Volume Title: The Effect of War on Currency and Deposits

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Chapter Title: How The Quantity Of Circulating Medium Changes

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tion of this movement since. In the Middle West deposit expansion was only moderate in the last war and before our entry into the present war. Following Pearl Harbor, deposits in the Middle West increased more rapidly than the average for the country. The Pacific states, which had experienced the smallest increase before we entered the last war, showed the highest rate of increase thereafter. During the present war they have experienced a more rapid increase than any other region both before and after our entry. In both wars deposit expansion in New England was consistently below the average for the country and in the South consistently above.

HOW THE QUANTITY OF CIRCULATING MEDIUM CHANGES

Since a demand deposit is, by definition, the right to demand currency whenever desired, it is within the power of individuals to increase or decrease the amount of currency outstanding by simply cashing checks drawn on demand deposits or, conversely, by adding to checking accounts through the deposit of currency. Likewise, an increase or decrease in the volume of other highly liquid assets, such as time deposits and short-term obligations, may influence the amount and activity of currency in circulation.

The Volume of Currency

The composite choice of individuals, then, governs the amount of currency in circulation. The decision lies with the public. The process of increasing or decreasing the currency outstanding is largely automatic and commercial banks, the Reserve Banks, and the Treasury are, at any given moment, merely the agents through which the preference of individuals is expressed. "Neither the Federal Reserve Banks nor the Treasury have under ordinary circumstances any direct way of keeping in circulation a larger amount of currency than the public requires or of reducing the amount of currency that the public needs to finance its current operations."[5]

Since the attitude of the public governs proximately the volume of currency, it is pertinent to ask what determines the attitude of the public. In general terms this may be said to depend chiefly on the physical volume of trade and the prevailing level of prices; the methods by which trade is conducted, whether by check or cash; the types of economic activity pursued; and the volume of demand deposits. At times it may be affected by such factors as confidence in the banks and changes in the distribution of the national income.

[5] Board of Governors of the Federal Reserve System, *Banking Studies* (1941), p. 310.

The importance of the volume of currency in circulation is not confined to its role as a part of the circulating medium. Under normal conditions, the quantity of currency in use is highly significant because of its effect on bank reserves and thus on the possible expansion of demand deposits. The withdrawal of currency for use in circulation tends to decrease the reserves of commercial banks, while a deposit of currency has the opposite tendency.[6] One of the chief reasons for the decline in member bank reserves in 1941-42 was an increase of currency in circulation. Such changes may be offset by the monetary authorities. Thus the currency expansion was largely responsible for the action of the Federal Reserve Banks in making reserves available after April 1942, through open-market purchases and reduction of reserve requirements.

Under conditions that now prevail, the amount of currency in circulation has far less effect than formerly on the quantity of reserves and hence on the volume of demand deposits. In order to enable banks to support the Treasury's borrowing efforts, reserves are being freely provided by the Reserve authorities in whatever amount appears necessary. Consequently, an increase in the amount of currency in circulation, which ordinarily would entail a reduction of reserves, is likely to be offset by an expansion in Reserve Bank credit and therefore to have little or no net effect on the total of reserves. Its principal effect, in such a situation, is to alter the scale of Reserve Bank action designed to provide banks with reserves. At some future time, however, there may be a return flow of currency into the banks. Unless offset by Federal Reserve action, this would increase the volume of excess reserves in accordance with usual expectations as to the effects of currency movements. Thus the present growth of currency in circulation is likewise a growth in potential excess reserves, an excess that may be highly significant in the future.

The Volume of Demand Deposits

Changes in the volume of demand deposits come about in quite a different manner. The process whereby they expand or contract constitutes one of the most ingenious and important operations of the entire financial system, yet it is sufficiently subtle to remain a mystery to most customers of banks and even, it may said, to some bankers.

For most of us the creation of a deposit consists of nothing more com-

[6] If the change in volume of currency takes the form of Federal Reserve notes, the reserves of the Reserve Banks are likewise affected to a greater extent than they would be by a similar change in member bank deposits. This is primarily because of the higher reserves the Federal Reserve Banks must maintain against notes (40 percent as compared with 35 percent on deposits). Questions relating to the reserves of the Federal Reserve Banks will be dealt with in a subsequent study in this series.

plicated than going to a bank and leaving currency or checks to be placed to our credit on the books of the bank. We think of a bank as little more than the custodian of our working balances and idle funds. Even when businessmen obtain deposit balances by borrowing from banks we are likely to conclude that the funds they are given must previously have been left at the banks by other customers. It may happen, however, that what they got was not the title to a specific amount of currency physically in the banks but simply the banks' promises, newly created for the purpose and secured by the notes and collateral the businessmen gave in exchange. Far from this being something to condemn, it represents the discharge of a significant banking function. It is the distinguishing feature of normal commercial banking routine, and the device upon which we have traditionally relied to adjust the supply of circulating medium to the changing needs of trade. On a larger scale and with the Treasury in the role of borrower, it has become a cardinal feature of war finance.

It is often maintained that when deposit expansion is based on production or trade it is not inflationary, since the increase in circulating medium presumably is accompanied by a corresponding increase in the volume of business transacted and, when the volume of business declines, presumably is followed by a corresponding contraction. This assumption, questionable at best, clearly does not apply at present; the basis of deposit creation now consists of government obligations and the proceeds, since they are devoted to war purposes, fail to bring about a corresponding increase in the supply of goods available for civilian purchases. Deposit creation today must be thought of in terms of the financing of government debt and not in the more familiar terms of discounting the obligations of business enterprisers. Clearly any automatic tendency toward early contraction of the supply of deposits has now disappeared.

When the government borrows from individuals out of their current income, as through the sale of war savings bonds, the operation amounts to a simple transfer of funds. As a result of the transaction, the government has that much more money to spend and individuals that much less. The effect of such a transfer may be to alter the character of demand for commodities, since government purchases differ from those of private consumers. The effect may also be to alter to some extent the rate at which money circulates. In any case, the increase in the amount of cash funds at the disposal of the government is offset by an equivalent decrease in the amount of cash at the disposal of the general public. While particular lines of business may be stimulated or retarded, the net over-all effect of this sort of borrowing is not likely to be markedly expansionist or contractionist.

When the government borrows from commercial banks, the effect is likely to be very different. The usual procedure in such a case is for the banks to acquire the government's obligations and to place a corresponding total of demand deposits to the credit of the government. These deposits are a product of the lending operation. They can be used by the government, through the familiar process of drawing checks against the deposit balances, to pay for the things the government requires. The deposits at the disposal of the government are additional to those previously in existence. As a result of their creation the total circulating medium of the country has been increased by that amount. This is, indeed, the distinctive feature of Treasury borrowing from banks, the fact that the government acquires means of payment without reducing the amount at the disposal of the general public.

Some questions may arise as to the subsequent history of the deposits resulting from borrowing at banks: will not those newly created deposits be extinguished the first time checks are drawn against them? We know from our own personal observations and, what is much more conclusive, from statistics of bank deposits that this is not at all what usually happens when checks are drawn against demand deposits. The overwhelming bulk of checks are simply deposited in other checking accounts, chiefly in other banks. Except when they are the means of withdrawing currency, the use of checks ordinarily entails a transfer of the ownership of deposits but not their extinction. In all probability the deposits created in the manner just described will remain in existence until the original process is reversed through a reduction in the total of assets held by the banking system. In case there is a withdrawal of currency the effect is to change the form but not necessarily the quantity of the circulating medium outstanding.

Borrowing out of current income, then, represents a simple transfer of the means of payment and does not increase total demand as represented by the volume of circulating medium. Borrowing from commercial banks, on the other hand, entails a growth in the means of payment in the form of demand deposits. And since it presumably involves an increase in total demand for available goods it tends, under conditions of full employment of economic factors available for the production of civilian goods, to be inflationary. This is not to say that borrowing from banks will inevitably result in inflation. The inflationary tendencies of this type of borrowing may be offset by other factors. But a significant difference between borrowing from the public and from banks remains, namely, that the former does not of itself expand the volume of circulating medium while the latter definitely is expansionist in character.

The expansion of demand deposits is ordinarily held within fairly narrow limits by the existence of certain quantitative checks. In time of war and as a direct consequence of war financing, the efficacy of these checks is greatly impaired. The possibility then arises of an extreme increase in the volume of deposits. This was illustrated in the experience of the first World War, and is again being illustrated, in greater degree, in the present war.

The chief limitation on the growth of deposits is the necessity of holding reserves. There are two principal sources from which reserves may be obtained, the receipt of new reserve funds, such as currency or gold, from outside the banking system and the creation or release of reserve balances by the central bank. No net addition to reserves has been forthcoming from the first of these sources for some time: reserves have been subject to drain as a consequence of the expansion of currency in circulation, and there has been no significant increase in gold stocks since early in 1941. As long, however, as the Reserve authorities continue to make available whatever additional reserves are needed for the purchase of government securities by banks, the necessity of maintaining reserves cannot impose any serious limitation upon the expansion of demand deposits.

The other traditional check on the process of deposit expansion is the extent of the demand for credit by borrowers whose creditworthiness is acceptable to the banks. At the present time the demand for additional bank credit comes almost entirely from the government. The credit of the government is of the highest quality; in addition, the banks are under strong patriotic compulsion to accept it. Because of the continuing requirements of the government, the demand for bank credit, far from limiting the process of deposit growth, is a factor making for its further increase.

To the extent that the Treasury makes use of non-inflationary methods of financing, such as taxation or borrowing out of income, it is able to refrain from borrowing from commercial banks. If the Federal Reserve were both disposed and able to maintain a restrictive policy, the present expansionist effects of borrowing from banks might conceivably be abated. Failing these two possibilities, there is no clear likelihood of an early check to the growth of bank deposits.

Reserve authorities have gone to great lengths to encourage banks to expand deposits through the purchase of government securities. They have undertaken to provide adequate reserves; they have agreed to buy and sell Treasury bills at a fixed rate and have absorbed other types of securities when such action seemed necessary; they have accepted the task of maintaining the present pattern of interest rates on government obligations; they have facilitated the opening of depository accounts to the credit of the government; they have urged banks to buy to the absolute limits of their available resources and thus provide "total support for the government's borrowing program." Far from acting, as they presumably would in peacetime, to restrict the continued expansion of member bank deposits, they have fostered it in a variety of ways.

This does not mean that the Reserve authorities have been unmindful of the underlying economic situation or have wantonly sponsored inflationary practices. Exactly the opposite is the case. One of the primary purposes of Reserve policy has been to encourage banks in areas where reserve funds were piling up to turn those funds over to the government. Besides providing a broader distribution of government securities and relieving the strain on New York and Chicago, it was believed that the fullest possible utilization of existing bank resources would reduce the net inflationary potential.[7] Furthermore, while assuming responsibility for providing the reserve basis for unavoidable deposit expansion, Reserve authorities have attempted to hold such expansion to a minimum by promoting borrowing from other sources than commercial banks.

Federal Reserve policy with respect to the purchase of securities by member banks contrasts sharply with the policy followed in the last war. While banks were urged to buy short-term government obligations, the Reserve Banks "vigorously discouraged"[8] them from the purchase of Liberty Bonds. The difference is to be explained partly on the ground that at that time the Treasury followed a different policy in making payments on war contracts and partly that member banks were chiefly engaged in financing the war effort either directly through advances to business or indirectly through loans to customers which enabled the latter to pay for government securities. Consequently there was less reason for banks to undertake to lend directly to the government. The relatively smaller scale of the entire war program may have made heavy borrowing from banks less urgent. And perhaps of greater importance, banks were regarded as dealers in short-term paper, a type of asset then available in large volume and at favorable rates, and the holding of other securities was generally opposed.

Factors in the Wartime Expansion of Deposits

A growth in total deposits must, in the practical mechanics of banking, be balanced by offsetting shifts in other accounts included in the balance sheets of banks. These shifts take the form of an expansion of some items and a contraction of others. Table 4 presents changes in certain financial quantities that are closely related to the major shifts occurring in balance sheet items during the present war.

Examination of the different accounts shows that the factors related to the growth in demand deposits have differed substantially at various times

[7] See Federal Reserve Bank of New York, *Annual Report for 1942*, pp. 10-27.

[8] *Federal Reserve Bulletin*, April 1919, p. 328.

in this war, as they also did in the last. For the most recent period, covering the calendar year 1942, the large increase in government obligations was dominant though the rise in Federal Reserve credit was also important. A counteracting element tending to limit the expansion in demand deposits was the substantial increase in money in circulation. In 1942 the increase in Federal Reserve credit was approximately equal to the increase in currency in circulation. These three items are the major factors, both positive and negative, in the growth of demand deposits during 1942.

The growth in the country's stock of gold was the most important factor in the expansion of demand deposits in the first two years of the war. This contrasts sharply with the year 1942, when the change in gold stocks was negligible. The other chief difference was in loans and discounts which increased substantially prior to the end of 1941, and decreased slightly thereafter. In both periods of the present war, holdings of government securities and currency in circulation have expanded materially, with the greatest increase in 1942.

The difference in the relative importance of holdings of government securities and of loans and discounts constitutes the most notable contrast in the balance sheets of banks in the two wars. The difference is partly explained by the fact that in the earlier period extensive loans were made on the security of government obligations. The growth in loans and discounts

TABLE 4—CHANGES IN FACTORS RELATED TO GROWTH OF DEMAND DEPOSITS, 1939-42 [a] (*in billions*)

Factor	*June 30, 1939-Dec. 31, 1941*	*Jan. 1, 1942-Dec. 31, 1942*
FACTORS PROMOTING GROWTH		
Rise in bank holdings of Federal obligations	$6.1	$19.6
Rise in bank loans, discounts, and overdrafts	5.3	..
Rise in Federal Reserve credit outstanding	..	4.3
Rise in gold and silver monetized	7.4	.2
TOTAL	$18.8	$24.1
FACTORS RESTRICTING GROWTH		
Decline in bank loans, discounts, and overdrafts	..	$2.5
Decline in Federal Reserve credit outstanding	$.2	..
Rise in currency outside banks	3.6	4.3
Rise in other restricting factors	2.2	.9
TOTAL	$6.0	$7.7
Net change in demand deposits	+$12.8	+$16.4

[a] Based on data from *Treasury Bulletin* and *Federal Reserve Bulletin*.

was chiefly responsible for the growth in demand deposits between June 1914 and June 1919. The role of loans and discounts at that time was scarcely as dominant, however, as that of government securities in the present war. During our participation in the last war, the tendency for demand deposits to increase was checked by the rapid growth of time deposits, while since our entry into the present war time deposits have remained almost unchanged.

One of the few consistent threads running through both periods has been the tendency for currency in circulation to increase. While such an increase is characteristic of war and customarily accompanies a growth in demand deposits, the magnitude of the recent expansion of currency, particularly in the year following Pearl Harbor, is wholly exceptional.

WHAT BECOMES OF THE INCREASED CIRCULATING MEDIUM?

The present section is a statement of accompanying phenomena rather than causes. The issue of causal relationships raises points of theory on which there is no general agreement and into which it is not practicable to enter here. The problems to be examined are of a quantitative rather than a qualitative character. To what uses is the increased quantity of circulating medium being put? What groups are obtaining ownership of the increased volume of circulating medium? Has there been an increase in idle money?

Use of the Circulating Medium

The great expansion in economic activity since the beginning of the war is apparent in almost every field. The increase both in the general level of prices and in the physical volume of goods and services signifies more work to be done by the circulating medium. The higher level of economic activity is reflected in the percentage of increases from December 1939 to December 1942 shown by different business indicators of which the following are representative:[9]

Industrial production (physical volume)	57.6%
Total farm marketings (physical volume)	31.8
Income payments	64.0
Farm	132.7
Non-Farm	58.2

[9] Source: *Federal Reserve Bulletins* and Bureau of Foreign and Domestic Commerce, *Survey of Current Business*. While this table does not provide a measure of the physical volume of trade it indicates that substantial increases in trade have occurred. A large part of current payments are for war commodities for which standard price indexes are hardly relevant and several economic areas such as finance and service are only indirectly represented by the indexes given here.