## The Effect of War on

 Business Financing:Manufacturing and Trade, World War I<br>CHARLESH.SCHMIDT<br>and<br>RALPH A. YOUNG

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Manufacturing and Trade, World War I

CHARLES H. SCHMIDT and

OUR ECONOMYIN WAR Occasional Paper 10: November 1943

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## Preface

This paper is one of two studies of the effect of war on business financing being made by the Financial Research Program, which is supported by grants from the Association of Reserve City Bankers and private organizations. It deals primarily with World War I, but it includes a few general comparisons with current wartime tendencies. A companion paper will provide a detailed analysis of the effects of World War II.

This particular study was made possible by a special grant from the Carnegie Corporation. That Corporation, however, assumes no responsibility for its planning, form, or content, and is not to be understood as approving by virtue of its grant any of the statements made or views expressed therein.

A preliminary version of the study was circulated among accountants, bankers and economists. These readers offered many valuable suggestions, which have substantially improved the present version. Special acknowledgment is due to Elizabeth Todd and Isabel L. Davis, whose editing of the study added much to its clarity and effectiveness. The preparation of statistical data was under the supervision of Sophie Polah and Muriel Ratigan. The charts were drawn by Caroline Hirsch.

Charles H. Schmidt, co-author of the study, was a member of the teaching staff of the Wharton School of Finance and Commerce of the University of Pennsylvania, and a research associate of the National Bureau's Financial Research staff, until he entered the United States Army.

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# Data, Methods and Limitations of Study 

## RACTER OF THE SAMPLES

historical records of business financial transactions available for a ' of this type are far from complete, a fact that is particularly true e case of the medium and small corporations. Neither time nor the able resources permitted any extensive compilation of whatever rate financial statistics might be accessible from the records of indial business concerns. Consequently it was necessary to rely chiefly small samples of such data as were compiled by the Financial arch Program in connection with its Studies in Business Financt The characteristics of the individual samples - including their :es, industrial coverage and size, which must be known in order to pret correctly the significance of the financial developments which may reveal - are summarized briefly in the following paragraphs.

## bles of Large Manufacturing and Trade Corporations

samples, one covering the period 1914-22 and the other the period 39 , were chosen for the purpose of analyzing changes in the finantructure of large manufacturing and trade corporations. The war d sample (1914-22) was compiled especially for use in the present , while the interbellum period sample (1920-99) had been de,ed previously by Albert R. Koch. ${ }^{22}$ In so far as the available data it, the two samples consist of the same companies.
Vorld War I Samples. Our samples of large manufacturing and ade corporations (total assets of $\$ 5$ million and over), covering ie period 1914-22, include manufacturing concerns from 11 urable and non-durable goods industries, and trade concerns agaged in mass retailing of a chain, mail-order or department ore variety. The manufacturing group included 84 companies ir 1914, but as a result of corporate consolidation the number as reduced to 81 in 1922; the trade group consists of 8 companies or the entire period.

[^0]In 1920, these two groups of corporations represented about 10 percent of the total number, and their sales amounted to approximately onefifth of the total value of product, of all large manufacturing and trade concerns. Total assets of the manufacturing concerns amounted to about 25 percent of the total assets of all large manufacturing companies (practically all of which are incorporated); but the total assets of the 8 trade companies accounted for only 3 percent of the total assets of all large trade concerns, chiefly because most large trade concerns were not incorporated, or if they were, their stocks were closely held and hence their financial statements were not published.
Interbellum Samples. These samples include $8_{4}$ large manufacturing and 10 large trade corporations, and cover the period $1920-$ 39. Sales of the large manufacturing companies amounted to 26 percent of the value of product of all manufacturing companies in 1937, while the sales of the trade group were around 3 percent of the value of product of all trade concerns for that year. Total assets of the large manufacturing companies amounted to roughly jo percent of the total assets of all large manufacturing companies; total assets of the trade group were about 15 percent of those of all large trade concerns.

## Other Large Corporation Data

In addition to these sample data pertaining to large manufacturing and trade corporations, use was made of certain figures on inventory holdings compiled by George Terborgh of the Federal Reserve Board, and by Willard Thorp and Helen Russell of Dun \& Bradstreet, Inc.

Terborgh's figures pertain to inventory holdings of a varying number of manufacturing corporations, and were compiled from Moody's Manuals, 1916-29. ${ }^{73}$ These corporate balance sheet figures were classified by major and minor industry groups, and by size (the criterion of size being amount of inventory rather than the amount of total assets or sales of the corporation), and were weighted by Kuznets' estimates of inventory values at the end of $1929 .{ }^{74}$ Those differences which occur between our figures and Terborgh's with regard to the over-all growth in dollar volume of inventory holdings are attributable in part to Terborgh's inclusion of the smaller companies, and in part to the weighting he employed in combining the separate industry figures.

The inventory figures of Thorp and Russell are for an identical sam-

[^1]ple of 106 manufacturing corporations in 15 industry groups, and 5 mass distributors, and cover the period 1919-22. ${ }^{55}$ The dollar figures for each industry group were combined into a total for manufacturing industry, the weights employed for this purpose being determined on the basis of the inventory holdings of different industry groups, as given in the 1997 Census of Manufactures, with allowance for varying rates of industry growth. The results of Thorp and Russell's calculations agree closely with ours, in spite of the fact that we did not weight our inventory figures in proportion to the relative importance of the various industry groups included in our samples.

## Samples of Medium and Small Manufacturing and Trade Corporations

Measured by the same criteria - number of companies, total assets, and sales - the three samples of financial statement data of medium and small manufacturing and trade corporations (total assets $\$ 50$ thousand to $\$ 5$ million) are very small indeed. Altogether, four separate samples of such corporations have been employed in the study.

Wisconsin Samples. Corporations domiciled in Wisconsin were selected from the files of the Wisconsin State Tax Commission, and data were transcribed from their income tax returns.

Wisconsin Identical. This sample includes 73 manufacturing corporations in 8 industries, and $\mathbf{z o}$ identical trade corporations in 2 retail and 1 wholesale lines, and covers the period $1916-39$ inclusive. The fact that all are companies which survived, for a period of at least 25 years, the numerous vicissitudes to which small business concerns are subject, imparts an element of bias to their behavior patterns. It is this sample of 103 companies that is referred to in the text and charts as "the Wisconsin sample."
Wisconsin Non-Identical. This is a supplementary sample of medium and small manufacturing and trade concerns, likewise drawn from the files of the Wisconsin State Tax Commission. The number of companies included varies with the particular year, but ranges from 72 to 94 corporations in 7 manufacturing industries, and from 29 to 45 companies in 3 trade lines -2 retail and 1 wholesale. The years for which this supplementary sample provides data are 1916, 1918, 1920 and 1921.
Massachusetts Samples. Because of the fact that the breakdown of 75 See Thorp and Russell, op. cit, especially p. 22.
certain asset and liability items as reported in the Wisconsin state income tax returns is not sufficiently detailed for the purposes of our analysis, and in order to have some check on the financial developments that characterized the Wisconsin companies, occasional use was made of data obtained from the certificates of condition which corporations are required to file with the Massachusetts Corporation Commission. Two samples were obtained from this source, each with a different composition, as follows:

Massachusetts Non-Identical, consisting of approximately 390 medium, small and very small corporations (non-identical in all years), and covering the years 1916, 1918, 1920 and 1921; around 230 of these companies were from 10 manufacturing industries, and about 160 were from 2 trade lines -44 to 107 in retail and 94 to 55 in wholesale trade. Massachusetts Identical, consisting of 56 identical companies, of which 99 were in manufacturing and 17 in trade, for the years 1914 through 1922.
In the country as a whole there were, in 1920, roughly 73,000 manufacturing and trade corporations with an asset size of $\$ 50$ thousand to $\$ 5$ million, their combined total assets amounting to some $\$ 24$ billion. Therefore our samples of medium and small concerns constitute a very small part of the total number of such corporations, and in this sense are not representative of the whole group. When measured by the criterion of behavior, however, they do seem to typify their size class, for all of the evidence coming to our attention indicates that the wartime financial behavior of medium and small corporations contrasted strikingly with that of large corporations.

The use of samples of medium and small companies drawn from two states as widely separated as Wisconsin and Massachusetts may be questioned. But a number of tests of corporate financial data pertaining to different periods disclose that geographical differences are far less important in determining the pattern of corporate financial structure, as reflected by samples, than are the size of concern and its industrial classification. Comparison of changes in specific items as between geographically different samples of comparable size composition reveals some inconsistencies in behavior; but these are primarily attributable to differences in industrial composition, and only in a few instances does the influence of regional economic variation seem to be significant.

## GENERAL LIMITATIONS OF THE DATA

Any analysis based on historical financial records is subject to certain general limitations, as well as to those arising from the particular sam-
ples used. A financial statement represents an individual businessman's appraisal of the current financial condition of his company, and his estimates may or may not be realistic. Also, there are differences in accounting standards from one company to another, and from one period to another; it is known that these standards vary widely today, and the variation was probably even greater during the period of World War I, but there is no way of appraising the differences accurately from the available records. Moreover, individual concerns change their accounting practices from time to time, and such changes influence balance sheet amounts and categories indeterminately. Finally, data assembled from tax file sources (as were those for the Massachusetts and Wisconsin medium and small corporation samples) are necessarily influenced by the way in which the laws require reports to be submitted.

In order to give perspective to changes in business financial structure during the World War I period, 1914-21, we have compared the record of these years with that of expansion and contraction periods of the interbellum years 1922-39. As we had only annual data at our disposal we were obliged to define our expansion and contraction periods in terms of years; the years selected for inclusion in particular periods do not always agree with the reference cycle chronology of the National Bureau, as corporate financial data differ somewhat in behavior from the time series customarily used in business cycle analysis. Annual balance sheet data of individual corporations may show an expansion of financial structure in years when general business activity is undergoing mild contraction, and vice versa. Therefore expansion years were defined as those in which more than half of the companies in our samples reported an increase in the dollar volume of sales, in dollar volume of inventory, in total assets, and in net profits from operations. It was on this basis that 1915-18, 1919-20, 1922-29 (exclusive of 1924 and 1927) and 1939-97 were established as years of financial expansion, and 1921, $1930-32$ and 1938 as periods of contraction.
To a certain extent the years 1913 through 1920 constituted one continuous period of inflationary finance. We divided this period into two parts, however, first because we were interested in the differences between the financial responses of enterprise in the years of the war itself and in the years immediately after; and second, because the period was actually interrupted by a contraction in industrial activity, beginning in the late fall of 1918 and extending to the late spring of 1919 , although the recession was too mild to be visible in the annual financial statements of either year. The periods 1915-18 and 1919-20 are therefore considered in our tables as two World War I expansion periods, while 1922-29 and 1939-37 are regarded as peacetime expansion periods. Fig-
ures for the years 1924 and 1927 were excluded from the period 1922-29 because annual financial statements for these years do not reflect the general expansion tendencies of the period as a whole.

The wartime inflation period culminated in a financial crisis that began in 1920, but since it was not reflected in annual financial statements until 1921 the latter was designated as the year of wartime contraction; liquidations of $1930-32$ and $198^{8}$ are called peacetime contractions.

## METHODOLOGY

## Use of Aggregate Financial Statements

Since we are primarily concerned with changes in business financial structure for the entire economy, rather than with individual company behavior, we analyzed our data in the form of aggregate financial statements of groups of companies. ${ }^{76}$ The approach has limitations, because it does not take account of differences in the financial structure of individual enterprises. Such differences reflect any one or more of a number of factors: the technical character of the industry in which an enterprise is engaged (conditions which greatly affect the type and composition of business assets); variations in business organization from one industry to another - for example, the presence of special agencies that help to provide materials, financing and distribution for the product; size of enterprise, which exerts a considerable influence on the composition of assets and of liabilities; policy factors, both financial and technological, of individual concerns; differences occurring between incorporated and unincorporated concerns; and, by no means least important, profitability of operations. Furthermore, many of these differences in financial structure are unstable; they change with temporary swings in business activity, and shift with structural changes in the economic system.

While there is still a great deal to be learned about differences among the financial structures of individual enterprises, it has not been possible

76 Our aggregates are unweighted, that is, no systematic weighting adjustment was made for the relative importance of the industries represented in the samples. Counts of changes in selected financial statement items revealed that there was a substantial degree of conformity in financial behavior among the different industries represented, and among the individual corporations constituting the size groups. Consequently little additional information concerning the general pattern of change in financial structure could be gained by systematic weighting. In addition, weighting would not have solved the problem of year-to-year changes in the relative importance of the industry groups covered, unless the weights were adjusted annually. One feature of the transition from a peace to a war economy and back is a change in the character of industrial activity; war supply industries become more important than industries engaged primarily in civilian supply, and vice versa.
to deal intensively with them in this paper. We distinguish between the aggregate behavior of manufacturing corporations and of trade corporations, and between the behavior of two size groups - large corporations (over $\$ 5$ million total assets) and medium and small corporations (\$50 thousand to $\$ 5$ million total assets).

A finer industry or size grouping - for example, subdivision of manufacturing corporations into those producing durable and those producing non-durable goods - would have made the study more useful. But such a subdivision was deemed feasible in only a few phases of the analysis, partly because of the small size of our samples. Other studies of business financial structure for the years $1900-40$, developed by the National Bureau's Financial Research Program, support the view that the broad classification herein employed yields significant results.

## Problem of Comparability of Financial Statements

Published corporate financial data of the period of World War I suffer from lack of completeness, and this complicates the problem of obtaining comparable balance sheets and income statements for the period 1914-22 as a whole. To use only those companies whose statements were complete in every respect throughout the period would have resulted in samples substantially smaller than those employed; in some cases the representation of an industry would have been reduced to one or two concerns. It was therefore necessary to estimate the breakdown of consolidated items of a few companies in each year, and for missing years to interpolate statements from those available. The number of missing statements was greatest in $1914{ }^{-15}$ for the large companies, and in 1916-17 for the smaller companies.

A somewhat different problem was encountered in the analysis of changes in balance sheet accounts occasioned by inflows and outflows of funds. As these changes are presented in the form of percentages of total assets there is no need for an identical sample of companies throughout the period: both the numerator and the denominator of the fraction vary proportionately as the number of companies changes. What is essential is that the aggregate balance sheets for any two consecutive years be strictly comparable, so that the first differences in the accounts shall represent changes in actual amount rather than changes in the number of companies involved. In order to assure this desired condition, forward- and backward-comparable balance sheets were employed; thus for a given year, B, two balance sheets were prepared, one comparable with the preceding year, A, and the other with the following year, $\mathbf{C}$. In computing flows of funds in relation to total assets as a base, the source or use of funds for the year B was then divided by the
total assets of the same companies at the end of year $A$; and so on for each year of the series.

## Source and Use of Funds Relatives

In discussing changes in balance sheet accounts brought about by actual inflows or outflows of funds, as distinguished from changes that are merely the result of accounting transfers and revaluations, we have followed the practice of presenting the figures as percentages rather than as absolute amounts. These percentages, prepared for industry-size sample groups, take the form of averages, and are computed by dividing the net flow of funds into or out of a particular account during a given period by the total of all assets on hand at the beginning of each year included in the period. The reasons for adopting the relative in preference to the absolute form are three. In the first place, there was a marked secular growth of manufacturing and trade assets over the period of the '203, which made for larger absolute flows of funds during the latter years in comparison with those of the World War I period; therefore in order to judge correctly the importance of wartime changes in financial structure it was necessary to relate the different sources and uses of funds to the total resources of business concerns. In the second place, the absence of uniformity in the coverage of the large corporation samples, 1915-21 and 1922-97, limits the comparability of absolute dollar amounts. In the third place, with such extreme differences in size of the companies represented in our large and in our medium and small corporation samples, proper perspective on the relative behavior of the two groups can be obtained only by reducing the dollar magnitudes involved to some common denominator, preferably one having a functional relationship to the forces studied.

# Aggregate Balance Sheet and Income Statement Data, Samples of Large and of Medium and Small Manufacturing and Trade Corporations, 1914-22 

following tables present adjusted balance sheet and income state$t$ figures for the identical samples of large corporations (total assets ; million and over), 1914-22, and for the identical samples of me1 and small companies '(total assets, $\$ 50$ thousand to $\$ 5$ million), -22 , which form the basis of this study. Sources and uses of funds is are not, however, presented here.
each of the years 1914-18 for each sample, certain of the companies not in existence and balance sheets for others were not available. number of such companies is small in any one year, however. In $r$ to obtain comparable balance sheet figures over the period 1914-22 whole, it was necessary to inflate the figures in the early years, on assumption that the increase in total assets of the missing corporai was proportionate to the increase of total assets of the aggregate of orations for which information was available. Net income and cash lends were not inflated in any of the tables. וmplete source data for this and other Studies in Business Financing collected in a separate volume: National Bureau of Economic Reh (Financial Research Program), Data for Studies in Business ncing, 1900-42 (ms. 1943).
table 11-81 Large Manufacturing Corporations,
Composite Balance Sheet and Income Statement Items, 1914-22 ${ }^{\text {a }}$ (in millions)

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| Item | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cash | \$ 245.8 | \$ 331.5 | \$ 471.2 | \$ 583.4 | \$ 609.2 | $\uparrow 602.7$ | \$543.7 | \$ 427.6 | \$ 549.9 |
| Marketable securities | 30.0 | 99.7 | 190.4 | 446.9 | 608.5 | 530.9 | 369.2 | 431.8 | 414.2 |
| Receivables | 483.7 | 608.8 | 709.7 | 911.3 | 1,123.4 | 1,119.8 | 1,266.4 | 988.2 | 930.3 |
| Inventory | 804.1 | 894.5 | 1,227.1 | 1,732.1 | 2,159.2 | 2.243 .8 | 2,466.5 | 1,838.8 | 1,770.7 |
| Total current assets | 1,563.6 | 1,934.5 | 2,598.4 | 3,673.7 | 4,500.3 | 4,497.2 | 4,645.8 | 3,786.4 | 3,665.1 |
| Investments and advances | 264.3 | 308.8 | 313.6 | 429.4 | 470.5 | 566.5 | 651.7 | 775.7 | 827.8 |
| Fixed property (net) | 3,206.9 | 3,502.3 | 3,461.6 | 3,696.1 | 3,866.3 | 4,136.2 | 4.652 .5 | 4,874.9 | 4,689.5 |
| Other assets | 371.5 | 418.4 | 432.9 | 461.5 | 503.3 | 493.4 | 513.5 | 478.3 | 489.5 |
| Total Assets | 5,406.3 | 5,964.0 | 6,806.5 | 8,260.7 | 9,340.4 | 9,693.3 | 10,463.5 | 9,915.3 | 9,671.9 |
| Notes payable | 207.9 | 203.4 | 250.6 | 425.2 | 515.7 | 638.0 | 789.4 | 476.3 | 247.5 |
| Accounts payable | 130.9 | 256.6 | 282.5 | 427.0 | 508.7 | 489.9 | 465.0 | 263.3 | 336.4 |
| Other current liabilities | 57.7 | 71.5 | 130.9 | 489.5 | 712.5 | 332.0 | 301.7 | 208.5 | 206.1 |
| Total current liabilities | 396.5 | 531.5 | 664.0 | 1,341.7 | 1,736.9 | 1,459.9 | 1,556.1 | 948.1 | 790.0 |
| Long-term debt | $1,057.7$ | 1,038.1 | 1,075.8 | 1,122.9 | 1221.1 | 1,204.0 | 1,286.2 | 1,470.6 | 1,435.4 |
| Other liabilities | 23.2 | 123.4 | 69.0 | 83.0 | 79.9 | 88.4 | 47.2 | 63.0 | 41.3 |
| Capital reserves | 79.0 | 127.7 | 151.2 | 239.4 | 370.6 | 440.7 | 474.1 | 439.1 | 401.9 |
| Preferred stock | 1,095.5 | 1,158.4 | 1,182.3 | 1,246.0 | 1,298.4 | 1,404.2 | 1,453.6 | 1,450.1 | 1,547.4 |
| Common stock | 1,919.5 | 1,970.8 | 2,124.2 | 2,956.0 | 2,472.9 | 2,610.5 | 2,959.6 | 3,038.0 | 3,440.3 |
| Surplus | 834.9 | 1,014.1 | 1,540.0 | 1,871.7 | 2,160.6 | 2,485.6 | 2,686.7 | 2,516.4 | 2,015.6 |
| Sales ${ }^{\text {b }}$ | 3,098.3 | 3,779.4 | 5,877.8 | 7,677.2 | 9,629.3 | 9,606.8 | 10,032.1 | 671.8 | 689.0 |
| Net incomec | 190.5 | 381.5 | 914.5 | 875.2 | 627.4 | 610.6 | 587.7 | 139.4 | 493.6 |
| Cash dividendsd | 154.2 | 172.6 | 303.7 | 357.4 | 322.5 | 297.2 | 311.4 | 314.5 | 3102 |
| Annual rate of depreciatione | -. | 2.6\% | 4.0\% | 43\% | 5.3\% | 4.2\% | $4.2 \%$ | 3.9\% | $4.1 \%$ |

e In 1914 balance sheets for 8 corporations and 2 subsidiaries were not available, in 1915 for 2 corporations and 1 subsidiary and in 1916 and 1917 for 1 subsidiary. Inflated, as described in Appendix B, p. 91.
b Estimated for missing corporations, using ratio of sales to total assets of corporations for which data were available.
c Data not available for 11 companies in 1914 and 6 companies in 1915, 1 in 1916, 1 in 1920, and 1 in 1921.
d Data not available for 4 companies in 1914, 2 in 1915 and 1 in 1916.
e Annual rate of depreciation obtained by dividing depreciation charge of companies reporting depreciation by the net fixed property of the preceding year end.

## ERRATA

Table 11 . . Cash, 1921 - \$ 527.6
Sales, 1921 - 6,717.7
$1922-6,830.5$
table 12-8 Large Trade Corporations,
Composite Balance Sheet and Income Statement Items, 1914-22 (in millions)

a In 1914 data for one corporation were not available. Inflated, as described in Appendix B, p. 91.
b Zero or less than $\$ 50,000$.
c Estimated for missing corporations using ratio of sales to total assets of corporation for which data were available.
d Annual rate of depreciation obtained by dividing depreciation charge of companies reporting depreciation by the net property assets of the preceding year end.

Table 13-73 Medium and Small Manufacturing Corporations, Composite Balance Sheet and Income Statement Items, 1916-22 *
if (in thousands)

| Item | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cash | \$ 864 | \$ 602 | \$1,101 | \$1,126 | \$1,728 | \$1,206 | \$1,460 |
| Receivables | 4,349 | 4,207 | 4,145 | 5,620 | 6,230 | 4.579 | 5,801 |
| Inventory | 4,244 | 6,855 | 7,159 | 6,919 | 9,190 | 8,847 | 7,750 |
| Total current assets | 9,457 | 11,664 | 12,405 | 13,665 | 17,148 | 14,632 | 15,011 |
| Investments | 712 | 1,416 | 2.516 | 3,172 | 4,793 | 3,773 | 3,881 |
| Fixed property (net) | 10,960 | 12,194 | 12,848 | 12,968 | 17.150 | 18,878 | 18,974 |
| Other assets | 284 | 137 | 156 | 300 | 497 | 323 | 342 |
| Total Assetsb | 21,413 | 25,411 | 27,925 | 30,105 | 39,588 | 37,606 | 38,208 |
| Notes and accounts payable | 2,067 | 3,665 | 3,355 | 3,988 | 4,952 | 5,534 | 4,046 |
| Other current liabilities | 152 | 914 | 1,210 | 800 | 1,347 | 846 | 737 |
| Total current liabilities | 2,219 | 4,579 | 4,565 | 4,788 | 6,299 | 6,380 | 4,783 |
| Long-term debt | 1,623 | 1,290 | 1,172 | 1,238 | 1,743 | 1.616 | 2820 |
| Other liabilities | 220 | 272 | 295 | 178 | 162 | 1,353 | 807 |
| Net worthb | 17,351 | 19,270 | 21,893 | 23,901 | 31,384 | 28,257 | 29,798 |
| Sales | 22,103 | 26,053 | 31,270 | 35,288 | 49,156 | 28,883 | 33,497 |
| Depreciationc | 814 | 823 | 805 | 863 | 1,041 | 1,101 | 1,178 |
| Net incomed | 3,922 | 3,467 | 3,165 | 3,621 | 6,460 | -1,258 | 385 |
| Cash dividendsd | 1,083 | 1,625 | 1,424 | 1,358 | 1,494 | 1,011 | 1,541 |

[^2]Table 14-30 Medium and Small Trade Corporations,
Composite Balance Sheet and Income Statement Items, 1916-22 a
(in thousands)

a In 1916 balance sheets were not available for 8 corporations; in 1917 and in 1918 for 1 corporation. Inflated, as described in Appendix B,
p. Exclusive of intangibles.
c Between zero and $\$ 500$.
d Estimated, using ratio of depreciation to fixed assets for companies reporting depreciation.
e Data not available for 5 companies in 1916, 2 in 1917 and 1 in 1918.
f Data not available for 6 companies in 1916, 2 in 1917 and 1 in 1918.

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1. The object of the National Bureau of Economic Research is to ascertain and to present to the public important economic facts and their interpretation in a scientific and impartial manner. The Board of Directors is charged with the responsibility of ensuring that the work of the Bureau is carried on in strict conformity with this object.
2. To this end the Board of Directors shall appoint one or more Directors of Research.
3. The Director or Directors of Research shall submit to the members of the Board, or to its Executive Committee, for their formal adoption, all specific proposals concerning researches to be instituted.
4. No report shall be published until the Director or Directors of Research shall have submitted to the Board a summary drawing attention to the character of the data and their utilization in the report, the nature and treatment of the problems involved, the main conclusions and such other information as in their opinion would serve to determine the suitability of the report for publication in accordance with the principles of the Bureau.
5. A copy of any manuscript proposed for publication shall also be submitted to each member of the Board. For each manuscript to be so submitted a special committee shall be appointed by the President, or at his designation by the Executive Director, consisting of three Directors selected as nearly as may be one from each general division of the Board. The names of the special manuscript committee shall be stated to each Director when the summary and report described in paragraph (4) are sent him. It shall be the duty of each member of the committee to read the manuscript. If each member of the special committee signifies his approval within thirty days, the manuscript may be published. If each member of the special committee has not signified his approval within thirty days of the transmittal of the report and manuscript, the Director of Research shall then notify each member of the Board, requesting approval or disapproval of publication, and thirty additional days shall be granted for this purpose. The manuscript shall then not be published unless at least a majority of the entire Board and a two-thirds majority of those members of the Board who shall have voted on the proposal within the time fixed for the receipt of votes on the publication proposed shall have approved.
6. No manuscript may be published, though approved by each member of the special committee, until forty-five days have elapsed from the transmittal of the summary and report. The interval is allowed for the receipt of any memorandum of dissent or reservation, together with a brief statement of his reasons, that any member may wish to express; and such memorandum of dissent or reservation shall be published with the manuscript if he so desires. Publication does not, however, imply that each member of the Board has read the manuscript, or that either members of the Board in general, or of the special committee, have passed upon its validity in every detail.
7. A copy of this resolution shall, unless otherwise determined by the Board, be printed in each copy of every National Bureau book.
(Resolution adopted October 25, 1926,
and revised February 6, 1933, and February 24, 1941)

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In the conduct of this and other studies under its program of research in finance the National Bureau of Economic Research has benefited from the advice and guidance of its Committee on Research in Finance. The functions of this committee are to review and supervise the specific research plans of the staff of the Financial Research Program.

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Donald Woodward $\rightarrow$ Research Assistant to the President, Mutual Life Insurance Company of New York


[^0]:    : data for all samples used in this and other studies of business financing tens under the National Bureau's Financial Research Program are collected in a : volume, Data for Studies in Business Financing, 1900-42 (ms. 1943).
    ert R. Koch, The Financing of Large Corporations, 1920-39, National Bureau of mic Research, Financial Research Program (1943).

[^1]:    73 See Terborgh, op. cit., especially p. 617.
    74 Simon Kuznets, Commodity Flow and Capital Formation (National Bureau of Economic Research, 1938) 1, p. 412.

[^2]:    a In 1916 and 1917 balance sheets were not available for 6 and 2 corporations respectively. Inflated, as described in Appendix B, p. 91.
    b Exclusive of intangibles.
    c Estimated, using ratio of depreciation to fixed assets for companies reporting depreciation.
    d Data not available for 5 corporations in 1916 and for 1 corporation in 1917 and 1918.

