

All 106 manufacturing, trading, financial and mining groups taken together earned, before the payment of Federal taxes, 10.5 per cent on their invested capital over the ten-year period. The median return, that is, the return standing midway in the list when the groups are arrayed according to their earnings rates, is 12.55 per cent. But even a superficial examination of the table shows how inadequately any average figures represent situations in particular industries entering into the averages.

For although the median return is but slightly over 12.5 per cent, it will be seen that some industries—Meat Packing, Castings and Forgings, Rubber Products—receive less than 6 per cent, while others, such as Scientific Instruments, Newspaper Publishing and Toilet Preparations, earn over 25 per cent. These, it is to be reiterated, are not the earnings rates of a single year, but aggregate profits for a ten-year period.

The entire list of the ten-year earnings rates for these 106 industries may be summarized as follows. The lowest industry earns about 2 per cent, the highest, 32 per cent. One quarter of all the industries earn under 10.6 per cent. Another quarter earn from 10.6 to 12.5 per cent. The next quarter earn from 12.6 to 15.4 per cent, and the highest quarter, from 15.4 to 31.6 per cent.

In this *Bulletin* we cannot present the comparison of this distribution of the ten-year earnings rates of these industries with distributions for the several individual years of the period 1919-28. However, the comparison shows that although the ten-year earnings of the different industries in no sense approach uniformity, they do vary less widely than the earnings rates of any one year. For the ten-year earnings rates, the average departure from the median (that is, the average 'spread' of the various earnings rates in either direction from the median figure) is 3.3 per cent or about one-fourth of the median figure itself, whereas in most individual years the average spread is equal to about one-third of the median figure. Yet in spite of this qualification, it must be concluded that the approximate equality of return upon capital in different competitive industries, which economic theory has long assumed takes place over a period, is not at all realized. It was not attained, at least, during 1919-28.¹²

individual corporations, but to some extent such under- and over-valuations offset each other. In any event, the discrepancies that prevail between *industries* are neither general nor serious enough to invalidate the comparisons attempted in this section. See articles by George O. May, *Journal of the American Statistical Association*, December, 1929, and R. C. Epstein, *Quarterly Journal of Economics*, February, 1930.

¹²The point in question is, of course, a highly important one in economic theory. Attention here, however, is called chiefly to the summary figures themselves. Problems of capital withdrawal and renewal, as well as the differences in risk, have, of course, significant bearing on the theoretical issue raised. They will be discussed in *Industrial Profits in the United States*. The conclusion there reached, however, is the same as that implied here: that the alleged tendency towards an equality in the return on capital in different industries is *not* effectively operative in modern American competitive industry.

HOW *Economic Tendencies in the United States* HAS BEEN RECEIVED

To a review of the most recent publication of the National Bureau the *New York Times* devoted the first page of its Book Review section on January 8. Charles Merz says in his second paragraph:

"The importance of such a study, both as a matter of record and as a guide to future action, cannot be questioned. It has been undertaken here with care, great skill and admirable integrity. The author, Frederick C. Mills, is Professor of Economics and Statistics at Columbia University. The book is published by the National Bureau of Economic Research, which has a distinguished record in this field of public service, and commended by the Committee on Recent Economic Changes. It is thus an interim report between the authoritative two-volume study published several years ago by the latter group and the history that has still to be written of the depression. For the genuinely curious student of industrial and financial changes during the golden age of the 1920's it is an indispensable record of events."

The Book of the Month Club includes *Economic Tendencies* among the new books which it recommends in February to its readers; but not

"as one of the popular discussions of economic matters that have lately been so numerous; it is distinctly not a book to read on the run. It is, however, a survey that no thorough student of economics—and they seem to be on the increase among laymen—can afford not to study carefully."

FORTHCOMING PUBLICATION

Seasonal Variations in Industry and Trade, by Simon Kuznets. 450 pp., 57 tables, 51 charts—\$4.

We regret the delay in the appearance of Dr. Kuznets' book. It is now in page proof and will be ready for distribution early in February. In his Foreword, Dr. Mitchell characterizes the study as

"a systematic account, unrivalled in scope and vividness, of the role played by seasonal variations in production and prices. . . . I am sure that economists and statisticians will find the work enlightening; I think that business men will find it of practical value."

THE *Bulletin*

With this issue of its occasional paper, the National Bureau formally recognizes a change which has been made in the character of the material published. Under the editorship of Dr. Mills each *Bulletin* will contain the results of a National Bureau study which are of timely interest. The numbering of the former series of *News-Bulletins* is continued to avoid confusion for librarians and others who file copies.

BULLETIN

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Industrial Profits in Prosperity and Depression 1919-1932

Ralph C. Epstein

(Most of the material presented in this BULLETIN has been derived from an investigation sponsored by the Committee on Recent Economic Changes and carried out under the supervision of the National Bureau of Economic Research. The complete report is shortly to be published by the National Bureau under the title INDUSTRIAL PROFITS IN THE UNITED STATES.)

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WE have had surprisingly little information concerning the rates at which industries in the United States earn profits on their capital investment. For governmentally regulated fields, such as railroads and public utilities, rather complete figures have been available; but few comprehensive studies of competitive industry, covering years of depression as well as of prosperity, have been made.¹

A body of data recently compiled by the Department of Commerce² now makes it possible to measure with fair adequacy the return on capital in different industrial groups over the period 1919-28. Furthermore, with the aid of supplementary materials resting upon a smaller set of data, parts of this analysis may be carried through 1932.³ In this *Bulletin* an attempt is made merely to select and summarize a few broad findings from *Industrial Profits in the United States*, soon to be published by the National Bureau. The reader who wishes details as to the findings themselves, the methods of analysis employed, or certain qualifications of statement, is referred to this volume.

¹William L. Crum, *Corporate Earning Power* (1929), presents data for the net return on gross revenues over a considerable period, while Lawrence H. Sloan, *Corporation Profits* (1929), analyzes the return upon investment for specific industrial companies and groups in 1926 and 1927. Other investigators—J. E. Sterrett, J. P. Müller, David Friday, J. H. Bliss and S. H. Nerlove—have discussed the return upon invested capital, but not for both a ten-year period and for the numerous sub-divisions of industry designated in the present paper as 'specific industries' or 'minor groups.' Nerlove's *A Decade of Corporate Incomes* (1932) covers the period 1919-29.

²Ralph C. Epstein in collaboration with Florence M. Clark, *A Sourcebook for the Study of Industrial Profits* (1932).

³The courtesy of Mr. Lawrence H. Sloan, Vice-President of the Standard Statistics Company, in supplying certain of the supplementary data on which the preliminary computations for 1932 are based, is gratefully acknowledged.

I. PROFITS IN MANUFACTURE AND TRADE, 1919-1932

For 2,046 corporations engaged in Manufacture and for 664 corporations in Trade, continuous series have been developed that carry exactly the same enterprises⁴ through the period 1919-28. Utilizing a sample of 71 corporations we can carry the record of manufacturing profits through 1932. Our first concern is with the more inclusive groups of manufacturing and trading corporations. Earnings rates⁵ for these groups are given in Table 1 and are presented graphically in Figure 1; both appear on the insert.

These records of earnings rates vary widely between 1919 and 1928. In good years such as 1926 or 1928 the manufacturing corporations average a return of 11 or 12 per cent upon their investment (before the payment of Federal income taxes), while the 664 trading companies show a return of 12 or 13 per cent. But in a year of depression like 1921 the manufacturing figure is cut to about 3 per cent before the payment of taxes and 2 per cent after their payment. The rate of return in Trade, however, falls only to about 5 per cent, even after meeting all taxes.

⁴These are corporations of large and moderate size; their investments range from about \$250,000 to over \$50,000,000; about nine-tenths of them, however, possessed capitals of over \$500,000 in 1928.

⁵The term 'earnings rate,' as used throughout this discussion, is the percentage which net income bears to capitalization. 'Capital' or 'capitalization,' as here used, is synonymous with stockholders' equity, that is, the sum of preferred stock, common stock, surplus and undivided profits. It excludes funded debt, which in most manufacturing, trading, financial and mining enterprises is relatively slight. Unless otherwise indicated, 'net income' is earnings after deduction of all expense and of Federal income taxes. The terms 'capital,' 'capitalization,' 'income' and 'earnings rate' have, of course, no reference to the market value of a corporation's securities.

When data for the entire ten years are aggregated,⁶ the earnings rate of these 2,046 manufacturing corporations is 10.8 per cent, before the payment of Federal income taxes. For the 664 trading companies the corresponding figure is 13.6 per cent.

Turning now to our smaller sample, 71 companies with an industrial composition similar to that of the larger group, we may bring the record of manufacturing profits up to date. Average earnings rates for these 71 corporations⁷ are given in Table 2 and are plotted in Figure 1.

In nearly all years other than those of severe depression these 71 manufacturing corporations averaged a net return of between 10 and 13 per cent upon capital. In only 5 of the 14 years, 1919-32, was the rate of return less than 10 per cent. In 1920 and 1930, both years of crisis which followed years of speculative expansion and preceded years of severe depression, the rate of return was 8 per cent.

In the depression year 1921 the return on capital was 3.8 per cent. Ten years later, in 1931, it was almost exactly the same (3.6 per cent). The 1932 preliminary figure, however, falls almost to zero: 0.6 per cent.

In absolute terms the net income of these 71 corporations was 837 million dollars in 1929. It declined by 36 per cent in 1930. A further drop of 59 per cent in 1931 brought it to 220 million. For 1932, preliminary data indicate that the third successive decline will probably reduce it to something less than 60 million dollars, a shrinkage of 70 per cent or more from the level of 1931, and of over 90 per cent from that of 1929.

However, the data that enter into the 1932 figure include a rough estimate (really a guess) as to the income of the Ford Motor Company for the calendar year 1932. Upon the assumption that our estimate of the Ford loss is perhaps too large but that a Ford deficit, of unknown size,

⁶All net earnings lumped for the period, the annual capital investment figures lumped, and the one total divided by the other.

⁷The corporations in this group possessed, in 1932, an aggregate investment of about six and a half billion dollars.

The construction of this series rests partly on Governmental data (from the *Sourcebook* cited) and partly on corporation reports. Earnings rates for the small sample correspond closely to those for the larger group of 2,046 corporations, during the period covered by both sets of statistics.

The 71 companies series itself consists really of two series: a set of identical corporations for 1919-26 and another set for 1927-32. The second set of data does not include precisely the same list of companies as the first, but the two series may be regarded as one continuous series and will be so treated in the text. Great care has been taken to make the 1927-32 series virtually the equivalent, in industrial and financial composition, of the 1919-26 series. The success of this effort is attested by a comparison of the earnings rates of the 1927-32 series (called 'new series' in the following table) with those of the 1919-26 series (called 'original series') for several years for which the latter list may be carried forward. These ratios of net income (after the payment of taxes) to invested capital are as follows:

	1927	1928	1929	1930	1931
New series	10.3	11.3	13.1	8.3	3.6
Original series	10.3	11.4	13.2	8.3	3.6

The 1932 ratios, given in Table 2 and available only for the 'new series,' are preliminary figures based on estimates.

is certain to be recorded, then the correct figure for the return on the capital of all 71 companies is something more than 0.6 per cent, but undoubtedly something less than 2 per cent.⁸

The absolute income and investment figures for these 71 companies during 1927-31, including and excluding the Ford Motor Company, are shown in the following table (the 1932 figures are not given because of their tentative character):

	NET INCOME		INVESTMENT	
	Including the Ford Co. (millions of dollars)	Excluding the Ford Co. (millions of dollars)	Including the Ford Co. (millions of dollars)	Excluding the Ford Co. (millions of dollars)
1927	557.26	600.04	5406.57	4734.43
1928	638.28	710.60	5645.23	5048.43
1929	836.69	754.91	6395.59	5713.88
1930	539.20	494.74	6491.86	5765.98
1931	219.83	273.41	6096.11	5423.54

The number and percentage of the 71 companies that experienced deficits in each of the four years, 1929-32, are given below.

Year	Number with deficits	Per cent of total number
1929	6	8.5
1930	19	26.8
1931	31	43.7
1932	38	53.5

The series just discussed may be divided into eight major manufacturing groups.⁹ Striking differences of fortune appear. The two groups that are at the extremes of divergence from the average for All Manufacture are Foods and Textiles. Their earnings rates are charted in Figure 2. Exceptional stability of income is evidenced by the Food group; in nearly all of the years between 1922 and 1932 from 8 to 10 per cent was earned upon investment. In Textiles, income fluctuations were far more severe, and in 1930, 1931 and 1932 deficits were incurred. All data are shown in Table 2.

⁸It is much more difficult to estimate earnings for the Ford Motor Company than for any of the 70 other companies included in the series, for the Ford Company does not publish financial reports of the sort issued by most large enterprises. From data filed with the Massachusetts Commissioner of Corporations after the close of the calendar year 1931, it became known that a loss of something like 50 million was sustained by the Ford Company in that year. Since its production was probably some 40 to 50 per cent lower in 1932 than in 1931, another substantial deficit seems certain, but the exact size is not known. We have guessed that this deficit will be 82.5 million, but if this is too large, then obviously our rough estimate of between 40 and 60 million for the net income of all 71 companies (the smaller figure amounting to 0.6 per cent of their combined capitals) is too low. Without the Ford figures, the average return for the other 70 companies for 1932 becomes 2.2 per cent.

⁹In Table 2, because of the small size of the sample, several of these broad manufacturing groups had to be combined with others; thus the resulting figures are not so typical of the fields they represent as are those for Foods, Textiles, Chemicals and Metals. Even for the latter groups the figures compiled are merely averages and do not indicate the experience of the many individual industries composing these broader industrial classifications. For example, the 'major' group Metals contains numerous specific or 'minor' groups such as Castings and Forgings, Motor Vehicles, Railway Equipment, which may exhibit widely varying income and investment characteristics.

FIGURE 1

RATIO OF NET INCOME TO CAPITALIZATION
2,046 MANUFACTURING CORPORATIONS, 1919-1928
71 MANUFACTURING CORPORATIONS, 1919-1932

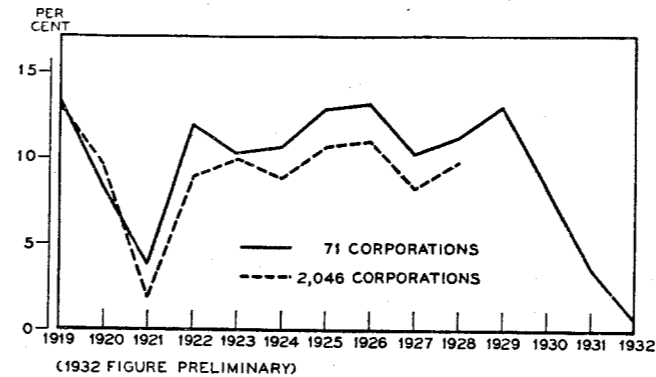


TABLE 1

PERCENTAGE RATIO OF NET INCOME TO CAPITALIZATION
2,046 MANUFACTURING AND 664 TRADING CORPORATIONS
(before and after payment of Federal income tax)

Year	MANUFACTURING Per cent		TRADE Per cent	
	Before tax	After tax	Before tax	After tax
1919	18.3	13.1	24.2	17.1
1920	12.3	9.6	11.4	8.6
1921	2.9	1.9	6.6	4.9
1922	10.2	9.1	14.9	13.3
1923	11.2	10.0	15.4	13.7
1924	10.0	8.9	13.4	11.8
1925	12.1	10.7	14.0	12.2
1926	12.4	11.0	13.6	11.8
1927	9.5	8.4	13.1	11.4
1928	11.0	9.8	12.3	10.9

TABLE 2

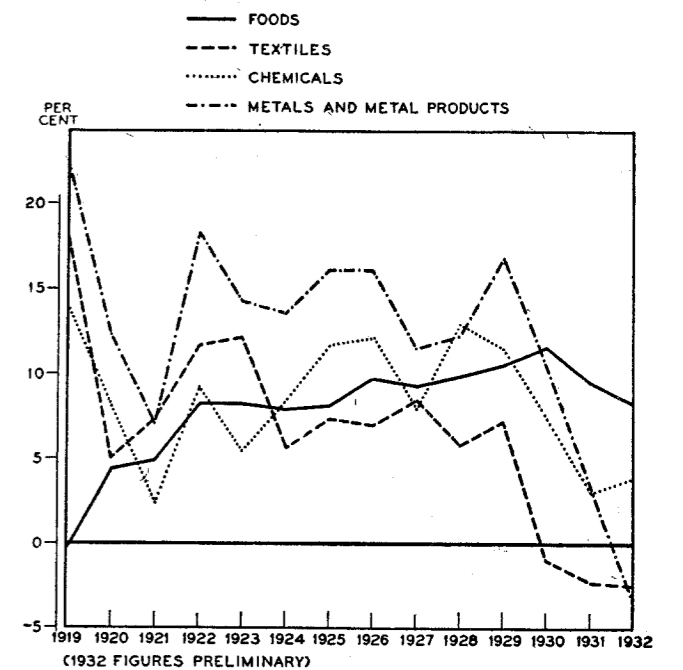
PERCENTAGE OF NET INCOME TO CAPITALIZATION, 71 MANUFACTURING CORPORATIONS, BY MAJOR INDUSTRIAL GROUPS,
1919-1932
(after payment of Federal income tax)

Group	No. of Corps.	Per Cent													
		1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932 ^a
All Manufacturing	71	13.4	8.4	3.8	12.1	10.3	10.7	13.0	13.3	10.3	11.3	13.1	8.3	3.6	0.6
Foods	11	—	4.5	4.9	8.3	8.3	7.9	8.3	9.8	9.3	9.9	10.5	11.6	9.5	8.3
Textiles	15	18.0	5.0	7.4	11.7	12.2	5.7	7.4	7.0	8.6	5.8	7.3	—	—	—
Chemicals	10	14.0	8.3	2.4	9.3	5.4	8.5	11.7	12.2	8.0	13.0	11.6	7.5	3.1	4.0
Metals and Metal Products (including automobiles)	9	22.3	12.3	7.0	18.4	14.4	13.7	16.2	16.2	11.5	12.3	16.8	10.4	3.2	—
Paper and Printing	6	10.5	14.7	6.4	17.0	15.4	19.9	20.9	21.0	22.9	24.3	25.4	21.2	12.1	5.2
Stone and Lumber	8	12.7	14.3	6.7	12.5	17.3	12.4	11.3	10.9	9.2	8.2	7.9	4.1	—	—
Leather and Rubber	6	13.4	2.7	—	5.7	4.6	6.7	12.2	10.2	8.9	2.3	4.9	—	—	—
Special Manufacturing Industries	6	17.2	9.2	5.3	18.4	19.3	17.0	16.4	17.8	17.2	17.1	11.8	4.9	4.4	3.9
All Manufacturing, excluding the Ford Company	70									12.7	14.1	13.2	8.6	4.9	2.2
Metals and Metal Products, excluding the Ford Company	8									19.1	20.9	18.4	11.9	7.1	—

^aAll 1932 figures are preliminary estimates.

FIGURE 2

RATIO OF NET INCOME TO CAPITALIZATION IN
FOUR MAJOR MANUFACTURING GROUPS, 1919-1932



TEN-YEAR AGGREGATE EARNINGS

RATES OF 106 INDUSTRIES AND TRADES, 1919-28

(PERCENTAGE RATIOS OF NET INCOME, BEFORE PAYMENT OF FEDERAL INCOME TAXES, TO CAPITALIZATION, EXCLUDING FUNDED DEBT. TOTAL NUMBER OF CORPORATIONS IN EACH YEAR: 3144. IDENTICAL CORPORATIONS IN EACH GROUP, ALL TEN YEARS.)

MANUFACTURE		CHEMICALS	
GROUP	Number of Corps. Earnings Rate	GROUP	Number of Corps. Earnings Rate
FOOD PRODUCTS		Crude Chemicals	9 11.1
Bakery Products	17 16.8	Paints	42 15.6
Flour	32 11.4	Petroleum Refining	52 8.7
Confectionery	21 17.8	Preparations	
Package Foods	19 16.2	Proprietary	56 20.8
Dairying	26 12.7	Toilet	9 31.6
Canned Goods	16 13.8	Cleaning	16 15.1
Meat Packing	23 1.9	Miscellaneous	26 12.9
Beverages	11 3.8		
Tobacco	23 14.2	STONE, CLAY AND GLASS	
Miscellaneous	27 7.9	Ceramics	48 11.3
TEXTILES		Glass	18 16.9
Cotton		Portland Cement	21 14.2
Spinning	12 15.5	Miscellaneous Clay and Stone	27 16.4
Converting	18 11.1		
Weaving	49 9.3	METALS	
Weaving Woolens	31 7.2	Castings and Forgings	99 5.8
Silk Weaving	17 10.5	Sheet Metal	20 9.3
Carpets	18 15.6	Wire and Nails	20 11.9
Men's Clothing	25 12.1	Machinery	
Knit Goods	42 16.2	Heating	42 14.0
Miscellaneous Clothing	23 14.2	Electrical	54 15.2
Miscellaneous Textiles	54 13.1	Textile	18 17.1
LEATHER		Printing	12 11.6
Boots and Shoes	25 17.3	Road	22 17.5
Miscellaneous	29 6.8	Engines	11 12.9
RUBBER		Mining	12 13.6
Rubber Products	26 5.9	Factory	23 10.7
LUMBER		Office	13 14.9
Lumber Manufacture	64 10.0	Miscellaneous	32 12.1
Planing Mills	26 17.7	Railway Equipment	25 8.1
Millwork	17 9.8	Motor Vehicles	32 19.7
Furniture	55 16.2	Firearms	11 11.5
Miscellaneous	28 13.7	Hardware	40 14.7
PAPER		Tools	30 12.3
Blank Paper	35 8.4	Bolts and Nuts	15 15.4
Cardboard Boxes	33 15.7	Non-ferrous Metals	48 10.5
Stationery	20 7.4	Jewelry	24 12.5
Miscellaneous	23 12.1	Miscellaneous Metals	45 10.1
PRINTING AND PUBLISHING		SPECIAL MANUFACTURING INDUSTRIES	
Newspapers	20 25.6	Scientific Instruments	23 25.5
Books and Music	17 15.4	Toys	12 15.9
Job Printing	46 15.8	Pianos	11 10.7
Miscellaneous	17 22.9	Miscellaneous	43 14.7
TRADE			
RETAIL TRADE		FINANCE	
Automobiles	15 25.8	Savings Banks	18 12.5
Men's Clothing	17 14.9	Commercial Banks	30 10.8
Department Stores	93 14.1	National Banks	105 10.7
Drygoods	27 14.3	Trust Companies	56 10.5
Furniture	12 12.2	All Other Finance, except Life Insurance	137 10.6
Groceries	14 22.5		
Jewelry	11 12.7	MINING	
Building Material and Hardware	27 11.4	Bituminous Coal	33 8.2
Lumber and Coal	15 12.2	Gas and Oil Wells	11 2.9
Miscellaneous	52 14.1	Stone Quarrying	9 12.6
WHOLESALE TRADE		Clay, Sand and Gravel	9 13.8
Drugs	25 11.9	Metals	15 3.0
Drygoods	29 10.9	Miscellaneous	11 13.8
Groceries	59 9.2		
Hardware	43 9.5		
Importers and Exporters	23 11.3		
Building Material and Lumber	13 7.9		
Paper	18 11.3		
Miscellaneous	82 11.9		
WHOLESALE AND RETAIL TRADE			
Coal, Wood and Fuel	10 13.3		
Hardware	16 10.2		
Building Material and Lumber	11 10.7		
Miscellaneous	52 12.8		

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II. PROFITS FOR ALL MANUFACTURE, TRADE, MINING AND FINANCE, 1924-1930

The several series already discussed constitute samples containing mainly corporations of large and moderate size. Furthermore, these companies have all been engaged in business for either a ten- or fourteen-year period. Their average return on capital is substantially higher than that for American corporations of all classes, large and small, successful and unsuccessful. Many of the several hundred thousand corporations in the country, especially those engaged in trading fields, are extremely short-lived; they experience nothing like a ten-year period of activity. Again, the smaller, closely-owned concerns undoubtedly charge, against gross earnings, relatively greater amounts for officers' salaries than do the larger companies. Bearing in mind these and other qualifications which attach to broad

averages of this sort, however, we may present a general picture of the return on capital for this heterogeneous aggregate of large and small, closely- as well as publicly-owned concerns for the years 1924-30.¹⁰ Table 3 presents the data for the period 1924-30.

TABLE 3

PERCENTAGE RATIO OF NET INCOME TO CAPITALIZATION, ALL AMERICAN MANUFACTURING, TRADING, MINING AND FINANCIAL CORPORATIONS (before and after payment of Federal income tax)

Year	Per cent		Number of Corporations
	Before tax	After tax	
1924	5.9	5.2	315,340
1925	7.8	6.8	333,372
1926	7.4	6.4	355,634
1927	6.5	5.7	345,212
1928	7.6	6.7	359,992
1929	6.9	6.2	367,758
1930	2.3	1.8	371,803

In years of prosperity such as 1925, 1926 or 1928, all American manufacturing, trading, financial and mining corporations average a net return of approximately 7 per cent upon their investment. In years of recession, such as 1924 or 1927, the return before payment of Federal taxes is about 6 or 6½ per cent; after meeting such taxes, about 5 or 5½ per cent.

III. DIFFERENCES BETWEEN INDUSTRIAL GROUPS OVER A TEN-YEAR PERIOD

The data for corporations of large and moderate size, for which general averages pertaining to manufacturing were presented earlier, afford an opportunity to measure disparities in the earning power of different specific industries or 'minor groups' over a ten-year period. Dividing the several major manufacturing groups into minor groups such as Bakery Products, Castings and Forgings, we obtain 73 groups for Manufacturing. Treating Trade, Finance and Mining similarly, we obtain 33 additional groups, making a total of 106 industries and trades (including financial activities and pursuits). The earnings rates in these 106 groups, aggregated for the ten years 1919-28, may now be compared. The groups are given on the insert, together with the ten-year earnings rate of each, that is, the group's total net income aggregated for the period and divided by the aggregate of its annual capital investment.¹¹

¹⁰The calculations are estimates based not upon the *Sourcebook* but upon the Treasury Department's annual publication, *Statistics of Income*.

¹¹A discussion of the validity of book investment figures is beyond the scope of this *Bulletin*. Such a discussion will appear in *Industrial Profits in the United States*, where will also be considered the theoretical correctness of taking capitalization figures as of either the beginning or the end of the year rather than as monthly or other averages. However, the author has satisfied himself that no serious qualification on either score is essential for purposes of such analyses as are made here. Beyond question the widest disparities exist between the accounting practices of