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## PAST PAYMENT PERFORMANCE

A careful examination of the debt payment performance of state and local governmental units helps to identify the instrument and borrower characteristics which have led to payment difficulties in the past and which may be indicative of future difficulties. This study examines only the incidence and causes of payment difficulties, the converse of positive payment experiences, since most state and local debt is repaid as contracted. Three measures of absolute past payment performance are employed: (1) the number of state and local units with debt in default, (2) the dollar amount of state and local debt in default and (3) permanent dollar losses of principal and interest. Wherever possible, these three measures are compared with the appropriate number of issues or the dollar amount of state and local debt outstanding to provide relative measures of past performance which are comparable over time.<sup>1</sup>

A default is defined as the failure to pay a loan's interest or principal or both when due. In order to eliminate very temporary or technical defaults, the study arbitrarily excludes defaults of less than one month's duration. The number of state and local units with debt in default is consistent with this definition throughout the study. The dollar amount in default is more diffi-

<sup>1</sup>A detailed description of state and local debt payment difficulties from 1837 through 1963 appears in George H. Hempel, "Postwar Quality of Municipal Bonds," unpublished Ph.D. dissertation of the University of Michigan, 1964, pp. 84-161. The primary sources for the information on debt payment difficulties in this dissertation and additional details on many additional individual default situations appear in: (1) Carl H. Chatters, ed., *Municipal Debt Defaults: Their Prevention and Adjustment*, Chicago, Municipal Financial Officers Association, 1933; (2) Benjamin U. Ratchford, *American State Debts*, Durham, N.C., 1941; (3) Albert M. Hillhouse, *Municipal Bonds: A Century of Experience*, New York, 1936; (4) William A. Raymond, *State and Municipal Bonds*, New York, 1932; and (5) William A. Scott, *Repudiation of State Indebtedness*, New York, 1893.

cult to determine. At least three definitions of the dollar amount in default have been used rather frequently in the past. First, some sources have used the total debt of the defaulting governmental unit as the amount in default. Another source defines it as the total of overdue interest, overdue principal and any additional principal upon which interest is overdue. The third definition limits it to the overdue interest and principal.<sup>2</sup> The second and third definitions are complicated by the fact that to be conceptually correct they should include the accrued interest on all defaulted payments. This study uses all three definitions when the data are available, and the definition that is employed is carefully labeled.

Permanent losses clearly include repudiations — long continued defaults for which the governmental units openly plan to evade payments — and default situations in which interest or principal or both have been scaled down. In addition, there are several other amounts which might be included as losses: interest payments on repudiated municipal debts, accrued interest on unpaid interest and forced refunding operations at lower interest costs. These amounts are not included because no reasonably accurate figures are available.

### *Payment Difficulties Through 1929*

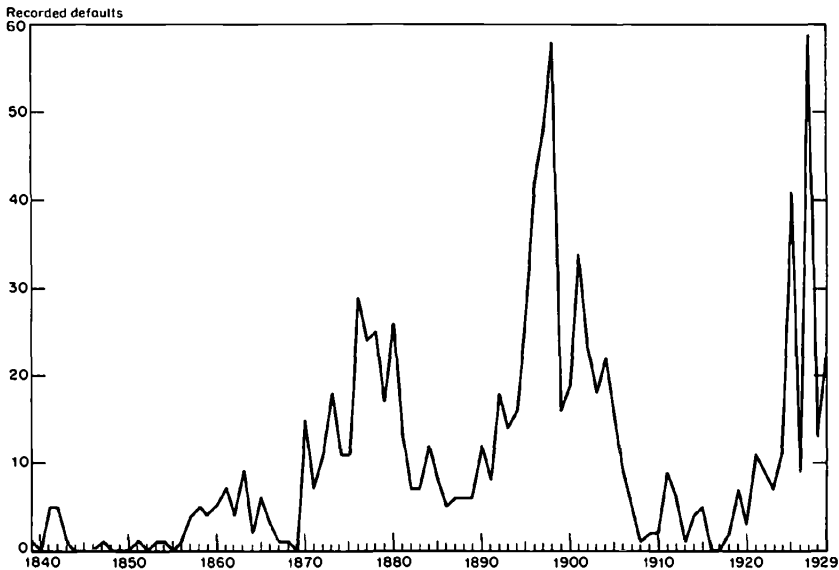
Chart 1 shows the number of state and local units with debt default by the year in which the default was first reported from 1839 (when Mobile, Alabama, recorded the first default) through 1929. The primary reason that no defaults on state and local indebtedness were recorded prior to 1839 was probably the antagonism toward any economic unit going into debt during the early years of American independence. In 1790, the United States government assumed all outstanding state indebtedness. Little, if any, local indebtedness was outstanding at that time. During the thirty years following 1790, state and local governmental units of the new country, with the exception of New York state, had only nominal debts or none at all. As late as 1825 the aggregate debt of state governmental units was only \$13 million and local indebtedness was so low that no aggregate measure had been taken.<sup>3</sup>

The period from the late 1820's to 1837 was marked by rapid expansion in all branches of economic activity. In an effort to attract trade and industry, the various governmental units, led by the states, vied with one another

<sup>2</sup>For example, assume that a municipal unit has \$2 million of 5 per cent bonds outstanding, a principal payment of \$10 thousand due, and an overdue interest payment of \$50 thousand owed on \$1 million of this indebtedness. Using the first definition, \$2 million is the amount in default. Under the second definition, \$1.05 million is the amount in default. If the third definition is used, \$60 thousand is the amount in default.

<sup>3</sup>The amount of state and local debt outstanding in 1825 and other selected years in the 1800's appears in Table 6 (p. 34).

CHART 1  
 Defaults of State and Local Units, by Year Reported, 1839-1929



Sources: NBER compilations from issues of *The Bond Buyer*; Hillhouse, *Municipal Bonds*; Hillhouse, *Defaulted Municipal Bonds*; and Knappen, *Revenue Bonds*.

in the development of roads, canals, railroads and other public improvements. A period of feverish building and borrowing, especially in the mid-1830's, was the result. The panic of 1837 and the ensuing depression, which lasted well into the next decade, were accompanied by widespread defaults and losses, especially in state debt.

There were twelve defaults by state and local units reported as having started between 1839 and 1843. The number of units in default during this period seems small when compared with the number of units having newly reported defaults in most later periods (see Chart 1); however, the number of state and local units with debt outstanding was also very small.<sup>4</sup> Furthermore, the total indebtedness of the defaulting units was approximately \$125 million, which was slightly over half of \$245 million, the estimated average state and local debt outstanding in this period. The dollar amount of principal repudiated in this period totaled approximately \$13.8 million and

<sup>4</sup>Thirty-seven state and local units were responsible for approximately \$258 million of the estimated \$260 million of debt outstanding in 1842. Lists of the individual units appear in *United States Magazine and Democratic Review*, XII (February, 1843), pp. 211-212 and U.S. Bureau of the Census, *Tenth Census of the United States: 1880. Valuation, Taxation, and Public Indebtedness*, VII, pp. 523-645.

approximately \$1.3 million of interest due was never paid.<sup>5</sup>

There were only a few new defaults reported between 1843 and the start of the Civil War. Most of these defaults followed the recession of 1857 and were short in duration. The amount of final loss from these defaults was very small.

There were approximately thirty defaults during the Civil War. The real flood of defaults on state and local indebtedness started in 1870 and lasted through the early 1880's. The extent of these defaults became especially serious in the 1873 to 1879 depression period. The indebtedness of defaulting state and local units was approximately \$245 million of the \$1 billion average state and local indebtedness outstanding between 1873 and 1879. Many of the defaults in this period, especially those from the Southern region, can be classified as repudiations. The total loss of principal and interest due to defaults during the 1873-79 depression period was approximately \$150 million.

A moderate number of new defaults occurred during the 1880's and early 1890's. However, the next time that defaults became a serious problem was the period following the Panic of 1893. Chart 1 shows that the number of recorded new defaults rose rapidly in the middle 1890's. The total indebtedness of state and local units which defaulted during the 1893-99 period, when the extent of defaults was the most serious, was \$130 million, or approximately 10 per cent of the average total state and local indebtedness outstanding in that period. Approximately \$25 million of principal and interest were lost because of the defaults during this period. While the number of units that reported new defaults stayed relatively large until 1906, most of the defaults in the early 1900's were small debt issues that were used to finance local real estate booms that subsequently collapsed or poorly managed irrigation projects in the Far West.

The number of state and local units with newly recorded defaults was relatively small from 1906 to the mid-1920's. Early indications of the state and local debt payment problems to come during the 1929 depression period appeared in three scattered areas. First, in Washington 55 local governmental units went into default on special assessment bonds between 1925 and 1927. Second, in 1927 the state of Arkansas was forced to assume approximately \$53 million or one-third of the indebtedness incurred by Arkansas municipalities to prevent their possible default. Defaults by Florida municipalities also started in 1927, following the collapse of the Florida real estate boom in 1926.

From 1839 through 1929, every kind of governmental unit had recorded default situations. The number of units in default was rather evenly distribu-

<sup>5</sup>A detailed account of the amount of debt in default and the amount of final losses appears in Hempel, "Postwar Quality of Municipal Bonds," pp. 84-161.

ted among counties and parishes, incorporated municipalities, unincorporated municipalities and special districts. In dollar amounts, states accounted for more than half of the total amount defaulted over the entire period and incorporated municipalities led all other types of governmental units. Furthermore, the population figures for some 200 defaulting local governmental units, when compared with the total number of such units, show a much higher incidence of reported defaults in the more populous units.<sup>6</sup>

### *Payment Difficulties in the 1929 Depression Period*

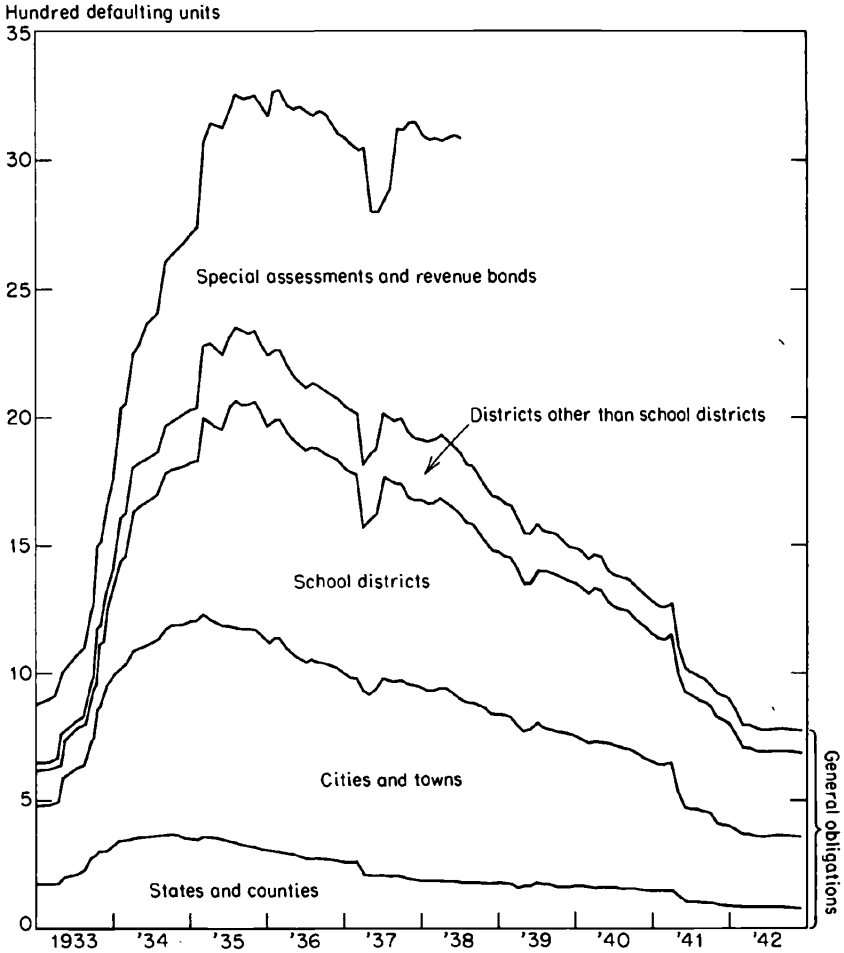
The depression beginning in 1929 was the most recent major default period. The record of state and local payment difficulties between 1929 and 1937 is examined in greater detail because more information is available for this period than any of the earlier ones. In late 1932, *The Daily Bond Buyer* began publishing information on the number of state and local units with indebtedness in default during the 1929 depression period. Chart 2 shows the monthly number of state and local units reported to have indebtedness in default by type of governmental unit from 1933-42. Because many defaults and recoveries from default were not reported to *The Daily Bond Buyer* until after they occurred, the figures in Chart 2 probably lag somewhat behind the actual situations. The figures in Chart 2 indicate that the total number of state and local units with indebtedness in default more than trebled from 1933-35 (the peak was 3,252 units in mid-1935) and then, by 1942, declined to approximately the early 1933 levels. One particularly noticeable characteristic revealed in Chart 2 is that slightly over one-third of the average total number of recorded defaults in 1935-37 were on special assessment or revenue bond issues.<sup>7</sup> A total of 4,771 state and local units was reported to have indebtedness in default sometime between 1929 and 1937.

The total indebtedness of state and local units with recorded defaults, 1929-37 was approximately \$2.85 billion, which represented slightly over 15 per cent of the average amount of state and local debt outstanding in the early 1930's. The maximum total indebtedness of state and local units in default in a single year, approximately \$2.8 billion, was reached in 1933, because nearly all defaults involving appreciable amounts of aggregate total debts were in effect by late 1933. This total began falling rapidly in 1934 and 1935 and had declined to approximately \$0.2 billion (excluding repudiations)

<sup>6</sup>Detailed information on the number of defaults, the kinds of taxing districts involved and the geographic concentration of defaults for the 1839-1929 period may be found in Hempel, "Postwar Quality of Municipal Bonds," pp. 84-97 and in Table 4 (page 30 of this study).

<sup>7</sup>Special assessment and revenue bonds are described on pages 60 and 93-96.

CHART 2  
 Defaults of State and Local Units, by Month, 1933-42



*Note:* Special assessment default data is not available after May 1, 1938. State obligations include one default from January 1, 1933 to August 1, 1935 and two in April and May 1933.

*Source:* Default records of *The Daily Bond Buyer*.

by 1939.<sup>8</sup> The timing differences between the number of defaults and total indebtedness of units in default can be explained by the rapid and generally complete recoveries by most large governmental units which defaulted.

The dollar amount in default has been interpreted in two other ways. First, the overdue interest plus the debt upon which interest was in default from 1929-37 came to approximately \$1,350 million, or 7.3 per cent of the average amount of state and local debt outstanding in the early 1930's.<sup>9</sup> Second, the past due interest and principal reached a maximum of approximately \$320 million. This figure is slightly above 1.7 per cent of the average amount of state and local debt outstanding in the early 1930's; however, it is approximately 16 per cent of the estimated average annual charge for interest and redemption of principal.<sup>10</sup>

The extent and impact of defaults of state and local debts in the 1929 depression period can be assessed by looking at the composition of the aggregative figures. Table 1 evinces the number and total indebtedness of state and local units with recorded defaults from 1929 through 1937 by type of governmental unit. Its figures indicate that every type of political subdivision had default problems. Special districts other than school districts had the highest proportionate incidence of defaults, with reclamation, levee, irrigation and drainage districts leading the way. Towns and organized townships, states and school districts had the lowest proportionate incidence of defaults. The states were classified by the total number of units with recorded defaults from 1929-37. Five states had no default situations. Ten states had from one to ten default situations. Twelve states had from eleven to fifty default situations. Twelve states had from 50 to 200 default situations. Nine states had over 200 defaults.

Table 2 shows the indebtedness of the larger government units in default in fourteen states with serious statewide default problems. In eight of the nine states in which defaulting units numbered 200 or more, the default situation presented a serious statewide problem. In six other states, while the number of default situations was less than 200, conditions were serious enough to adversely affect the credit of these states and their local units. The indebtedness of the defaulting units with populations of over 5,000 in these fourteen states was \$2.25 billion or approximately 79 per cent of the total indebtedness of all state and local units in default. In the remaining thirty-four states, there were either very few defaults or the problem appeared to be one of local areas or special districts rather than one of statewide importance.

One characteristic which differentiated the state and local debt payment

<sup>8</sup>Indebtedness figures are based on dollar amounts for units in default from *Moody's Municipal and Government Manual*.

<sup>9</sup>Chatters, *Municipal Debt Defaults*, p. 1.

<sup>10</sup>Estimated by the author using an average maturity of fifteen years and an average annual interest cost of 4.5 per cent.



TABLE 1  
Incidence of Defaults by Type of Governmental Unit, 1929-37  
(dollars are in millions)

Type of Governmental Unit	Total Number <sup>a</sup>	Number in Default <sup>b</sup>	Per Cent of Total Number in Default	Net Debt of All Units, 1932 <sup>c</sup>	Indebtedness of Defaulting Unit <sup>d</sup>	Proportion of Debt in Default
States	48	1	2.1	\$ 2,361	\$ 160	6.8%
Counties	3,053	417	13.7	2,391	360	15.1
Incorporated municipalities	16,366	1,434	8.8	8,842	1,760	19.9
Towns and organized townships	20,262	88	.4	344	10	2.9
School districts	127,108	1,241	.9	2,040	160	7.8
Reclamation, levee, irrigation and drainage districts	3,351	944	28.2	1,599 <sup>e</sup>	400 <sup>e</sup>	25.0 <sup>e</sup>
Other special districts	5,229	646	12.4			
Total	175,417	4,771	2.7	17,577	2,850	16.2

<sup>a</sup>Based on number in William Anderson, *The Units of Government in the United States*, Public Administration Service, Chicago, 1934, pp. 1 and 24.

<sup>b</sup>Based on all defaults reported to *The Daily Bond Buyer* from 1929 through 1937.

<sup>c</sup>U.S. Bureau of the Census, *Financial Statistics of State and Local Governments, 1932*, Washington, D.C., 1933.

<sup>d</sup>Indebtedness at time of default as reported to *The Daily Bond Buyer*.

<sup>e</sup>Combination of reclamation, levee, irrigation and drainage districts and other special districts.

TABLE 2

Amount of 1934 Indebtedness in Default by State and Local Units  
With Population of Over 5,000, 1930 Census  
(thousands of dollars)

<i>Group 1<sup>a</sup></i>	
Arkansas	346,142
Florida	299,863
Louisiana	90,616
Michigan	507,339
New Jersey	223,868
North Carolina	174,704
Ohio	273,471
Texas	151,865
Group 1 Total	2,067,868
<i>Group 2</i>	
Alabama	35,477
Kentucky	13,842
Mississippi	27,929
Oklahoma	16,766
South Carolina	18,195
Tennessee	67,538
Group 2 Total	179,747
Total for Both Groups	2,247,615

*Source:* Data from *The Daily Bond Buyer*.

<sup>a</sup>Defaulting governmental units in state numbered 200 or more.

difficulties in the 1929 depression period from similar experiences in previous major default periods was the high incidence of repayment of defaulted principal and interest in a comparatively short period. Nearly all of the large state and local units in default made complete payment of all due debt service charges within a few years. For example, all of the forty-eight cities with populations over 25,000 that were in default in this depression period were reported out of default by 1938. Among these defaulting cities, five solved their defaults without any change of contract, twenty-eight did not scale interest

or principal in their refunding operation, fifteen scaled interest only in their refunding operation and no city in this group had any reduction of principal. In 1939, with the state default cured and nearly all of the defaults in larger municipal units corrected, the accumulated past due interest and principal (after repudiations were eliminated) did not exceed \$50 million for state and local units with populations over 10,000. By 1946 nearly all of the units with populations over 10,000 that had not repudiated their debts had settled their default problems.

The payment records for smaller municipal units which were recorded as defaulting in the 1929 depression period are less complete and less impressive than the payment records of the larger units which defaulted in the same period. The only available information on the majority of these smaller defaulting municipal units is found in the records of the cases filed under the Federal Municipal Bankruptcy Act of 1937.<sup>11</sup> The primary aim of this Act was to force recalcitrant creditors into line when a satisfactory and equitable agreement between the municipal unit and its creditors had been reached.

Table 3 summarizes the results of the cases filed by municipal units under the Federal Municipal Bankruptcy Act of 1937 from fiscal 1938 through fiscal 1966. Nearly all of the 353 municipal units that filed petitions under this Act had populations of less than 10,000. Over half of the petitions which were filed were for special districts. Admitted losses were slightly over one-third of the admitted debts in default and approximately \$70 million of the losses were on municipal bonds that defaulted in the 1929 depression period.<sup>12</sup>

The total loss of principal and interest resulting from recorded defaults during the 1929 depression period is estimated at \$100 million, or about .5 per cent of the average amount of state and local debt outstanding in the period. Nearly 70 per cent of these losses were settled under the Federal Municipal Bankruptcy Act.<sup>13</sup> The loss figures do not include lower interest payments on refunding issues or accrued interest on unpaid principal or interest.

The payment difficulties of revenue bonds are also noteworthy because

<sup>11</sup>An earlier Municipal Bankruptcy Act with a similar purpose was enacted in 1934, but was declared unconstitutional in 1936. There were eighty-nine petitions filed under the 1934 Act before it was declared unconstitutional.

<sup>12</sup>Henry W. Lehman, "The Federal Municipal Bankruptcy Act," *Journal of Finance*, V, No. 3, September 1960, pp. 241-256.

<sup>13</sup>Minority creditors did not have the same temptation to fight in default situations where (1) principal and interest were paid within a few years, or (2) the only relief requested by the municipal unit was an extension of maturity dates, or a slight lowering of the interest rate for a few years, as they did in situations where (3) the municipal unit desired to scale down principal or interest or both substantially. Most of the default situations in the 1929 depression period were settled by the first two methods.

TABLE 3  
Summary of the Results of Cases Filed Under the Federal Municipal Bankruptcy Act of 1937

Fiscal Year	Cases Filed	Cases Concluded	Cases Dismissed	Admitted Debts	Statistics for Cases Concluded	
					Amount Paid or to be Paid as Extended	Admitted Losses
1938	35	2	0	\$ 67,675	\$ 67,675	\$ 0
1939	71	17	0	6,587,012	3,924,149	2,662,863
1940	104	22	7	15,500,000	6,674,000	8,826,000
1941	19	37	8	28,466,000	16,332,000	12,134,000
1942	43	46	3	33,704,000	24,458,000	9,246,000
1943	13	40	23	26,633,000	16,032,000	10,601,000
1944	5	18	2	18,014,000	11,457,000	6,557,000
1945	8	14	3	39,816,000	27,185,000	12,631,000
1946	7	8	1	13,086,555	9,594,984	3,491,571
1947	7	8	4	4,651,168	2,715,234	1,935,934
1948	7	12	1	2,464,215	1,632,987	831,228
1949	2	2	0	224,361	136,525	87,836
1950	4	5	5	1,253,183	464,094	789,089
1951	3	3	0	1,308,687	582,868	725,819
1952	15	17	1	10,043,648	8,424,662	1,618,986
1953	0	2	2	2,183,413	1,163,615	1,019,798
1954	2	4	23	934,733	353,362	581,171
1955	1	0	0	—	—	—
1956	1	1	1	639,095	211,300	427,795
1957	0	2	0	2,171,448	1,629,448	542,000
1958	2	1	0	16,124	16,124	0
1959	3	3	0	2,077,382	544,668	1,532,714
1960	0	1	0	106,500	106,500	0
1961	0	0	0	—	—	—
1962	1	3	1	972,642	544,668	427,974
1963	0	0	0	—	—	—
1964	0	0	0	—	—	—
1965	0	0	0	—	—	—
1966	0	0	0	—	—	—
Total	353	268	85	210,920,841	134,251,063	76,669,778

Source: Administrative Office of the United States Courts.

the 1929-37 period is the first major default period in which state and local indebtedness payable solely from specified revenues was outstanding. The first revenue bonds issued by a state or local unit in this country were offered by Spokane, Washington, in the 1890's. The number and dollar amount of revenue bonds issued grew slowly. By 1925 revenue bonds constituted approximately one-half of 1 per cent of total dollar amount of state and local debt outstanding. The proportionate dollar share of indebtedness accounted for by revenue bonds rose to approximately 2 per cent in 1931, approximately 3½ per cent in 1934 and approximately 5 per cent in 1937.<sup>14</sup>

There were only twelve instances of state and local revenue bond defaults recorded from 1929 through 1937.<sup>15</sup> The dollar value of these twelve defaulting revenue issues was approximately \$18.7 million, which is 5.8 per cent of the approximately \$325 million of revenue bonds outstanding in 1931, 3.1 per cent of the approximately \$600 million of revenue bonds outstanding in 1934 and 1.9 per cent of the approximately \$1 billion of revenue bonds outstanding in 1937. These percentage figures are below the proportionate dollar amount of all state and local indebtedness involved in default situations; however, losses of principal and interest on defaulting revenue bonds were proportionately much higher than similar losses on all defaulting state and local indebtedness. The total amount of principal repudiated or scaled down was approximately \$6.6 million, which is over one-third of the total revenue bond principal in default.<sup>16</sup>

#### *Payment Difficulties in the Postwar Period*

Difficulties with state and local debt service payments have been relatively limited during the long period of prosperity following World War II. Information on payment difficulties in the postwar period was obtained from intensive searches through postwar indexes and issues of *The Daily Bond Buyer*, *Moody's Municipal and Governments Manual*, *The Wall Street Journal*, and *The Commercial and Financial Chronicle*; examinations of *The Daily Bond Buyer's* default records and its correspondence in connection with its default survey in 1959; correspondence with the Administrative Office of the United States Courts and with various state and local officials; and interviews with

<sup>14</sup>The aggregate dollar amount of state and local revenue bonds issued annually is presented in Appendix Table 1. Detailed descriptions of early issues and aggregate dollar amount outstanding figures can be found in John F. Fowler, *Revenue Bonds*, New York, 1938; and Laurence S. Knappen, *Revenue Bonds and the Investor*, New York, 1939.

<sup>15</sup>The only recorded default on a state and local revenue bond prior to 1929 was on the \$300 thousand water revenue bonds of the city of Centralia, Washington, in 1919. This default was primarily technical and both principal and interest were eventually fully paid.

<sup>16</sup>See Hempel, "Postwar Quality of Municipal Bonds," pp. 119-122 for a detailed description of each of these twelve revenue bond default situations.

and information from several regulatory commissions and the major municipal bond rating agencies.<sup>17</sup>

The combined information from all of the preceding sources reveals 329 reported state and local debt default situations from 1945-65. Despite the wide variety of sources, the information on many of these default situations is limited and incomplete. This is because there is no central agency recording default information and because publicity is often disadvantageous to both the debtor unit and the limited number of its creditors. It seems incorrect to make direct comparisons of the total number of debt payment difficulties in this period with the total number of debt payment difficulties in previous periods because listings of defaulted securities on bank examinations were not available in previous periods. Many of the 266 postwar state and local default situations which were reported only on bank examinations may have been temporary or technical. Most of these 266 situations involved smaller municipal units and small quantities and nearly all were locally held — 181, or 68 per cent, were found to be held by banks in the same city, town or county and 77, or 29 per cent, more were held by banks within the same state.

A few characteristics of the total number of defaulted situations are discernible. Of the 329 reported default situations, 115, or 35 per cent, were on short-term state and local debts, 92, or 27 per cent, were by special districts other than school districts and 47, or 14.3 per cent, were on revenue bonds. The time distribution of the default situation for which the date of default was available revealed that there was at least one default in every year studied after World War II, no noticeable cyclical pattern in recorded defaults due to the relatively mild postwar recessions, and an increasing trend in the absolute number of reported defaults in the postwar period.

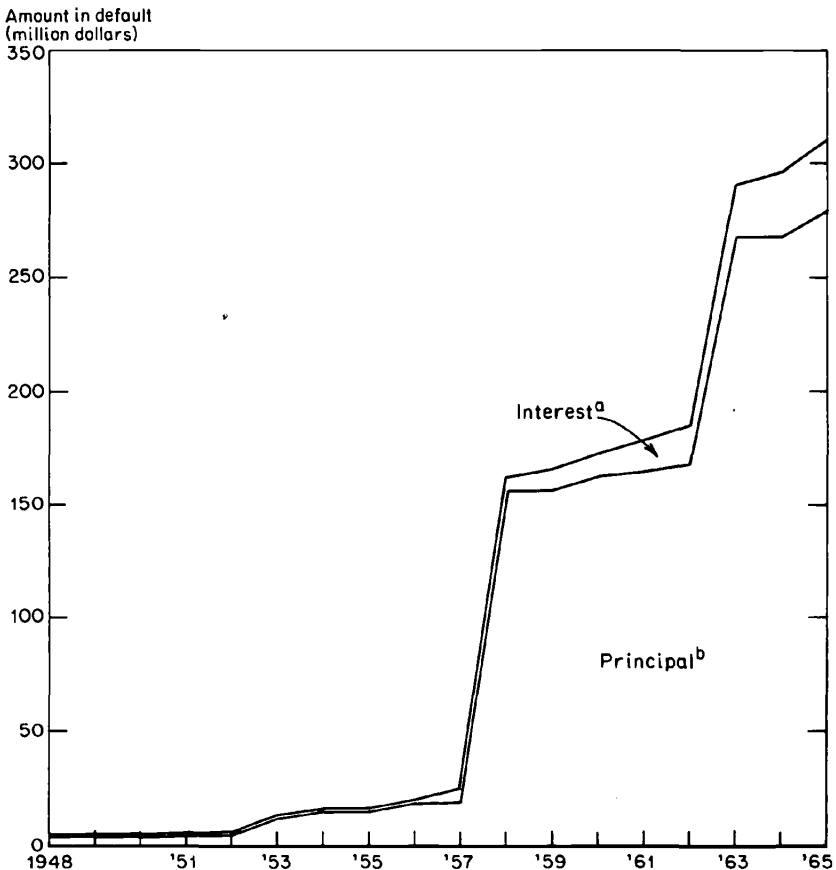
The dollar amount of state and local debt in default provides a clearer answer about the extent of the debt payment difficulties in the postwar period. The principal actually in default and the principal upon which interest is in default at the time of the difficulty totals approximately \$325 million for all state and local units which have defaulted from 1945-65. This total is slightly over .3 per cent of the total state and local debt outstanding at the end of the 1965 fiscal year. Approximately \$294 million, or 91 per cent, of the estimated total amount of principal in default is the responsibility of twenty-seven municipal units involved in major default situations.<sup>18</sup> All but six of these major default situations were on revenue bonds.

<sup>17</sup>These commissions and agencies are The Federal Deposit Insurance Corporation, The Board of Governors of the Federal Reserve Bank, the Committee for the Valuation of Securities for Life Insurance Commissioners, Standard and Poor's Corporation, Moody's Investors Service, Inc., and Dun and Bradstreet.

<sup>18</sup>The term major default situation is used to describe well-documented default situations that are clearly neither temporary nor technical and that involve at least \$200 thousand of principal in default or principal upon which interest is in default.

Chart 3 shows the dollar amount of principal in default or principal upon which interest is in default and interest payments in default for the twenty-seven major default situations from 1948, the year of the first major postwar default, through 1965. This chart is clearly dominated by the \$133 million West Virginia Turnpike default in 1958 and the \$101 million Calumet Skyway default in 1963. Principal in default or upon which interest is in default totaled approximately \$278 million; interest in default (excluding interest on unpaid interest), approximately \$32 million in 1965. The amount of permanent losses of principal and interest from state and local defaults starting in

CHART 3  
Dollar Amount of Principal and Interest in Default, 1948-65



Source: NBER staff compilations.

<sup>a</sup>Excludes interest on unpaid interest.

<sup>b</sup>Consists of overdue principal and principal upon which interest is overdue.

the postwar period totaled \$8.9 million, with most of these losses settled under the Municipal Bankruptcy Act (see Table 3, page 25).

### *Summary*

Two general conclusions may be made about the time distribution of the recorded defaults and losses on state and local debt from the first default in 1839 through 1965. The first is that defaults occurred, nearly continuously, after the amount of indebtedness became significant, under both good and bad economic conditions. The rather common belief that defaults occur only in depression periods is obviously false. Second, it was only in major depression periods that the extent of defaults on state and local indebtedness spread to dangerous proportions or that the volume of losses rose to a level that affected the over-all economy.

The recorded defaults from 1839 through 1965 shown in Table 4 support the first general conclusion. The data in Table 4 also show that defaults occurred in every major type of governmental unit and in every geographical region. In addition, Table 4 demonstrates that the number of recorded defaults grew rapidly during and immediately following the four depression periods which can be classified as major default and loss periods for state and local indebtedness — 1837-43, 1873-79, 1893-99 and 1929-37.

Table 5 shows the dollar amount of defaults and losses on state and local bonds in each of these major default periods. The total indebtedness of defaulting state and local units was the highest proportion of state and local debt outstanding in the 1837-43 period. This proportion did not always decline in later periods, however, because the total indebtedness of defaulting state and local units was proportionately greater in the 1929-37 period than in the 1893-99 period. Figures for the two alternative methods of measuring the amount of state and local debt which has been in default — the overdue interest plus the amount of debt upon which interest is in default and the past due interest and principal — are available only for the 1929-37 period. The data in Table 5 also indicate that the proportionate amount of permanent losses of principal and interest was highest during the 1873-79 period, when there were numerous repudiations, and lowest in the 1929-37 period.



TABLE 4

## Recorded Defaults from 1839 Through 1965, by Type of Governmental Unit and Geographical Region

	Recorded Defaults from 1839 Through 1965, by Type of Governmental Unit and Geographical Region																State and Local Governmental Unit in 1962a
	1839 -49	1850 -59	1860 -69	1870 -79	1880 -89	1890 -99	1900 -09	1910 -19	1920 -29	1930 -39	1940 -49	1950 -59	1960 -65	Total Defaults			
<b>By Type of Unit:</b>																	
States	9	2	1	9					1					22	50		
Counties and parishes		7	15	57	30	94	43	7	15	417	6	12	17	720	3,043		
Incorp. munics.	4	4	13	50	30	93	51	17	39	1,434	31	31	70	1,867	17,997		
Unincorp. munics.		4	9	46	31	50	33	5	10	88	7	4	20	307	17,144		
School districts				4	5	9	11		14	1,241	5	23	41	1,353	34,678		
Other districts				2	1	12	11	7	107	1,590	30	42	44	1,846	18,323		
<b>By Geographical Region:</b>																	
New England states <sup>b</sup>	1	1	1	1	1	2			1	7			4	19	2,719		
Middle Atlantic states <sup>c</sup>	2	5	6	19	11	13	13	4	4	251	9	4	10	351	11,963		
Southern states <sup>d</sup>	6	2	40	29	5	25	25	9	51	1,864	16	33	56	2,167	8,859		
Midwestern states <sup>e</sup>	4	10	28	84	46	89	68	6	18	1,152	18	34	73	1,630	44,649		
Southwestern states <sup>f</sup>			1	20	7	79	27	5	25	706	25	36	35	966	11,384		
Mountain states <sup>g</sup>				2		17	2	8	17	270	6	4	3	329	4,443		
Pacific states <sup>h</sup>		2		2	3	22	14	3	70	520	5	1	11	653	7,218		
<b>Totals</b>	13	17	38	168	97	258	149	36	186	4,770	79	112	192	6,115	91,235		

## Notes to Table 4

*Sources:* Default information in *The Daily Bond Buyer*, *The Commercial and Financial Chronicle*, and *The Investment Banker's Association Bulletin*; default lists from Federal Deposit Insurance Corporation, Life Insurance Commission, and U.S. Courts; Albert M. Hillhouse, *Defaulted Municipal Bonds*, Municipal Financial Officers Association, Chicago, 1935; and B.W. Ratchford, *American State Debts*, Durham, N.C., 1941. Number of governmental units based on data from Government Division of U.S. Bureau of the Census.

<sup>a</sup>The number of governmental units has changed rapidly. For example, in 1932 there were 127,108 school districts, 8,580 other districts, and 175,369 state and local governmental units.

<sup>b</sup>Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

<sup>c</sup>Delaware, District of Columbia, Maryland, New Jersey, New York and Pennsylvania.

<sup>d</sup>Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia.

<sup>e</sup>Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, North Dakota and Wisconsin.

<sup>f</sup>Arizona, Kansas, New Mexico, Oklahoma and Texas.

<sup>g</sup>Colorado, Idaho, Montana, Nevada, Utah and Wyoming.

<sup>h</sup>Alaska, California, Hawaii, Oregon and Washington.

TABLE 5  
Comparison of the Extent of Defaults by State and Local Units in Major Default Periods  
(dollar figures in thousands)

Period	Average State and Local Debt Outstanding	Total Indebtedness of Defaulting State and Local Units	Per Cent of Debt Outstanding	Past Due Interest and Principal <sup>a</sup>	Per Cent of Debt Outstanding	Loss of Principal and Interest <sup>b</sup>	Per Cent of Debt Outstanding
1837-43	\$ 245,000	\$ 125,000	51.0	n.a.	—	\$ 15,000	6.1
1873-79	1,000,000	245,000	24.5	n.a.	—	150,000	15.0
1893-99	1,300,000	130,000	10.0	n.a.	—	25,000	1.9
1929-37	18,500,000	2,850,000 <sup>c</sup>	15.4	320,000 <sup>c</sup>	1.7	100,000	.5

Source: Based on data from George H. Hempel, "The Postwar Quality of Municipal Bonds" unpublished dissertation, University of Michigan, 1964, pp. 84-161.

<sup>a</sup> Does not include interest on unpaid interest.

<sup>b</sup> Does not include interest on unpaid interest, interest due after a debt was repudiated or interest lost due to refunding at a lower interest cost.

<sup>c</sup> Overdue interest plus debt upon which interest is in default was \$1,355,000 or 7.3 per cent of debt outstanding in 1929-37. This figure is not available for the earlier default periods.

n.a. = not available.

<sup>b</sup> Does not include interest on unpaid interest, interest due after