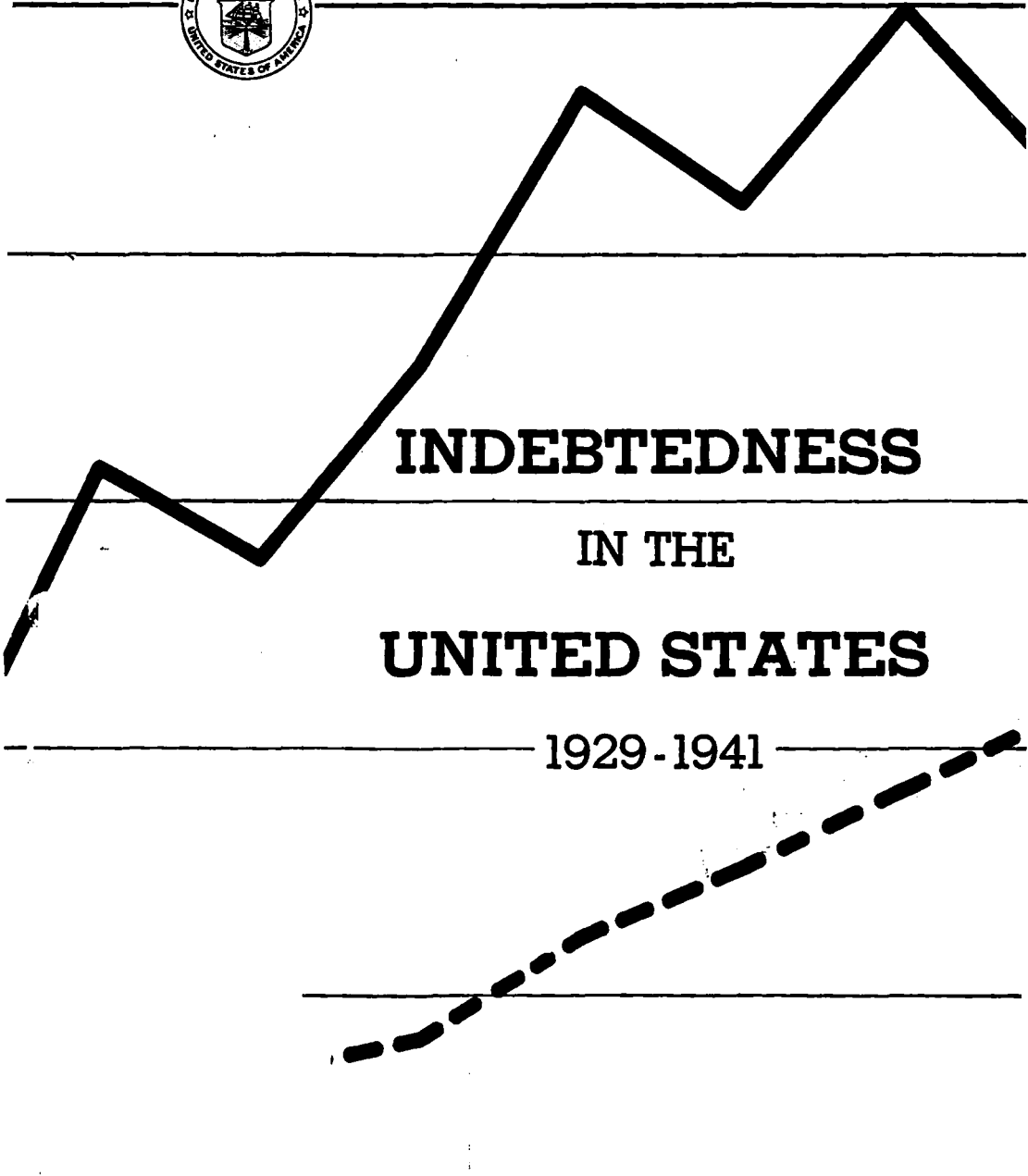




INDEBTEDNESS IN THE UNITED STATES

1929-1941

35 1936 1937 1938 1939 1940 194



U. S. DEPARTMENT OF COMMERCE
Jesse H. Jones, Secretary
BUREAU OF FOREIGN AND DOMESTIC COMMERCE
Carroll L. Wilson, Director



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INDEBTEDNESS IN THE
UNITED STATES
1929-41



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FOREWORD

This bulletin is one of the many basic economic studies which the Department of Commerce is making to provide reliable guides to business and governmental policy during the war and post-war periods. It presents an analysis of the composition of the domestic debt structure and the shifts in that structure during the past decade. It thus furnishes background data that should prove helpful in appraising the significance of future developments.

The sudden plunge of this country into war on December 7, 1941, marked the end of a definite economic period and the inauguration of a new phase of industrial expansion based on arms output. The war as it progresses is bound to produce striking economic changes which will alter the financial structure inherited from the pre-war period. As yet, the type of financial changes which will accompany the war effort cannot be predicted in detail with accuracy. Certain inferences, however, may be drawn from current information when projected against the background material presented in this bulletin. Only by studying the behavior of the credit structure over the past decade can we truly understand and appraise the financial trends being formed in the present period of economic transition.

The debt structure not only is a heritage of past economic activity but also is a factor modifying and conditioning present and future commercial and industrial expansion. Changes in the duration and terms of credit, as well as in the service and amortization charges required to support loans, may exercise a strong influence in determining the character and structure of economic development. Failure of the network of domestic indebtedness to fall in line with changing economic conditions may cause frictions which temporarily interrupt or retard the smooth flow of business activity.

Changes in the aggregate volume of private indebtedness are directly associated with major changes in business activity and national income, though movements in debt volume tend to lag somewhat behind the trends in these basic series, particularly during the downward phase of the business cycle. Both quantitative and qualitative changes in the structure of private indebtedness are important not only because they throw light upon the mobilization of savings and allocation of funds for capital formation but also because the conditions attending financial transfers may influence the distribution of income and wealth.

The volume of public debt is controlled by governmental fiscal policy as well as by changing economic conditions. Important changes in the uses and sources of public credit have occurred in the period since 1929 and these changes have affected the entire area of private as well as public finance. The expansion of the functions of government and the recognition that appropriate use of the public credit may be a necessary adjunct to positive economic policy during

depression periods have resulted in a steady growth in outstanding public debt over the past decade. The implications of this trend, together with the interrelations between public indebtedness and the structure of private lending activities, are treated in this report.

This study was prepared in the Bureau of Foreign and Domestic Commerce under the general supervision of M. Joseph Meehan and R. R. Nathan. The tables and manuscript were prepared by J. Wesley Sternberg prior to his transfer to another Government department. Revisions to bring the manuscript up to date were made by Robert B. Bangs and Milton Gilbert. The original Bureau study in this field, undertaken by Donald C. Horton, covered long-term debts only. The present bulletin covers both long- and short-term indebtedness and employs slightly different concepts than did the earlier study.

Acknowledgment is gratefully made for the assistance given by the individuals in many Government agencies who furnished material for this report.

CARROLL L. WILSON, *Director,*
Bureau of Foreign and Domestic Commerce.

MAY 1942.

APPENDIX

SOURCES AND METHODS OF ESTIMATION

GENERAL

Since the statistics of indebtedness embraced in this study cover virtually every field in which debts originate, it was necessary to resort to a wide variety of source materials and to employ various methods in developing the information. In quality, the primary statistics range from figures taken from accounting records of all the debt-creating units within specific areas of the economy to estimates made from incomplete and fragmentary debt information. In several instances, the data are far more complete for the later years of the decade than for the earlier years.

In some classifications, the figures for gross debt are complete except for minor deficiencies, while the figures for duplicating debt are based on somewhat less complete data. Consequently, in these classifications the net debt estimates are subject to wider margins of error than are the gross debt figures. In still other instances, the debt statistics consist of a composition of gross and net debt which required adjustment before the figures conformed to either the gross or the net debt concept. No estimates are attempted for debts between unincorporated nonfinancial business firms or for informal, short-term debts between individuals, since the information in these areas is virtually nonexistent. Such omissions probably result in a slight understatement of the total volume of outstanding debt.

DEBTS OF THE UNITED STATES GOVERNMENT AND FEDERAL CORPORATIONS AND AGENCIES

Except for the years 1940 and 1941, the figures on the gross debt of the United States Government have been taken from the annual reports of the Secretary of the Treasury. Data for 1940 and 1941 are from the Monthly Statements of the Public Debt of the United States and the Daily Treasury Statements. The gross debt totals include interest-bearing debt—bonds, notes, bills, and special issues; matured debt on which interest has ceased, payable upon presentation; and debt bearing no interest, also payable upon presentation. The latter item consists of old demand notes, national bank notes, and Federal Reserve bank notes assumed by the United States Government, fractional currency, thrift stamps, Treasury savings stamps, and so on. Figures giving gross debt totals of Federal corporations and agencies were taken from the financial statements of those corporations and agencies and from the Daily Treasury Statements for January 15 and January 30.

Duplicating debt of the United States Government and Federal corporations and agencies consists of two classes. One class includes the issued obligations of the United States Government and Federal corporations and agencies held by those units in their sinking, trust, and investment funds. Duplicating Federal debt does not include United States Government and Federal corporation and agency securities held by Federal Reserve banks. The other class of duplicating debt is composed of debt obligations receivable by Federal corporations and agencies.

Figures on net debt were obtained by subtracting duplicating debt, based on Daily Treasury Statements, from gross debt, the United States Government and Federal corporations and agencies being treated as a unit in making the computations.

For all years covered in this study, the gross, duplicating, and net debt totals of the United States Government and Federal corporations and agencies show the indebtedness outstanding as of the end of the calendar year. Special studies were made to place on a calendar-year basis the indebtedness outstanding and

loans receivable of Federal corporations and agencies. A similar analysis was made of United States Government and Federal corporation and agency securities held in the sinking, trust, and investment funds of the United States Government and Federal corporations and agencies.

DEBTS OF STATE AND LOCAL GOVERNMENTS

Data on the gross debts of States for the census years of 1929-32, 1937, and 1938 were taken from the annual reports of the Bureau of the Census on the financial statistics of State governments. For 1940 and 1941 the data were taken from a joint questionnaire survey of the Bureau of the Census and the Treasury Department. Figures on the gross debts of local governmental units—counties, municipalities (including townships), school districts, and special districts—were taken from the decennial report of the Bureau of the Census for 1932 and from the joint questionnaire surveys of the Bureau of the Census and the Treasury Department for 1937, 1940, and 1941.

For intercensal years and for years not covered by the questionnaire surveys, data on the gross indebtedness of State governments were compiled from the financial reports of each of the 48 States reporting outstanding indebtedness, while the gross debts of local divisions were determined by straight-line interpolation of the Census figures.

Duplicating debt of State and local governments, consisting of securities of those units held in their sinking, trust, and investment funds, was likewise determined from Census reports and from the questionnaire surveys for the years covered by those publications, and by interpolation for the remaining years. In interpolating, it was assumed that the trend of such fund holdings for local divisions is similar to that shown for the larger cities as published in the annual reports of the Bureau of the Census entitled, "Financial Statistics of Cities."

Net indebtedness of State and local governments was determined by deducting duplicating debt, as herein defined, from gross State and local government debt.

DEBTS OF PRIVATE CORPORATIONS

Two major sources of data are used in estimating the debts of private corporations. Estimates of the gross debt of steam railways are based on compilations made by the Interstate Commerce Commission, while figures on the net debt of steam railways and on the gross and net debts of nonrailway corporations are based on compilations of the Bureau of Internal Revenue. Substantial adjustments are required before these data can be used to depict either the amounts or the trend of corporate debt. The unadjusted figures of the Bureau of Internal Revenue present the sum of the debt obligations of all nonrailway corporations submitting balance sheets along with their Federal income tax returns. Estimates covering years for which the Bureau of Internal Revenue or the Interstate Commerce Commission tabulations are not yet available were projected from a corporate sample and from current information covering security issues and retirements. These figures for 1940 and 1941 are thus subject to a larger margin of error than are the data for earlier years.

Though during the period under review only about 87 percent of the active corporations filing returns submitted balance sheets, the unadjusted figures understate the indebtedness of nonrailway corporations only slightly, probably by not more than 1 or 2 percent, since the corporations not submitting balance sheets generally are small and often are units of corporate systems with few, if any, outstanding liabilities.

The principal defect in the unadjusted debt compilations of nonrailway corporations is that these compilations consist of a changing mixture of net debt compiled from consolidated financial statements of corporate systems and gross debt compiled from unconsolidated financial statements of individual corporations. As a result, the debt totals are subject to substantial changes resulting from shifts between consolidated and unconsolidated returns. For the most part, such shifts take place because of corporation tax provisions in the several revenue acts in effect during the period.

Under the Revenue Acts of 1932 and 1934, consolidated returns were taxed at higher rates than were unconsolidated returns. This caused many corporations to shift from consolidated to unconsolidated returns. The result was that the volume of corporate debt shown was materially increased since intercorporate

debt, not appearing in the consolidated statements, showed up in the unconsolidated balance sheets.

Section I of the Revenue Act of 1934 restricted the use of consolidated returns by prohibiting all corporations except "common carriers by railroad" from filing this type of return. In the Revenue Act of 1936, the privilege of filing consolidated returns was broadened slightly to include street, suburban, and interurban electric railways.

As shown in the tabulation below, nonrailway corporations, prior to the discontinuance of the consolidated returns in 1934, filed 8,861 of these returns in 1930, 7,013 in 1933, and 369 in 1934. This decline in the use of consolidated returns caused a substantial part of the pronounced rise in the volume of nonrailway corporate debt as shown in the Bureau of Internal Revenue data. Unadjusted nonrailway debt compilations showed an increase of approximately 10 billion dollars—from 52 billion in 1934 to 62 billion in 1935—whereas, in fact, a small decline in debts outstanding occurred since, in 1934, total retirements slightly exceed the volume of new borrowing. For the years from 1930 through 1933, shifts from consolidated to unconsolidated returns were much smaller but still took place in sufficient number to make the unadjusted totals virtually valueless as a measure of actual changes in nonrailway outstanding debt.

Table I.—Number of Consolidated and Unconsolidated Returns Filed by Active Corporations, 1929-38

Year	Consolidated returns		Unconsolidated returns	Total returns	Year	Consolidated returns		Unconsolidated returns	Total returns
	Steam railway	Non-railway				Steam railway	Non-railway		
1929.....		8,664	447,267	455,931	1934.....	76	369	469,359	469,804
1930.....	190	8,861	454,065	463,036	1935.....	63		477,050	477,113
1931.....		8,405	451,209	459,614	1936.....	198		478,759	478,857
1932.....	90	7,336	444,458	451,884	1937.....	193		477,745	477,838
1933.....	88	7,013	439,741	446,842	1938.....	102		470,930	471,032

¹ Estimated.

² Includes consolidated returns of street, suburban, and interurban electric railways.

Adjustments to exclude the effect of these shifts were necessary in order that the yearly totals would reflect only the debt changes arising from issuance of new debt and retirement or cancellation of existing debt. To show trends in the volume of intercorporate debt, the unadjusted figures required correction so as to represent both the net and gross debt series. No entirely satisfactory basis of adjustment covering all the years could be developed since adequate data whereby intercorporate debt can be measured are available only for 1933 and 1934.

The net indebtedness shown by 7,013 nonrailway corporations filing consolidated returns for 1933 was less by 11.5 billion dollars—equal to \$1,640,300 per consolidated return—than that shown on an unconsolidated basis for 1934 by the 27,021 corporations which comprised those 7,013 corporate systems reporting for 1933. Although a year had elapsed between the time consolidated and unconsolidated returns were filed, \$1,640,300 appears to fairly well represent the intercorporate debt per consolidated return, since 1934 was a year without major changes in corporate organization and since changes in volume of outstanding debt arising from debt issuance and retirement amounted to less than 1 percent in that year.

The nonrailway intercorporate debt for 1930, the year in which the largest number of consolidated returns were filed, was then arrived at by multiplying the number of consolidated returns for 1930 by the figure for average intercorporate debt per consolidated return determined as indicated above for 1933-34. This intercorporate debt was placed at 14,535 million dollars for 1930. The unadjusted total, as compiled by the Bureau of Internal Revenue, may be taken as representing the nonrailway net debt for 1930. Nonrailway gross debt was computed by adding to net debt the intercorporate debt of 14,535 million dollars.

During the entire 1930-34 period there were almost no major changes in non-railway corporate organization. Few subsidiaries were created or dissolved. The

indebtedness of some existing units owed to other units within given corporate systems may have changed, however. Gross debt for each of the years from 1931 through 1935 was computed by adding the intercorporate debt, as determined for each year by the method used for 1930, to the Bureau of Internal Revenue totals for that year. For 1935 and subsequent years, the unadjusted figures of the Bureau of Internal Revenue have been used to represent nonrailway gross debt.

For 1930, intercorporate and net corporate nonrailway debt comprised 18.94 percent and 81.06 percent, respectively, of gross nonrailway corporate debt. These percentages were then applied to the nonrailway gross debt in computing intercorporate and net debt for each of the other years from 1929 through 1935.

A study of all published consolidated statements obtainable revealed that, starting around 1933, intercorporate debt began either to experience a slightly greater proportionate decline or, in the years increases in outstanding debt occurred, to show a slightly smaller proportionate increase than did net corporate debt. This shrinkage in intercorporate debt was the result of a reduction in the number of subsidiaries of various corporate systems in these years. To take account of this trend the percentage relationship of intercorporate debt to gross debt was reduced arbitrarily by from $\frac{1}{2}$ to 1 percent yearly beginning in 1935. The preliminary estimates of intercorporate debt for the years 1940 and 1941 were placed at 16.4 percent and 15.5 percent, respectively, of gross debt. These preliminary percentages may need revision when more reports for these years become available.

Both gross and net nonrailway debt were broken down into short-term and long-term classifications in accordance with the percentage of long-term and short-term debt shown in the Bureau of Internal Revenue compilations. Before such apportionment was made for 1934, however, the short-term debts shown in the Bureau of Internal Revenue compilations were reduced by 2,065 million dollars and the long-term debts increased by a like amount. This adjustment was made to allow for the fact that debts of this amount maturing in more than 1 year were classed as short-term debts in the Bureau of Internal Revenue figures. For 1933-40, classification of notes payable into (1) those with maturity dates of less than 1 year from date of issue and (2) those with maturity dates of more than 1 year from date of issue resulted in the reclassification as long-term of a considerable amount of debt which previously had been listed as short-term. No adjustment has been made to take into account the shift caused by this change in the method of reporting notes payable.

Figures on the gross debt of steam railways were taken from the general balance-sheet statements of railroads, prepared by the Interstate Commerce Commission and published in Statistics of Railways. The debt totals represent all the debt obligations of Class I steam railways, lessor companies, and switching and terminal companies. Funded debt matured but unpaid, classified by the Interstate Commerce Commission as a short-term obligation, is treated in this study as a long-term obligation. All interest in arrears and unpaid is treated as a short-term obligation.

Since steam railways were permitted to file tax returns on a consolidated basis during the period 1929-41, consolidated balance-sheet statements generally were submitted by railways in connection with the tax returns filed by them. Wide year-to-year fluctuations in these net debt totals in the early years of the period, a time when the gross debt totals and all other supporting evidence indicated stability, make the figures for the early years unsuited as a measure of net railway debt.

The Bureau of Internal Revenue compilations appear to best reflect the net debt of railways for 1935-37. An average of both the net debt and the gross debt was taken for these years, the difference representing intercorporate or duplicating debt. For the three years, 1935, 1936, and 1937, intercorporate railway debt averaged 13.97 percent of gross railway debt. This percentage was accordingly applied to each of the years during the 1929-41 period for the purpose of arriving at intercorporate and net debt.

FARM-MORTGAGE AND OTHER FARM DEBT

The farm-mortgage debt totals and figures on the debts of farmers' cooperative associations and the short-term debts of farmers are taken from reports of the Bureau of Agricultural Economics. A statement of the sources used and methods employed in estimating farm-mortgage debt is presented in an article by Donald C. Horton entitled, "Fluctuations in Outstanding Farm Mortgage Debt, 1910-39,"

published in the November 1939 issue of the Agricultural Finance Review. In this article the sources and methods used are described, in part, as follows:

"For the Census years 1930 and 1935 data are available for full-owner operators who reported to the Bureau of the Census the amount of their outstanding mortgage debt. To these figures have been added an estimated amount of mortgage debt to account for the remaining mortgaged full-owner operators who did not report their mortgage obligations. On the basis of sample data collected by the Department of Agriculture for Census years, estimates have been prepared showing the mortgage debt on farms operated by part owners, tenants, and hired managers. For the intercensal years the estimates are based on data showing the mortgages held by certain lender groups for which fairly complete annual data are available, and on data for mortgages filed and released each year in selected counties compiled in a nation-wide W. P. A. project. Since 1935, the annual estimates are based on the known mortgage holdings of the leading lending agencies and estimates of mortgages filed and released prepared by the Farm Credit Administration."

URBAN REAL-ESTATE MORTGAGE DEBT

Estimates of mortgage indebtedness outstanding on 1- to 4-family urban residential property are taken from reports prepared by the Federal Home Loan Bank Board. The following description of the sources and methods used appeared in the September 1940 issue of the Federal Home Loan Bank Review:

"The estimates of outstanding mortgage loans on nonfarm 1-4 family homes have been developed from comprehensive analyses of recent surveys of mortgages recorded throughout the country by type of mortgagee, used in conjunction with reported statistics and special studies. Chief sources of basic information are summarized below:

"Savings and loan associations: figures based on a compilation of the annual reports of Federal savings and loan associations to the Federal Home Loan Bank Board, and of the annual reports of state-chartered savings and loan associations to their supervisors and to the Federal Home Loan Bank Board.

"Insurance companies: estimates developed from study and summary of detailed reports received from a sample group of insurance companies holding more than 85 percent of life insurance company assets. These schedules provide a detailed breakdown of their mortgage loan portfolios.

"Mutual savings banks: basic figures are their total mortgage holdings reported by the Comptroller of the Currency. A special investigation by the Division of Research and Statistics made it possible to segregate these mortgage holdings into the farm and nonfarm elements and further to separate the nonfarm element into mortgages on homes and other-than-home property. This project covered mutual savings banks in the States of New York and Massachusetts, and involved institutions containing more than 50 percent of all mutual savings bank assets.

"Commercial banks: a study conducted at the end of 1934 by the Federal Housing Administration in conjunction with the Comptroller of the Currency, Federal Reserve Board, and Federal Deposit Insurance Corporation segregated mortgages on homes from other nonfarm real estate holdings of the reporting commercial banks. The relationships shown then have been applied to total mortgage holdings of the banks for earlier years. In recent reports the Comptroller of the Currency has provided a segregation of mortgage holdings by national banks. Adjustments have been made in the estimated data on the basis of the Comptroller's reports as well as the Federal Housing Administration reports indicating increased mortgage lending by commercial banks.

"Home Owners' Loan Corporation: figures reflect the actual balance of mortgage loans held and advances outstanding.

"Individuals and others: estimates for recent years developed on the basis of studies of mortgage recordings by types of mortgagee conducted by the Division of Research and Statistics. For earlier years the estimates have been prepared after reviewing many studies, bulletins, and researches of various Government and private agencies. Included in these sources are the Financial Survey of Urban Housing, the refinancing operations of the Home Owners' Loan Corporation by type of mortgagee, local surveys conducted by the National Association of Real Estate Boards, special surveys of the Federal Home Loan Banks, figures supplied by the New York State Mortgage Commission, sundry reports of the Mortgage Bankers' Association, and hearings of the Sabath Committee investigating real-estate bond holdings committees."

For the more recent years, comparatively complete statistics of certain types of outstanding loans by the principal lenders also have become available. These newly available figures cover the volume of loans secured by multifamily (five or more families) residential property and commercial real estate. For 1939 and 1940, figures compiled by the Comptroller of the Currency and by other regulatory agencies from statements of condition made by trust companies and commercial, mutual savings, and other banks break down nonfarm real-estate mortgage debts into those secured by 1- to 4-family residential property, multifamily residential property, and other nonfarm real estate. The term "other nonfarm real estate" has been defined in this study to consist essentially of commercial property.

Studies made of the annual reports of savings and loan associations and questionnaire surveys made of the nonfarm real-estate mortgage loans of life-insurance companies also have produced greatly improved estimates, especially for the more recent years, of mortgages outstanding on multifamily residential property and on commercial property.

Classification of mortgage indebtedness on multifamily residential property and on commercial property into that owed by corporations and that owed by individuals and unincorporated businesses was made on the basis of a study of some 9,000 balance sheets, submitted by corporations owning and operating either apartment houses or commercial real estate at the time of filing tax returns for 1937. Though this information falls far short of that necessary to make highly accurate apportionments for all years, it marks a beginning of useful primary data in this area. Less accurate methods were resorted to in making the apportionment for the other years covered. Indebtedness of corporations owning 1- to 4-family residential property was somewhat arbitrarily placed at 5 percent of the total of such debt outstanding.

BUSINESS AND COMMERCIAL DEBTS OF INDIVIDUALS

The short-term debts of individuals and noncorporate firms and associations are compiled from several primary sources. These estimates vary in quality depending upon the class of debt and the years covered. Estimates of debts owed by customers to security brokers for the years 1931-39 were taken from reports made by brokers to the Federal Reserve Board. They represent substantially complete figures taken from accounting records. In carrying this series back to include 1930 and 1929, brokers' loans for these years as reported by the Federal Reserve Board and by the New York Stock Exchange were of assistance. It is assumed that all loans by brokers to customers are made to individuals and other noncorporate borrowers.

Estimates of the volume of loans made by banks to individuals and to noncorporate firms and associations are difficult to make since banks do not report loans made to corporations and to noncorporate borrowers separately. The change, effected in 1938 in classification of bank loans as reported to the Comptroller of the Currency, the Federal Reserve Board, and the Federal Deposit Insurance Corporation increased the difficulty of classifying, on a comparable basis for all years, debts owed by individuals to banks. Prior to 1938, bank loans were grouped mainly according to the type of security pledged, while since 1938 they have been classified more nearly according to the purpose of the loan. However, it was possible, with little or no error, to allocate several types of loans either to the corporate or to the noncorporate group. Thus, short-term agricultural loans were classified as noncorporate since, with few exceptions, they are made to noncorporate borrowers. Loans to brokers and dealers in securities also were classified as noncorporate since businesses of such individuals generally are not incorporated. The fact that a few of the security dealers are incorporated and that there has been some slight tendency toward incorporation indicates some error in the allocation made but it is known to be small. Special studies of so-called "personal loans" by banks—a type of loan which has grown rapidly in popularity during the last years of the decade—permit a further quite accurate allocation to the noncorporate group. "Open-market paper bank loans" are treated as made exclusively to corporations.

Somewhat arbitrary methods were employed in apportioning "commercial and industrial" loans to corporate and to noncorporate borrowers. This class of loans was first broken down by Federal Reserve districts and then further divided into loans by banks located in central Reserve cities, Reserve cities, and country towns. Bankers, bank examiners, and officials of regulatory bodies were then asked to give judgments, based on their experience and observation, as to what proportion of the outstanding commercial and industrial loans was owed by

individuals. As long as statements of condition called for by bank regulatory bodies do not show corporate and noncorporate loans ~~separately, estimation of these categories will have to be made by indirect methods.~~

Data on short-term debts owed by farmers to lending units of the Farm Credit Administration were taken from reports issued by the Farm Credit Administration and the Bureau of Agricultural Economics. Short-term debts originated by purchases of goods and services on the installment plan are based on the Retail Credit Survey and other surveys of the Department of Commerce and on a study by Rolf Nugent, Russell Sage Foundation, entitled, "Consumer Credit and Economic Stability."

INTEREST PAYABLE

Interest payable, which is not to be confused with interest paid, is confined in this study to long-term and short-term public debt and to long-term private debt. For all debts of the United States Government the computed rate published by the Treasury Department as of the end of the calendar year is used in determining the amount of interest payable. This computed rate of interest and the amount of interest payable may differ from the average rate and the amount actually paid during the year since the outstandings at the end of the year may differ in amount and rate of interest from the average for the year. For present purposes, the computed rate and amount of interest payable appear to be the best measure of interest charges because they more nearly state the extent of interest obligations on amounts outstanding at the end of the year. A special study made by the Treasury Department for the Department of Commerce likewise places the interest payable by Federal corporations and agencies on a computed interest payable basis at the end of the calendar year.

The findings of an extensive study of the contract interest rates on State and local government securities outstanding in 1929 and 1930 provided the basis for estimating the rates of interest payable for these years and for computing the rates payable in subsequent years. For these later years, the rate payable is determined by adjusting the rate of the preceding year to allow for changes in the contract rates caused by the funding and retirement of issues and by the issuance of new securities with rates differing from those previously outstanding.

To determine the rate and amount of interest payable on gross private long-term debt, corporate long-term debt was divided into three classes—industrial, public utility, and railway—and noncorporate real-estate mortgage debt was divided into two classes—urban and farm.

In the former case, several thousand corporate issues were examined to arrive at an average weighted contract rate of interest payable for 1929. In fixing rates for succeeding years, the rate payable on outstandings for each year was adjusted to take into account the contract rate on retirements, refundings, and new issues made during such year.

It should be noted that here as elsewhere these calculations of the rate and amount of interest payable are made without reference to the solvency of the borrowers concerned, the contract rate on debts in default being included with that of the solvent outstandings. The growing practice of corporations in borrowing from banks on serial notes up to 10 years has made the task of determining the contract rate of interest payable more difficult because a description of the issues, together with the serial rates, is not always available.

Rates of interest payable on urban real-estate mortgages are based on sample studies of contracts held by principal lenders. Those payable on farm mortgages are based on studies made by the Bureau of Agricultural Economics.