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I INTRODUCTION

THIS study is based upon the income-sheet and balance-sheet statistics of some 700 corporations for the three years 1927, 1928 and 1929. The original data were compiled for the National Bureau of Economic Research by members of the American Institute of Accountants, from their files, upon the official request of the Institute.[1] The reports were drawn from all parts of the country and represent clients of many accounting firms. The instructions given to the cooperating firms called particular attention to the importance of furnishing a representative sample from their files, including unsuccessful as well as successful enterprises, and it is believed that these instructions have been substantially adhered to.

Although the period covered is short, and relatively prosperous, and the number of reports received small, the material was deemed of sufficient importance to deserve tabulation and analysis, particularly for two reasons. In the first place the reports represented for the most part that group of relatively small yet substantial corporations which plays an

[1] See Appendix A for copy of communication submitted by the Institute to its members and for form of data sheet used.

The procedure followed in the preparation and submission of the material was such as to ensure that there be no violation of professional confidence. Neither names of companies nor of accountants reporting the information were given on the data sheets, and arrangements were made by which the initial work of tabulation was done in the offices of the Institute at 135 Cedar Street, New York City. This made it possible to retain the original sheets in the files of the Institute at all times.

important rôle in American business but is ordinarily neglected or inadequately represented in studies of corporate income and finance. In the second place the reports furnished were in a more satisfactory and complete form than those usually available, and hence might be expected to yield, within the limits imposed by the size of the sample, unusually reliable results. Moreover, it was hoped that an analysis of these reports might serve as a forerunner of a later more extensive study, or perhaps ultimately of a regular periodic report, through the same channels.

CHARACTER OF SAMPLE[2]

In number the 714 corporations covered represent but a small percentage of the 280,000 industrial and trading corporations reporting to the Treasury Department in 1928, and their assets constitute only 1.5 per cent of the assets of the corporations reporting in that year. Moreover, certain industries are represented more fully than others, as is apparent from the following figures. Since banks, insurance companies, and other large financial organizations were deliberately excluded from the sample, only a small portion of the field of real estate and finance was covered. In the second part of the tabulation, therefore, the comparison is made without this group.

The size of the corporations in the sample is indicated by their average net assets of $2,244,000. Average net assets of all corporations reporting in the United States in 1928 (excluding the public utilities, which are not represented in the present sample) were $643,000. But while the average size of the companies in the sample is larger than the average of all corporations (this is true also of all the major groups

[2] The material under this heading was prepared by Mr. Fabricant.

except real estate and finance) no very large corporations are included.

A complete examination of the representativeness of the corporations in the sample would require further comparisons

DISTRIBUTION OF ALL CORPORATIONS AND SAMPLE CORPORATIONS AMONG INDUSTRIAL GROUPS BY NUMBER AND TOTAL NET ASSETS

CODE NO.	INDUSTRIAL GROUP	PERCENTAGE DISTRIBUTION OF NUMBER OF CORPORATIONS AMONG INDUSTRIES		PERCENTAGE DISTRIBUTION OF TOTAL NET ASSETS[2] OF CORPORATIONS AMONG INDUSTRIES	
		ALL CORPORATIONS[1]	SAMPLE	ALL CORPORATIONS[1]	SAMPLE
Including real estate and finance					
A	Extraction	4.8	5.2	5.5	8.0
B	Construction	4.2	3.2	1.1	0.4
C	Manufacturing	23.2	49.0	28.5	53.2
D	Trading	31.1	31.2	9.1	28.5
E	Service	7.2	8.0	2.5	8.8
F	Real estate and finance	29.5	3.4	53.3	1.1
	Total (6 groups)	100.0	100.0	100.0	100.0
Excluding real estate and finance					
A	Extraction	6.8	5.4	11.8	8.1
B	Construction	6.0	3.3	2.4	0.4
C	Manufacturing	32.9	50.7	61.0	53.8
D	Trading	44.1	32.3	19.5	28.8
E	Service	10.2	8.3	5.3	8.9
	Total (5 groups)	100.0	100.0	100.0	100.0

[1] *Statistics of Income for 1928.*

[2] Total book assets less recorded depreciation and other offsetting figures.

of geographic areas covered, a closer determination of whether unprofitable as well as profitable corporations are adequately represented, and an examination of the ages of the corporations included in comparison with those derived from other sources of information. The sample is of course biased to the degree—if any—that concerns which rely upon the services of public accountants are not fairly representative of American business corporations as a whole. For the present purpose it is sufficient to have noted that the sample consists mainly of the small (yet not the very smallest) and the medium-size corporations doing business in the United States, and is restricted to certain industries and to the three-year period 1927-29.

One reason for restricting ourselves to samples when financial data for all American corporations are collected and published by the Treasury Department is that in the income tax statistics totals only are given; *typical* figures, therefore, cannot be obtained from them. Nor is it possible to determine the differences in, and the relationships among, various financial and operating characteristics and ratios from the compilations of the Bureau of Internal Revenue. In addition, sample data, as in this study, can be had in more detail, and by finer industrial divisions, than the Treasury Department figures.

The materials of the present sample differ, also, from statistics collected by Professor Epstein and already analyzed by the National Bureau of Economic Research.[3] The corporations included are drawn from a different group of corporations, and the average size is smaller. More important, the data available here were in much more detailed form, making possible the computation of various ratios and some analysis of the financial and operating figures of the corporations included.

A further identification of the sample used here is afforded by the following comparison. (All the groups shown include corporations reporting losses as well as those making profits.)

[3] R. C. Epstein, *Industrial Profits in the United States* (National Bureau of Economic Research, 1934).

AVERAGE RATE OF EARNINGS ON STOCKHOLDERS' EQUITY[1]

	MANUFACTURING	TRADING
Small and medium-size corporations, 1927-29 (the present sample[2])	9.6	7.9
Medium-size and large corporations, 1927-28 (R. C. Epstein[3])	10.2	12.7
All corporations, 1927-29 (Treasury Department[4])	7.4	5.6

[1] The ratios are the weighted arithmetic average earning rates on total stockholders' capital and surplus invested in the several industries. As such they may not be typical of the earnings of individual companies in these industrial groups. (It is for this reason that detailed figures by companies are essential. Ratios derived from aggregates may hide more than they reveal.)

[2] 341 manufacturing corporations, 220 trading corporations (see Table II).

[3] 2,046 manufacturing corporations, 664 trading corporations (*Industrial Profits in the United States*). Data for 1929 are not available.

[4] Computed from data for about 90,000 manufacturing corporations and 125,000 trading corporations published in *Statistics of Income*, 1927-29.

The differences shown are no doubt due in part to variation in the size of corporations included in the several samples. But probably these differences arise chiefly from unequal representation of the various industrial groups included. (Size of company is, of course, related to kind of industry.) It is interesting to note the depressing effect on the average rate of return when the host of very small companies is included.

CLASSIFICATION OF COMPANIES

The reports received from the cooperating members of the Institute are largely from the industrial and trading fields, as was requested, although a considerable number of companies in other lines are represented. For purposes of tabulation and analysis a classification of reports has been adopted that recognizes four minor groups (extraction, construction, real estate and finance, service) in addition to the two major fields of manufacturing and trading. The classification used, together with a measure of the average size of company in each main group, is given below.

CODE NO.	GROUP	NUMBER OF COMPANIES TOTAL	BY SUB-GROUPS	AVERAGE SIZE
A	*Extraction*	37		$3,450,385
A- 1	Logging		8	
A- 2	Oil and gas extraction		10	
A- 3	Mining and quarrying		15	
A- 4	Miscellaneous extraction [1]		4	
B	*Construction*	23		306,692
B- 1	General building contracting		9	
B- 2	Special contracting		14	
C	*Manufacturing*	350		2,436,498
C- 1	Milling		6	
C- 2	Ice cream and other dairy products		13	
C- 3	Meat products		6	
C- 4	Fruit and vegetable canning		6	
C- 5	Miscellaneous food products		23	
C- 6	Cotton goods		17	
C- 7	Silks and woolens		14	
C- 8	Carpets, rugs, and other textiles		8	
C- 9	Clothing and dry goods		19	
C-10	Tanning		8	
C-11	Shoes		14	
C-12	Lumber		13	
C-13	Boxes and barrels		8	
C-14	Miscellaneous wood products		14	
C-15	Furniture, pianos, radios		11	
C-16	Paper boxes		7	
C-17	Paper		11	
C-18	Drugs and chemicals		20	
C-19	Cement and ceramic products		17	
C-20	Heavy forgings, bars, billets, sheets, castings, etc.		23	
C-21	Electrical machinery		8	
C-22	Agricultural, construction and mining machinery		10	

CODE NO.	GROUP	NUMBER OF COMPANIES TOTAL	NUMBER OF COMPANIES BY SUB-GROUPS	AVERAGE SIZE
C	*Manufacturing (cont.)*			
C-23	Stoves and other heating apparatus		9	
C-24	Miscellaneous machinery and equipment		17	
C-25	Hardware		12	
C-26	Miscellaneous iron and steel specialties		19	
C-27	Unclassified		17	
D	*Trading*	226		$2,051,417
D- 1	Automobile sales and service; gas and oil—wholesale and retail		12	
D- 2	Men's and women's clothing—retail		12	
D- 3	Cotton and wool merchants		7	
D- 4	Department stores		20	
D- 5	Dry goods—wholesale		10	
D- 6	Fuel, lumber, and building materials—retail		15	
D- 7	Fuel, lumber, and building materials—wholesale		17	
D- 8	Fruit, vegetables, dairy products, grain, etc.		12	
D- 9	Furniture—retail		21	
D-10	Groceries—wholesale		11	
D-11	Hardware—wholesale and retail		15	
D-12	Jewelry—wholesale and retail		7	
D-13	Paper and leather products—wholesale		8	
D-14	Auto supplies, electrical equipment, radios, sporting goods—wholesale and retail		17	
D-15	Unclassified [2]		42	
E	*Real estate and finance*	24		745,196
E- 1	Real estate operators		20	
E- 2	Finance companies		4	

CODE NO.	GROUP	NUMBER OF COMPANIES TOTAL	BY SUB-GROUPS	AVERAGE SIZE
F	*Service*	57		$2,475,230
F- 1	Advertising		6	
F- 2	Laundry and dry cleaning		11	
F- 3	Printing, publishing, lithographing, engraving, etc.		23	
F- 4	Miscellaneous, including hotels, restaurants, warehouses, etc.		17	
	All fields	714		$2,243,863

[1] Two rose growers, a cattle ranch, and a specialized farming and dredging enterprise.

[2] Includes four retail furriers, four wholesale drug dealers, three retail music stores, two retail shoe dealers, and one example each of twenty-nine other highly specialized lines.

The average size is in terms of net book assets (total book assets less accrued depreciation and other valuation reserves), and was determined by dividing the grand total of the net book assets for every company in the group for each date reported by the total number of instances in the group. In such a calculation, it is evident, a company whose report was available for only two years would contribute but two figures to the group total.

It will be noted that an effort has been made to preserve the integrity of specialized subsidiary groups as far as feasible, and that no stress is placed on intermediate groupings. However, to facilitate comparison in the manufacturing division some care has been taken to place related subgroups in juxtaposition. Printing, publishing, etc., listed here under service, might, and perhaps more properly, have been placed under manufacturing.

TECHNICAL LIMITATIONS AND QUALIFICATIONS

The great majority of reports received were completely and accurately filled out, as was to be expected. In a few, balance-sheet data only were given; these have been used in calculations requiring balance-sheet figures alone. In a few, the income figures reported could not be made to check; these were eliminated as far as income calculations were concerned. A few balance-sheet reports have not been used for the same reason. The omission of these incomplete reports accounts for discrepancies between the number of companies used in calculating balance-sheet ratios and the number used in determining certain income-sheet ratios. In several reports the figures given for 'net balance available for dividends' were accepted since they were in harmony with the respective surplus accounts, although the inconsistency of the other figures composing the income sheet made it unwise to use them in other income calculations. This explains the difference in number of companies represented in Tables I and II.

Several reports did not give data for all three years. In particular a considerable number gave no 1927 figures. If otherwise complete, the data on these reports have been used for the years available, allowance being made for the missing years in taking averages and in other similar calculations.

Since book values are used throughout, the calculations made are subject to the limitations inherent in such material. Book values of fixed assets are notoriously inconsistent, owing to diverse depreciation policies and methods of handling maintenance, additions, retirements, and other features of plant accounting. Further, original cost figures for concerns launched at different dates naturally vary with the price levels prevailing at the time of organization or reorganization. Also the treatment of organization costs and of intangibles differs. On the whole, it is fair to assume that the balance-sheet values used are fairly conservative, in line with accepted accounting standards, and that aside from this general bias the effects of special accounting practices tend to offset one another to some degree, in the larger groups of companies in any event.