X

FINANCING PUBLIC WORKS IN PROSPERITY AND DEPRESSION: THE NATIONAL GOVERNMENT

PUBLIC WORKS AS A PROBLEM OF FEDERAL FINANCING

PUBLIC works undertaken by the Federal government during the years 1920 to 1931 were financed from current revenues: regularly recurring capital expenditures were handled as part of the running expenses of the government. Such a policy is feasible only in prosperous times. If public construction is to be expanded or maintained at a high level during depressions, when tax receipts are declining, financing must be accomplished mainly through governmental borrowing.

Heavy increases in the national debt in periods of depression, when the budget is either already unbalanced or threatened with a deficit, may be incurred in two ways: the budget may be unbalanced still further through steady increase on the expenditure side while revenues are declining, or the debt for capital and emergency outlays may be set apart in an extraordinary budget, with specified revenues applied for its retirement, in recognition of the emergency character of certain expenditures. Under either system, the issue of large quantities of bonds vitally involves the entire financial, monetary and banking structure of the nation, and, in turn, the financial structure affects the terms upon which funds can be borrowed. Frequently, a large borrowing program cannot be put into effect because of certain monetary restraints: first is the maintenance of the gold standard, with the obligation to keep the currency at a par with that of foreign nations that are also on gold. If gold outflows occur under such conditions the menace to the standard may weaken government credit, and render borrowing conditions unfavorable. If the banks are in a precarious position, borrowing must be cautious and may be difficult, since they are the largest purchasers of government bonds. On the other hand, the issue of government securities may in itself affect the general situation by providing a means of potential credit expansion through their use as a basis of bank lending. Moreover, government securities have been in the past and are now in still greater measure the basis for currency issues. In the background there is always the danger that, if business conditions fail to improve, the point may be reached where the government resorts to currency issues in order to pay for its depression program, either because the banks are unable to absorb more bonds, or because tax revenues are inadequate for debt service and operating costs. Central banking policy itself may be guided by the general intentions of the government with respect to the price of credit. Finally, all these factors—the existence of depression, the condition of the budget, the status of the gold standard, the amount of actual and probable national debt, the possibility of credit and currency expansion, and Federal Reserve policy—appear as elements in the money market conditions that the government faces when it sells bonds. Hence the cost, the speed, and the magnitude of the program are ultimately determined in part by the network of monetary and banking phenomena at any given time.

It is not possible to allocate the funds raised by the national government through borrowing according to the purposes for which these funds are eventually expended. During the recent depression the Federal government, incurring increasing budget deficits because of declining revenues, resorted to borrowing in order to finance not only expanded public works but also a variety of other expenditures. In attempting, therefore, to determine how public works were financed during the depression, the government's money-raising activities as a whole must be reviewed, and the fact kept in mind that only a part of the funds were expended on public works. For this reason, this chapter gives an historical sketch of the financial and monetary events of the post-War period which have had a bearing upon the decision of the government during the depression to expand its public construction work through the use of borrowed funds.

However, the relation between the expanded Federal public works program and its financing in the latter half of 1933 is quite close. In the fiscal year 1933–34 the ordinary budget was supplemented by an emergency budget financed by loans. In this new budget, public works were the second largest item,[1] and in the estimated emergency budget for 1934–35 they were the largest single category of expenditures. Moreover, considerable effort was exerted to have the funds for national and local public works allotted and transferred as rapidly as possible, in any event before June 1935. In view of these circumstances, it may be assumed that the financing done after June 1933, when the act establishing the Public Works Administration was passed, was influenced largely by the public works program and was so regarded in financial quarters.[2]

The Public Debt, 1920–34

Before the World War the outstanding debt of the Federal government was approximately one billion dollars. As a result

[1] Some of the items ordinarily listed under individual departments in the regular budget, e.g., naval construction, were shifted to the Emergency Public Works program.

[2] Some authorities on public finance recommend the specification of the purpose of bond issues for capital outlays by the Federal government, on the

of the War, however, the total interest-bearing debt rose from $1,023,000,000 on March 31, 1917 to more than $26,000,000,000 at the end of August 1919. After that date the debt declined until 1931. Total retirements during the post-War decade exceeded $11,000,000,000, and in December 1930 the interest-bearing debt was a little below $15,000,000,000 (see Table 79). Not only had the debt itself been reduced but also its cost had been mate-

TABLE 79

CHANGES IN THE PUBLIC DEBT OF THE UNITED STATES, 1919–1934[1]
(in millions)

YEAR	TOTAL GROSS DEBT	REDUCTION OR INCREASE IN GROSS DEBT OUTSTANDING
1919	$25,485	$+13,029
1920	24,299	− 1,185
1921	23,977	− 322
1922	22,963	− 1,014
1923	22,350	− 614
1924	21,251	− 1,099
1925	20,516	− 735
1926	19,643	− 873
1927	18,512	− 1,131
1928	17,604	− 907
1929	16,931	− 673
1930	16,185	− 746
1931	16,801	+ 616
1932	19,487	+ 2,686
1933	22,539	+ 3,052
1934	27,053	+ 4,514

Source: U. S. Treasury Reports

[1] Figures as of end of fiscal year, June 30.

rially lessened by refunding and by the arrangements made for the distribution of maturities to facilitate future payment from current revenue. Funds for retiring the debt were obtained chiefly from three sources: surplus revenue, receipts from foreign governments, and the sinking fund. During the depression, how-

ground that the maturities can then be adjusted to the life of the projects concerned (see *The Internal Debts of the United States*, by Evans Clark and Associates, p. 244). The setting up of an emergency budget would be a step in this direction.

ever, redemptions from the sinking fund were offset by increased borrowing, payments of principal and interest by foreign governments reduced, and the budgetary deficits created by decreased tax receipts precluded appropriations for redemption from surplus revenues.

In the first year of the depression, receipts from taxation were greater than during several preceding fiscal years, reflecting the high incomes earned in 1929. Receipts from taxation for the fiscal years 1932 and 1933, however, dropped to approximately half of the average annual tax revenues for the years 1922–30. Simultaneously with this curtailment of revenue, expenditures rose to War-time levels.

By the end of the fiscal year 1933–34, the gains of the post-War decade had been completely wiped out, the total debt at that date exceeding $27,000,000,000. The fluctuations in the total amount of Federal debt oustanding during 1919–34 are indicated in Table 79. According to the President's budgetary message to Congress in January 1934, the public debt was to pass its War-time peak of $26,000,000,000 during the early part of 1934 and reach a new high of over $30,000,000,000 by July 1, 1934. The events of the first half of 1934, however, showed that these forecasts overestimated the rate at which the debt would increase. The Treasury's budget deficit was less than one-half the estimated $7,000,000,000 at the end of the fiscal year 1933–34. The picture of government finances had changed largely because RFC and PWA expenditures had fallen far below the estimated needs for the fiscal year (see Ch. IV–V).

Though it is impossible, as remarked above, to segregate public works items in such a way as to indicate what portion of the new debt was incurred for these particular expenditures, a rough estimate may be made of the extent to which both regular public construction and the emergency undertakings contributed to the increase in the debt during the depression. In making such an estimate, it should first be pointed out that deliberate 'deficit financing' was not undertaken until the emergency budget was set up in 1933. When, therefore, borrowing operations are attributed in any measure to expanded public works programs prior to that time, we cannot infer an intentional effort to finance public works in this way, while carrying on other expenditures from current revenues. It is, however, true that public works expansion began in December 1930, through increased appropriations for roadbuilding, and continued with additional authorizations in several departments until the establishment of the emergency program in 1933.[3] It is also true that the first budget deficit appeared in the fiscal year 1931. In view of the size of these deficits in 1931 and the ensuing years it is safe to assume that not only all emergency appropriations for public works but also part of the regular public works program of the government were borne by a portion of the debt incurred to meet the deficit. Even if all emergency expenditures—public works expansion, farm and bank aid, for instance—were subtracted from the budget figure, the remainder, regular government costs, could not have been financed entirely from current revenues, and it is reasonable to assume that in so far as the regular public works program was continued, part of its cost was met by borrowing operations undertaken during this period. For example, in 1932 the total expenditures chargeable against ordinary receipts were about $5,000,000,000, from which emergency items of about $1,300,000,000 may be subtracted,[4] leaving regular items of about $3,700,000,000. Total ordinary receipts were only about $2,100,000,000, leaving a deficit on these regular expenditures of about $1,500,000,000, so that about 43 per cent of these expenditures were borne by borrowing. Of the

[3] See Ch. IV and IX for these emergency authorizations.

[4] Emergency items subtracted are: RFC capitalization, and additional expenditures for the Federal Farm Board, Federal Land Banks, accelerated public works, and Agricultural Marketing Act operations.

total public works expenditures for 1932, $556,000,000, about $300,000,000 were of an emergency nature.[5] If it may be assumed that of the regular public works remaining, $256,000,000, 43 per cent were borne by borrowing (the same proportion as that of the total regular budget) it is found that about $110,000,000 of the regular construction program were so financed. If emergency public works expenditures, totaling $300,000,000 as described above, are added to this figure, a grand total of $410,000,000, or about 74 per cent of all public works in 1932, may be considered to have been borne by borrowing. Similar proportions would result from applying the same reasoning to the fiscal years 1931 and 1933, while in 1934 an even larger part of the program was paid for from borrowed funds, through the introduction of the policy of deliberate deficit financing. Although these figures are subject to a margin of error, owing to changes in budgetary methods, the omission of construction for national defense purposes, and the necessity of assuming that the figure representing the proportion of the regular budget paid for from loans can be applied to the departments concerned with public works, on the whole the figures would be influenced upward rather than downward. It is therefore evident that borrowing conditions were an exceedingly important factor in the maintenance and expansion of public works during the depression.

CHANGES IN THE COMPOSITION OF THE PUBLIC DEBT

Concurrently with the recent growth in the total amount of the Federal debt a very marked change occurred in the composition of the debt structure itself. From the beginning of 1930 to the close of 1933 the public debt rose over $8,000,-

[5] These figures are taken from the reports of the Federal Employment Stabilization Board and the Annual Reports of the Secretary of the Treasury (see Ch. IV). They do not include public works expenditures for national defense.

000,000, of which about 58 per cent was in the form of short-term indebtedness. Table 80 indicates that by the end of 1933 about one-third of the total outstanding debt consisted

TABLE 80

CHANGES IN THE COMPOSITION OF THE PUBLIC DEBT
DECEMBER 1930–DECEMBER 1933
(in millions)

		SHORT-TERM DEBT				
END OF MONTH	BONDS	TOTAL	NOTES[1]	CERTIFICATES[2]	BILLS[2]	TOTAL DEBT
Dec. 1930	$12,112	$2,880	$1,561	$1,192	$127	$14,992
March 1933	14,230	6,430	3,352	2,261	817	20,660
Oct. 1933	15,674	7,217	4,902	1,363	952	22,291
Dec. 1933	15,569	7,511	4,880	1,628	1,003	23,080

Source: U. S. Treasury Reports

[1] Term from two to five years.
[2] Maturing one year or less from date of issue.

of short-term loans, whereas in December 1930 short-term obligations comprised only about one-fourth of the total.[6]

As a rule, the government borrows on short term for two reasons: in anticipation of receipts from taxes, and as a prelude to the flotation of long-term bond issues into which short-term indebtedness is eventually funded. In periods of stress governments are likely to resort more assiduously to temporary borrowing because conditions may not be favorable for the flotation of long-term issues. The general business uncertainty associated with unsettled economic conditions in such periods, and the need of raising large sums as quickly and economically as possible, combine to make short-term financing the more feasible method. During and im-

[6] The large proportional increase in the amount of Treasury bills is explained by the recent introduction of this type of obligation. The first offering of these bills was announced December 9, 1929, and since then further offerings have been frequent. Unlike certificates of indebtedness, which are underwritten by banks, these bills are competitively sold, as funds are needed, on a discount basis, thereby effecting some economies for the Treasury in carrying charges (e.g., interest paid to banks while government deposits are idle).

mediately after the World War, for example, a very substantial part of the total public debt consisted of securities of short maturity.[7]

Under normal circumstances this floating debt would be gradually cut down by the Treasury while the existing long-term debt would be refunded at lower rates whenever the market for government securities made that possible. But after the depression began recourse was again had to short-term credit. The trend was, however, in the direction of intermediate rather than very short-term financing, on the ground that the large amount of early maturities outstanding made the issuance of securities of longer maturity, even at somewhat higher rates, desirable. Although the refunding of the long-term debt at lower rates of interest had to be postponed, the Treasury was able to raise the necessary funds without difficulty because of the ready marketability of short-term issues. The rates at which these issues were sold from time to time are discussed later; it may be noted here however that, generally speaking, the banks absorbed them readily. Various factors contributed to this result, among them the excess reserves in the banks accumulated as a result of the earlier open market operations of the Federal Reserve banks and the undersupply of new private capital issues of an investment rating satisfactory to the banks. Short-time issues are not generally attractive to individual investors, because the return from them is small, and it is probable that financing of this sort could not have been undertaken if the market, and more particularly the banks, had not been in a position to absorb them. Hence a brief description of the elements in the background of government financing, mentioned above, follows. Among these are Federal Reserve policy, the reaction of gold outflows on the position of the government with respect to financing, and

[7] See *War Borrowing*, by Jacob H. Hollander.

the increasing importance of banks as holders of Federal securities.

Background of Federal Financing, 1928–1934

FEDERAL RESERVE POLICY

The Federal Reserve system attempted at an early stage in the depression to counteract deflationary influences by coming to the support of the money market with an easier credit supply. It repeated the attempt at intervals throughout the depression.

Immediately after the stock market collapse of 1929 the Federal Reserve banks began to lower their rediscount rates, which had been 5 and 6 per cent. The New York Federal Reserve Bank progressively lowered its rate down to 1.5 per cent in May 1931; in the other Reserve banks rates of 2.5 and 3 per cent prevailed during the summer of 1931. Concurrently, the holdings of United States bonds by the Federal Reserve system increased by $231,000,000 between January 1, 1930 and September 16, 1931. The effect of these purchases of bonds was to pour into the member banks large quantities of funds, thus increasing their reserves. On September 21, 1931, when England went off the gold standard and gold began to flow out of the United States, the Reserve banks made efforts to counteract the effects of the gold exodus on government credit and on the market through the purchase of still more bonds. As the volume of bills held and rediscounted by the Reserve system increased, however, the rates were again raised (the rate of the New York Bank was 3.5 per cent at the end of 1931) and the operations of the system proved ineffectual.

In 1932 the system again attempted to stimulate revival, both by lowering the rediscount rates and by extensive purchases of government bonds. From the end of February until August 1, 1932 slightly more than $1,100,000,000 worth of bonds were purchased with the object of releasing credit to business through the banks. But because this campaign coincided with the period of gold exports and a general decline of confidence among business men, the effective demand for the credit thus made available failed to materialize.[8] The result of this attempt to stimulate recovery through open market operations was not to expand credit but chiefly to increase non-member bank balances held by member banks.[9]

In the autumn of 1932 the first 'bank holiday' was declared (October 31, 1932 in Nevada). This led to a further decline of confidence in banks and to a general withdrawal of funds. In mid-February 1933 the suspension in Michigan accelerated this trend. Withdrawals of currency from banks increased at an alarming rate; for the weeks ending February 15 and February 21 withdrawals totaled $149,000,000 and $134,000,000, respectively; during the next week (ending March 1) they were $732,000,000; and during the week prior to the nation-wide bank holiday, $818,000,000 were paid out, even though during two days of that week the Reserve banks were closed. The drain of funds from New York was so large that the New York Federal Reserve Bank was compelled to borrow $210,000,000 from other Reserve banks. Had the Bank not closed its doors, it is likely that its reserve would have been entirely depleted.

After the banks were reopened in 1933, Federal Reserve policy, as such, became of secondary importance. With the initiation of the recovery program all efforts were directed towards stimulating the demand for credit by such means as

[8] Some believed that the bond buying campaign was of too short duration, and if continued would have brought about the desired results (see, e.g., R. G. Hawtrey, *Trade Depression and the Way Out*).

[9] Professor S. E. Harris, in an analysis of recovery measures during the depression (Monetary Policy and Recovery, *Economic Forum*, Fall, 1933), argues further that the ineffectiveness of the open market operations of the Federal Reserve system is to be attributed to the inadequacy of support afforded to those banks which were in the greatest difficulties. The banks that were actually helped to reduce their indebtedness and increase their reserves at the Federal Reserve banks were either unable or unwilling to extend additional loans. For these reasons, Professor Harris believes that the RFC, by directly aiding those banks which were in straitened circumstances, was more effective in its efforts.

the National Industrial Recovery and the Public Works Administrations. The Federal Reserve system was utilized to absorb Federal issues of securities necessary to carry out the program. In August 1933 the Federal Reserve banks increased their purchases of United States securities from $10,000,000 to $35,000,000 per week. The bond portfolios of the twelve banks exceeded $2,400,000,000 in 1934, as indicated in Table 81. But excess reserves of member banks also continued to grow in the autumn of 1933 and in 1934, reaching

TABLE 81

TOTAL UNITED STATES GOVERNMENT SECURITIES HELD BY THE FEDERAL RESERVE SYSTEM, 1929–1934
(in millions)

END OF MONTH	*1929*	*1930*	*1931*	*1932*	*1933*	*1934*
January	$202	$479	$610	$746	$1,763	$2,434
February	169	480	599	740	1,866	2,432
March	172	535	599	872	1,838	2,447
April	163	530	598	1,228	1,837	2,431
May	143	528	598	1,549	1,890	2,430
June	216	591	668	1,784	1,998	2,432
July	147	577	678	1,841	2,028	2,432
August	150	602	728	1,852	2,129	2,432
September	162	597	742	1,854	2,277	2,431
October	321	602	727	1,851	2,421	2,430
November	326	599	717	1,851	2,432	2,430
December	511	729	817	1,855	2,437	2,430

Source: Federal Reserve Board

over $2,000,000,000 in January 1935. Thus the base available for the expansion of credit by banks was constantly increased, actual expansion depending on the success of governmental measures directed towards the creation of effective demand.

GOLD OUTFLOWS

Through the first four years of the depression a consistent effort was made to safeguard the gold standard. After England left the gold base in the autumn of 1931, gold withdrawals from abroad set in. During the succeeding six weeks, over $725,000,000 worth of gold was exported or earmarked. On February 28, 1932, Congress passed the so-called Glass-Steagall Bill, permitting the use of government bonds held by Federal Reserve banks as security for Federal Reserve notes so that the system could avail itself of more than a billion dollars worth of gold, until then held as reserve for Federal Reserve notes. At this time the theoretical 'free gold', that is, gold held by the Reserve banks over and above the legal requirements for reserve purposes, had decreased to approximately $420,000,000. In the spring of 1932 a second gold drain set in, as a consequence of which the United States lost $500,000,000 worth of gold, chiefly in exports to France. Although this second gold exodus was considerably smaller than the outflow of the preceding autumn, it reached panic proportions in the first weeks of June. By that time the theoretical 'free gold' as computed on the pre-Glass-Steagall Bill standards had been reduced to a negative quantity, and President Hoover later made public the statement that the country had been within two weeks of abandoning the gold standard. This movement of gold during the period under survey may be observed from Table 82, which shows the net gold imports by months, 1929–34.

The last gold drain occurred in February 1933, when the public began to demand payment of deposits in gold and gold certificates. Withdrawal by foreigners of their balances caused capital to leak out of the country. As a consequence of the domestic 'run' on the Reserve banks and the strong tendency for liquid funds to seek shelter abroad, the reserve ratio of the New York Federal Reserve Bank fell below the customary minimum. In April an embargo was placed on the export of gold, and the country went off the gold standard. (In June, the 'gold clause' in monetary obligations was abrogated. The Government's action was upheld by the Supreme Court in February 1935.) The first step towards 'persuasive inflation' under the new policy was taken in May, when the Federal Reserve banks were directed to purchase $25,000,000 of government securities in the open market in order to release this amount of cash. The dollar continued to drop on the foreign exchanges through the autumn, and the price of gold continued to rise. On October 25, gold-buying operations were

TABLE 82

NET GOLD IMPORTS INTO THE UNITED STATES, 1929–1934
(in millions)

	1929[1]	*1930*[1]	*1931*[1]	*1932*[1]	*1933*[2]	*1934*[2]
January	$+47	$+ 4	$+ 31	$— 73	$+128	$— 3
February	+25	+60	+ 16	— 91	+ 18	+453
March	+25	+55	+ 26	— 25	— 22	+237
April	+23	+66	+ 50	— 30	— 10	+ 55
May	+24	+23	+ 50	—196	— 21	+ 34
June	+30	+14	+ 64	—206	— 3	+ 64
July	+35	—20	+ 20	— 3	— 84	+ 52
August	+18	—20	+ 58	+ 6	— 80	+ 37
September	+18	+ 3	+ 21	+ 28	— 57	— 19
October	+18	+26	—338	+ 21	— 32	+ 11
November	—23	+35	+ 89	+ 22	— 1	+121
December	—64	+33	+ 57	+101	— 9	+ 92

[1] *Source:* Federal Reserve Board.
[2] *Source:* U. S. Customs valuations. These figures bring up to date the Federal Reserve data on net gold imports which were discontinued after December 1932. Customs valuations at the rate of $20.67 a fine ounce, January 1933–January 1934. Customs valuations at the rate of $35 a fine ounce, after February 1934. The price of gold fluctuated during the months shown, but the U. S. Customs applied these two flat rates.

begun by the RFC, which bid for newly-mined domestic gold at $31.16 an ounce. The outline of the Administration's future monetary policy appeared in the President's message of January 15, 1934. The Gold Reserve Act signed January 30 was the outcome: the country was placed on a gold bullion standard, with a new gold content of the dollar placed at 59 per cent of the former weight, subject to variation between 50 and 60 per cent. Moreover, title to the entire stock of monetary gold in the United States, including that held by the Federal Reserve system, was vested in the government. The 'profit' accruing from the reduction of the gold content of the dollar went to the Treasury. Of this profit $2,000,000,000 were set aside in a stabilization fund, to be used in the effort to raise domestic prices in two ways: (1) by control of the foreign exchange value of the currency so as to render it conducive to the ends pursued by domestic price policies; (2) by investment and reinvestment in government securities in order to stabilize the market value of outstanding obligations.

The latter measure could constitute a new potential inflationary influence of the first magnitude through increasing the reserves of the commercial banks.

Thus the early part of the depression was characterized on the monetary side by the effort to remain on the gold standard, punctuated by losses of gold as a consequence of the maintenance of a free gold market. During this period the Federal Reserve banks attempted to offset deflationary tendencies by buying government securities and thus transferring cash to the market. But commodity prices continued to decline, and bank loans did not increase. After March 1933 the effort to remain on the gold standard and to support prices chiefly through open market operations was discarded for the new monetary policy involving abandonment of the gold standard so that domestic prices could be manipulated without reference to a fixed foreign exchange parity, continuance of open market operations in the direction of credit expansion, devaluation of the currency, and the establishment of a fund to operate against counteracting influences that might continue the deflation.

PUBLIC DEBT HELD BY THE BANKS

Concurrently with the growth of the total amount of outstanding Federal debt, a continually increasing proportion found its way into the banks.

While in 1929 all the banks of the country, including the twelve Federal Reserve banks, held approximately one-quarter of the outstanding Federal debt of $16,000,000,000, in 1932 their portfolios contained slightly over 44 per cent of the nearly $19,000,000,000 total.[10] By December 30, 1933 the member banks of

[10] The enhanced importance of United States government securities as bank assets is probably underestimated by the above percentage, since many banks include short-term government debt among 'other securities held'.

the Federal Reserve system (for which complete statistical data are available) held $7,254,000,000 of United States government securities, and on December 31, 1934, $9,905,000,000. Other securities at these dates amounted to $5,132,000,000 and $5,227,000,000 respectively. In 1933 and 1934 nearly half the outstanding debt of the United States government was concentrated in the twelve Federal Reserve banks and the member banks.

The prominence of the banks as investors in government securities has several important implications for the borrowing program of the Treasury in the recent past and at present. Among these elements are (1) the relative ease with which the national debt can be refunded eventually because holdings are not scattered; (2) reliance on the banks as the channels for credit expansion; (3) the effect on the market for *municipal* securities of any effort by the Federal government to dispose of the local bonds it received for loans under the PWA. The concentration of holdings in the Federal Reserve system has a significance with respect to potential credit and currency expansion, because of the legal provisions permitting expansion on the basis of government bonds within the system, which will be described in the last section of this chapter.

The first element of importance, the concentration of holdings as an aid to later refunding, does not require additional comment here; it does, however, emphasize the fact that future government financing will be more closely interwoven with bank policy than with that of the investing public at large.

The second question, that of the banks as channels for credit expansion, involves theoretical issues which are discussed in Chapter XIV. Certain related facts, however, may be touched upon here.

Probably no branch of the national economy was more adversely affected by the depression than the banking system. Bank failures assumed such proportions that Federal intervention became necessary. The National Credit Corporation, created in the autumn of 1931, and the Reconstruction Finance Corporation, organized in February 1932, were set up to sustain the banking structure by providing it with funds. Another salient feature of the financial predicament of banks during the depression was the remarkable shrinkage in bank deposits. Only a minor portion of the more than $13,000,000,000 decline by the middle of 1933 was due to liquidation. The main reason was the general hesitancy of bankers and borrowers to create and assume new commercial loans.[11] The banking mechanism was further disorganized by the hoarding of currency which began in the spring of 1931. As a consequence of this manifestation of panic, the volume of bank notes in circulation, which in 1930 had been somewhat under $5,000,000,000, rose to more than $7,000,000,000 during the first quarter of 1933.

In an effort to stem the tide of local moratoria resulting from the demoralization of banking conditions, President Roosevelt by executive order closed all banks for a brief period in March 1933, and when they were reopened immediate legislative action was taken to regularize bank proceedings and to remedy certain banking difficulties caused by the depression. The history of banking difficulties during the depression is significant chiefly, for present purposes, for the evidence it reflects of unhealthy business conditions in general, and because it serves as a partial explanation of the readiness of banks to turn to investment in government securities when the extensive borrowing program of the Roosevelt administration was launched. Even though member banks had accumulated large deposits, or reserves, with the Federal Reserve banks as an outcome of the open market operations already referred to, the general banking situation was such that lending to private business, already in considerable measure unfortunate for the banks, could not proceed; moreover, before the banks could function further as supporters of government credit, the entire banking structure needed revision—an end

[11] *The Internal Debts of the United States,* ed. by Evans Clark, Ch. 12.

towards which steps were taken in the banking and monetary legislation of the period.

As explained in Chapter XI, banks are already large holders of municipal as well as Federal securities. The PWA is permitted by law to sell the local bonds it has received in return for loans, provided that the proceeds are applied to the retirement of the debt incurred originally for the PWA program. A large number of these bonds have been sold to banks and investment bankers, who in turn have resold many of them to insurance companies, private investors, etc. To the extent that these bonds are sold to banks the proportion of Federal debt held by the banks is reduced, while municipal bonds are sent into the banks via the Federal government rather than directly, as in the past. The speed with which this is accomplished is determined in large measure by the effects it has on the municipal bond market; the danger existed that the situation might lead to a lowering of municipal bond values because of the volume of Federal holdings hanging over a depressed market. Cautious manipulation of these sales, a necessary accompaniment of this type of public works financing, was therefore practiced. The municipal bond market, however, experienced a sharp rise throughout 1934 which rendered the situation very different from that existing at the inception of the public works program in the summer of 1933.

Federal Borrowing and Money Market Conditions, 1928–1934

The effects of successive conditions of stringency and ease in the money market during 1928–34 on the cost of governmental borrowing are reflected in the experiences of the Federal government, to whose obligations alone those of municipalities rank second in importance. The fluctuations in Federal security prices described in the following pages should be read in the light of the foregoing discussion of fiscal, monetary and banking events during the depression. During the boom period, and especially in 1929, the cost of government borrowing was relatively high, owing to the preference for high-yield industrial stocks.

In March 1928 the Secretary of the Treasury had been able to dispose of a nine months' issue of certificates of indebtedness for $300,000,000 at 3.25 per cent, but fifteen months later, in June 1929, he was obliged, in offering $400,000,000 running for the same period, to advance the rate—after several intermediate advances—to no less than 5.125 per cent. In September 1929 the Treasury Department, in making another offering of certificates of indebtedness running nine months, fixed the rate of interest at only 4.875 per cent. This .25 per cent reduction was insignificant, however, in view of the fact that in the interval between June and September certificates had been exempted from the normal Federal income tax, as well as from surtaxes, thus increasing the desirability of the issue.

But after the stock market collapse in October 1929 the preference for the liquidity and safety of government securities introduced a definite tendency towards cheaper Federal borrowing, and an issue of certificates was sold in December at a coupon rate of 3.125 per cent. In 1930 these easy conditions in the money market were further improved. The lack of confidence in the securities of private corporations resulting from the stock market collapse continued to enhance the marketability of government issues. The expanding volume of idle funds, therefore, inevitably migrated to United States securities, and interest rates fell accordingly.

In June an offering of $400,000,000 of certificates running for a year at the interest rate of 2.875 per cent met with enormous success. Three months later, in September, an issue of $325,000,-

000, again running for a year, was floated at 2.375 per cent. This was the lowest rate ever fixed on an issue of certificates until that time. In November the Treasury's operations were further facilitated by the announcement that the rate of interest required to be paid on government deposits would be reduced on December 1 from 2 to 1.5 per cent. Since certificates of indebtedness were usually absorbed by the banks, which would pay for them by creating deposit accounts for the government, this reduction in the deposit rate served as a special inducement to banks to purchase government securities. In December an offering of $250,-000,000, running for one year at an interest rate of 1.875 per cent, and an issue of $150,000,000, running for six months and bearing 1.75 per cent interest, were floated without difficulty.

As had been the case with municipal issues, in 1931 interest rates fell still lower.

In March a six months' issue of certificates in the amount of $300,000,000 carried only 1.5 per cent interest, and a twelve months' issue of $600,000,000, 2 per cent interest; a Treasury bond offering of $500,000,000 made at the same time carried 3.375 per cent. The first of the above two issues of certificates was only very lightly oversubscribed, but for the second the applications were double the amount offered.[12] In April certificates for $275,000,000, running eight months, carried an interest rate of 1.875 per cent; subscriptions aggregated no less than $908,688,000. In June the subscriptions for an issue of $800,000,000 of Treasury bonds bearing an interest rate of 3.125 per cent aggregated over $6,000,000,000. Meanwhile the Treasury was selling from month to month Treasury bills bearing no interest but offered on a discount basis; by 1931 this had fallen to less than a one per cent interest rate.

In the government's September financing, accomplished

[12] Oversubscription of bonds is not significant directly of the extent to which the market is actually able to absorb an issue, owing to the practice of 'padding' bids in order to ensure receiving the proportion of the issue that the bidder desires. It does indicate some eagerness to receive a share of a government issue, and its absence would be highly significant.

before the gold outflows following the abandonment of the gold standard by England, the Treasury managed to sell an issue of long-term bonds at the rate that it had been anxious to obtain for some years after the War. An issue of $800,000,000 24-year Treasury bonds was sold at 3 per cent; the sale was, however, only narrowly oversubscribed; $940,-559,550 were offered and $803,294,400 were accepted. The Treasury was more successful with a $300,000,000 issue of 1.5 per cent 12-month certificates, which was more than three times oversubscribed. The advent of the European crisis and the subsequent exodus of gold from the United States were reflected in an immediate drop in the price of American government securities. On September 29, 1931 Treasury bonds went down to 97 6/32. The depreciation of government securities continued through part of October, but the close of the month heralded more favorable conditions.

The increasing discrimination of investors throughout 1932, on the other hand, enhanced the position of United States government bonds. During that year the government disposed of $8,213,198,000 in loans, of which $5,139,226,700 went to take up existing issues and $3,073,971,300 constituted new debt. The salient feature of this large financing program was the steadily decreasing cost of borrowing.

On January 7, 1932 a $50,175,000 issue of 91-day Treasury bills was disposed of on a discount basis of 2.875 per cent, and on June 25, $227,631,000 six-month certificates were floated at a cost of 3.125 per cent. At the end of the year, however, on December 6, $254,364,500 of one-year certificates were sold at an interest rate of 0.75 per cent, and $360,533,900 four-year Treasury notes on a basis of 2.75 per cent. It will be remembered that at this time the Treasury considered it advisable to introduce intermediate in place of very short-term credit, even though higher rates of interest would have to be paid, on the ground that sound financing demanded a reduction of the floating debt as far as was possible. Deliberate deficit financing had not yet become part of government policy, and the original post-War aim of the Treasury, to lighten the burden of short-term debt, was still being pursued. After the first step towards conversion of the long-term debt to a 3 per cent rate in September 1931, the Treasury abandoned its efforts along these lines. Not until June of 1934 was another announcement made that a portion of the long-term debt would be offered at this rate. Increasing business depression and the change in financing policy with the advent of the new administration prevented such operations in the interim.

During the bank holiday in March 1933 government borrowing became much more costly. The banks, making desperate efforts to obtain cash, sold their short-term holdings at a discount, thus depressing the market for these securities. In March 1933 the Treasury disposed of $469,131,000 of 5-month certificates of indebtedness carrying 4 per cent interest, and $473,373,500 of 9-month certificates carrying 4.25 per cent interest. The government had not had to pay as much as 4 per cent on this type of security since the height of the stock market boom in June–September 1929. This stringency was, however, of short duration and Federal credit soon recovered.

In June, $460,099,000 of 9-month certificates bearing only 0.75 per cent, and $623,441,800 of 5-year Treasury notes carrying only 2.875 per cent interest were easily sold. At the close of the following month $353,865,000 2-year Treasury notes were disposed of at a rate of 1.625 per cent, the lowest interest for notes to date. Not only these two forms of intermediate debt, but also Treasury bills, of short term, were sold on a low discount basis during 1933 (except for the period of the March crisis), and the increase in this very short-term debt was very marked (see Table 80), indicating the necessity for raising funds for the various emergency purposes.

Despite the tremendous financing operations of the Federal government the cost of borrowing continued to fall until December 1933. The noticeable increase in interest rates and discounts in that month was probably caused by the expectation of devaluation of the currency at an uncertain level and by the large scale of Federal flotations—almost a billion dollars of one-year Treasury certificates, part of the December quarterly financing, and $301,203,000 of bills sold on a discount basis.

For the year the United States government floated obligations to the amount of $10,376,958,151, of which $7,354,621,700 were used for refunding purposes and $3,022,336,451 constituted new additions to public debt. The government was thus responsible for the flotation of issues exceeding the sum total of all capital issues of municipalities and private business. An interesting aspect of the market in 1933 was the heavy oversubscription of almost all issues. Financing in 1934 continued easy even after the President's budget message in January, announcing a probable deficit in the budget of over $7,000,000,000.

On January 24, 1934, $528,102,000 of 13.5-month Treasury notes were allotted at a cost of 2.5 per cent. On February 19, $418,292,000 of 10-month, and $428,731,000 of 3-year Treasury notes were disposed of at 2.5 and 3 per cent, respectively. Another issue of 4-year notes aggregating $455,175,000 was floated at a cost of 3 per cent on March 15.

In summary, the Federal government borrowed to meet its deficits, and later to meet huge emergency expenditures, on the whole successfully, but not without difficulties at certain periods. The use of short-term debt was a normal outcome of the period of stress. While the nation remained on the gold standard its borrowing operations were complicated by large gold outflows to settle foreign accounts. Increasing reliance on banks as lenders not only facilitated short-term borrowing, but also involved more and more direct connections between the national debt and general monetary conditions. Finally, the financing was accomplished in the midst of persistent downward trends in general business and credit extension, in spite of open market operations, and with a series of adjustments in the tax, budget and monetary structures which had an important bearing on Treasury policy. During the months of 1933–34 when Federal financing was in part motivated by deliberate intention to raise prices and to stimulate business through the use of Federally-supported public works, the market continued to absorb Federal securities readily. In general the credit of the Federal government, measured by its ability to borrow at decreasing yields, improved from the inception of the public works policy to date.

Public Debt as a Monetary Base

In addition to the purchase of government bonds from banks as a means of releasing credit, several steps were taken during the depression to make it possible for government bonds to serve more effectively as a bank asset so as to establish a potential base for credit expansion.

In February 1932 the enactment of the Glass-Steagall Bill authorized the substitution of bonds for gold as a reserve for Federal Reserve notes over and above the required minimum of 40 per cent. In July 1932 an amendment to the Federal Home Loan Bank Act extended the circulation privilege to all United States bonds bearing an interest rate not in excess of 3.375 per cent. This measure added almost $3,000,000,000 of bonds to the potential base of national bank notes.

The Emergency Banking Act of March 1933 further expanded the credit base by permitting the issuance of Federal Reserve notes on the basis of United States government securities or other paper acceptable for rediscount. Under an amendment to the

Agricultural Relief Act of May 1933 (the so-called Thomas amendment) the President was authorized to direct the Federal Reserve banks to purchase $3,000,000,000 worth of government securities and to direct the Treasury to issue United States notes up to $3,000,000,000.

Despite the multiplicity of provisions very little use was made of the opportunity to expand the existing amount of currency. The national banks found it too costly to utilize extensively the permission to increase their national bank note circulation. The new type of Federal Reserve Bank notes authorized by the Emergency Banking Act of 1933 was really never circulated. Moreover, the permissive powers of the President to issue 'greenbacks' and to sell $3,000,000,000 worth of bonds to the Federal Reserve remained unexercised. Only the provision of the Glass-Steagall Act allowing the substitution of bonds for gold as a backing for Federal Reserve notes was utilized during 1932 to release 'freeable gold' for export purposes. This operation, however, lost most of its significance after the suspension of the gold standard in the spring of 1933.

The theoretical implications of the large issuance of government securities under the circumstances that attended the program of 1933–34 are discussed in Chapter XIV. Here it is sufficient to point out, in conclusion, the two main trends in government financial policy during the depression period. Efforts to supply the market with credit and to support prices were at first made through lowering rediscount rates and purchasing government securities in open market operations, with the accompaniment, in 1932, of direct financial aid to banks through RFC loans. These efforts were interrupted from time to time by the assumption of new debt to meet the increasing deficit. Until the advent of the Roosevelt administration, Federal borrowing on a large scale in order to increase government expenditures was impeded both by fear of injuring government credit and endangering the external value of the dollar and by the belief that purchase of government bonds by the banks might have the tendency to restrict investments which would otherwise have been made by private enterprises. Finally, the policy of the present administration, namely, to raise prices by monetary devices, by large expenditures for public works and other purposes, and by other economic measures, was attended by certain inflationary possibilities inherent in its borrowing program, in the sense that through past and present legislation, as well as through the large increase in the national debt, the opportunities to use the debt as a basis for credit and currency expansion have been greatly enhanced.