higher percentages designated for such a center whether or not it is doing a reserve banking type of business. Another

member bank doing a reserve banking business but located outside the reserve city areas need hold only country bank reserve requirements. From time to time the Federal Reserve has been able to relieve some banks in reserve cities of a discriminatory reserve burden through its limited discretionary authority relating to outlying areas of reserve cities. But many cases of inequity cannot be solved in this way and a basic problem of equity of reserve requirement treatment as among member banks still remains.

There is also a fundamental problem of equity as between member and nonmember banks, where the differences in treatment are frequently very, very wide. Certainly from the standpoint of the reserves it must hold, the average nonmember bank is now making a disproportionately small contribution to monetary stability. The nonmember bank not only is subject generally to much lower reserve requirements, but it is also permitted to hold its reserves at correspondent city banks where they serve a double purpose--both as legal reserves and as a needed correspondent balance. A member bank holds both a reserve balance in its Reserve Bank and balances with its correspondents. Further, the actual contribution to monetary control of a reserve balance held with a correspondent bank is only equal to that fraction of the balance which the correspondent bank is in turn obliged to hold with its Reserve Bank, since the correspondent bank is free to, and usually does, invest or lend the remainder. In some states, moreover, nonmember banks are permitted to invest a portion of their reserves in interest bearing public securities. Discriminatory treatment in favor of nonmember banks as far as reserve requirements are concerned tends to weaken the ability of the Federal Reserve to promote proper adjustment of the volume of money to the needs of the economy. The large difference in the requirements tends to discourage banks from joining the System, and could result in weakening the System by encouraging banks to withdraw from membership. It is difficult to see the justification for discrimination of this kind.

Uniform Reserve Plan:

As I said a year ago at this School of Banking, a staff committee of the Federal Reserve System has developed a plan for rationalizing existing practices for distributing the reserve requirement burden among banks. They have called the plan the Uniform Reserve Requirement plan, and at the request of the Joint Committee on Economic Report of Congress they presented to that Committee the results of their study. The suggestions of the Federal Reserve staff group are in the discussion stage and have no official status in the System. I find the ideas in the plan very interesting, however, and I should like to tell you something about them. The plan deals only with member bank reserve requirements, but if it is adopted it could be, and I believe certainly should be, extended with appropriate modifications to cover all commercial banks.

The Uniform Reserve Requirement plan consists of five basic points. These have been described by the chairman of the staff committee that developed the plan as follows:

First, the plan would abolish central reserve city and reserve city designations of banks. In other words, the geographical basis for the assessment of reserve requirements would be dropped as too inequitable as among banks which are doing various kinds of commercial banking business.

The second point of the plan is that, for purposes of reserve requirements, deposits would be classified into interbank deposits, other demand deposits, and time deposits. Many a theoretical hair has been split in disputes over the classification of deposits. The compelling practical objection to treating all deposits alike is that, depending on the level set, starting such a system would create enormous excess reserves in central reserve city banks, enormous deficiencies in non-reserve city banks, or both. The compelling practical objection to a full system of deposit classification is that it would be impossible to administer, since any classification of deposits is somewhat arbitrary. Advantages given for the proposed classification are that, by and large, the three classes of deposits are used for different purposes, are readily identifiable, have traditionally been treated differently, and differential treatment would minimize initial disturbances while yet retaining effective over-all control. The staff committee recommended that initial requirements be established at 30 per cent against all interbank deposits, 20 per cent against other demand deposits, and 6 per cent against time deposits, which would have left the total volume of required reserves at about the level existing at the time. (Slightly lower requirements would be appropriate of course should the plan be adopted now.)

The third point of the plan is that the Federal Reserve should be given authority to change the requirements within limits established in the law. We have already discussed the use of changes in reserve requirements from time to time in order to help prevent injurious credit expansion or contraction. This is a modern instrument of central banking policy which is discussed with approval in virtually every textbook on money and banking.

As a fourth point, banks would be allowed to count vault cash as part of their legal reserve. The role of vault cash in the banking system has changed fundamentally in the past half century. Before the Federal Reserve System was established, vault cash was the ultimate reserve of the banking system, since it alone was available to meet cash withdrawals. The Federal Reserve Banks, however, are authorized to create additional reserves or cash when needed. The use of vault cash as reserves would not impair the System's influence over the volume of bank credit, provided initial requirements are established at appropriate levels to offset the change. From the point of view of credit control, there need be no concern as to the form of Federal Reserve Bank liability--whether it be Federal Reserve notes or reserve deposits--that a member bank prefers to hold as reserves. The transition to the new system of reserve requirements would be facilitated by permitting banks to count vault cash as legal reserves. Establishment of the suggested uniform requirement against other demand deposits would increase required reserves of country banks. Since, however, such banks hold relatively larger amounts of vault cash the increase in their total requirements would be offset in part by permitting them to count vault cash as legal reserves.

The fifth and last point is to permit a bank to count as reserves that portion of its balances held at other banks which those banks, in turn, are required to hold as reserves against such balances. The relationship between correspondent balances and reserves is a problem with a long history. After many discussions the staff concluded that correspondent balances ought to be related to reserves in such a way that (a) a shift of funds by member banks into or out of "due from banks" would not

affect the total volume of excess reserves in the system as a whole; (b) "reserve credit" would be allowed for precisely the portion of "due from banks" that is on deposit with Federal Reserve Banks (by way of the reserve requirement imposed on deposits due to banks); and (c) correspondent bank relationships and interbank balances would be recognized as an established part of our banking system. The fifth point is designed to accomplish this result. So long as the rate at which the "country" bank or the reserve city bank is allowed reserve credit for its "due from" balances is equal to the rate at which depositary banks are required to maintain reserves on interbank deposits, a given reserve will support the same volume of nonbank deposits irrespective of whether the owner-bank keeps all of its reserve with its Federal Reserve Bank, or keeps a portion of it on deposit with a correspondent and therefore indirectly with a Federal Reserve Bank. In either case, only vault cash and balances which are directly or indirectly on deposit with Federal Reserve Banks would constitute legal reserves.

The analysis of the Uniform Reserve Plan may be summarized as follows:

Reserve requirements are an essential feature of the mechanism by which the volume of money and credit is adjusted to the needs of the economy but the present system of reserve requirements is frequently inequitable; required reserves of many banks are higher or lower than those of other banks doing a similar business simply because of the classification of the communities in which they are located. The uniform system of reserve requirements would require all member banks, or preferably all commercial banks, regardless of location, to maintain the same percentages of reserves against each of the three major classes of deposits--interbank deposits, other demand deposits, and time deposits. Banks whose business requires the holding of disproportionately large amounts of vault cash would no longer be penalized by being required to maintain the same reserves in Federal Reserve Banks as other banks doing a similar type and volume of business but whose cash requirements were less. Changes in the total volume of interbank deposits would no longer affect the volume of other deposits of member banks that could be supported by a given volume of reserves. City banks would have to maintain larger reserves than now against balances due to country correspondents, but the latter would be given corresponding credits for such balances against their required reserves. The uniform system would increase the required reserves for some banks and lower them for others, but the changes would be reasonable and in the direction of greater equity.