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Volume Author/Editor: Ralph C. Epstein assisted by Florence M. Clark

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CHAPTER 9

MANUFACTURE AND ITS MAJOR GROUPS

1. RETURNS ON SALES AND INVESTMENT:

ALL MANUFACTURE

THE corporations included in our series of 2,046 large manufacturing companies, while constituting only about a 2 per cent sample, in number, of all manufacturing corporations in the country, in 1928 enjoyed sales of 28 billion dollars, possessed an invested capital of 25 billion, and received a net income of $2\frac{3}{4}$ billion. In other words, their business was nearly one-half of the total business done by the country's 95,000 manufacturing corporations, and, as pointed out in the preceding chapter, they possessed about half of the total invested capital.

In the prosperous year 1919 these 2,046 corporations showed net earnings of 12 per cent upon sales volume. In 1920 this was cut to 8 per cent; and in the depression year 1921, to 3 per cent. Chart 39 shows the severe decline in the rate of net return on sales that took place from 1919 to 1921, and the recovery in 1922, when 10 per cent was earned. But the curve of this chart also shows the absence of similar fluctuations during the seven years 1922-28. In each year except 1927 the return was either 9 or 10 per cent; in 1927 it was 8 per cent. The data are given in numerical form in Table 42 at the end of the chapter.

Upon investment the return for Manufacture as a whole was 18 per cent in 1919. This fell to 12 per cent in 1920, and in 1921 to 3 per cent, the rate earned also upon sales in that year. The annual turnover of the capital investment of these 2,046 Manufacturing corporations, in other words, averaged just one.

In 1922, earnings upon investment amounted to 10 per cent. Between 1923 and 1928 the turnover of investment was in several

years slightly more than one. The return on investment, in other words, somewhat exceeded that on sales. But it showed about the same degree of stability: from 10 to 12 per cent (rounding off the figures) was earned consistently during the seven years 1922-28. The most profitable of these years, it will be observed, was 1926, when 12.4 per cent was earned. The figure fell to 9.5 per cent in 1927, and stood at 11 per cent in 1928.

The relative stability which both the return on sales and on investment show in the years 1922-28 should not, of course, be taken to suggest that this same stability characterizes the individual major and minor groups that make up Manufacture as a whole. As has been pointed out, some manufacturing industries during these same years show generally increasing earnings rates, others declining earnings rates, others stable rates, and still others highly fluctuating rates in which no trends are apparent (see Ch. 7). This is one reason why the average figure for All Manufacture is so stable—some industries decline in their rates from one year to the next, others increase and roughly offset the first set of changes; thus, except in periods of severe depression or exceptional price upheaval, a comparative stability in the broad *average* rate for Manufacturing industry as a whole prevails. The detailed figures for the 73 Manufacturing industries, presented in the next ten chapters, show clearly these varying specific situations.

2. ABSOLUTE EARNINGS, SALES AND INVESTMENT: ALL MANUFACTURE

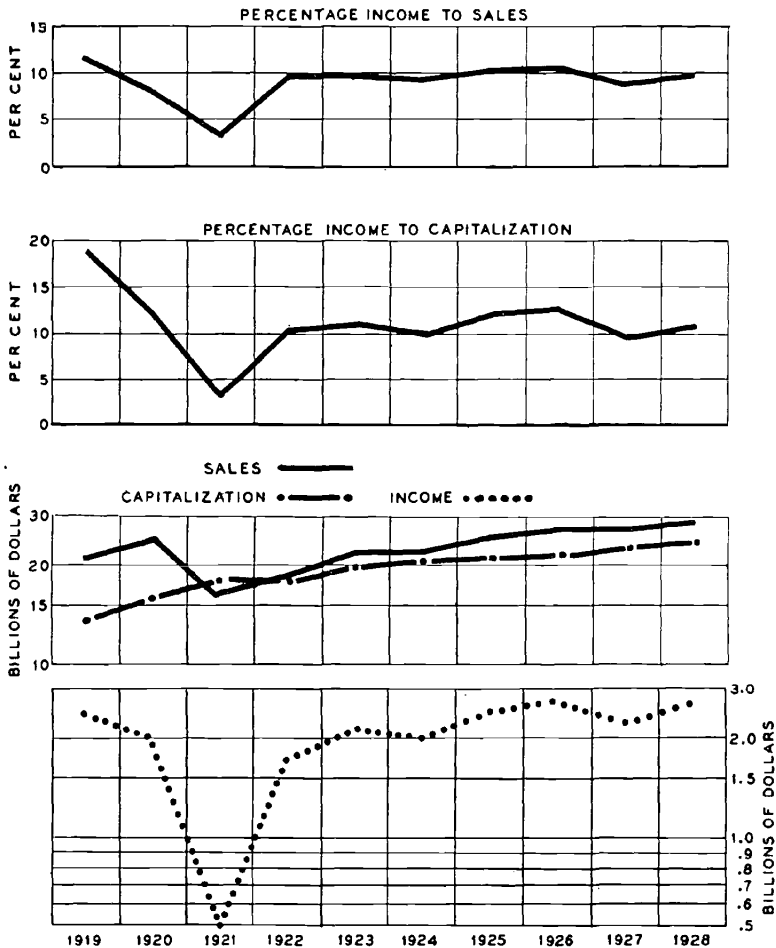
The variations in the actual amounts of sales, investment and net income for the Manufacturing sample as a whole over these same years are next of interest, although again it must be remembered that the data here plotted are composite figures, from which the trends in any particular branch of manufacture may differ greatly.

Chart 39 shows these absolute data. Sales volume stood at about 21 billion dollars in 1919, then jumped to $25\frac{1}{4}$ billion in 1920. But in 1921 declining physical volume accompanied by lower prices reduced the figure to 16 billion.

Recovery in 1922 and 1923 brought the figure to $22\frac{1}{2}$ billion in the latter year. The 1924 figure was only fractionally higher. But between 1924 and 1928 sales grew from slightly under 23 billion to

CHART 39
IDENTICAL CORPORATIONS SERIES, 1919-28

ALL MANUFACTURE



slightly over 28 billion a year. This 1928 figure of 28 billion represented an increase of 33 per cent over the 1919 level, and of 12 per cent over the 1920 peak.

Investment showed a somewhat steadier, and for the entire period a greater, rate of growth—from 13 billion dollars in 1919 to 16 billion in 1920, and 25 billion in 1928. From 1924 to 1928, however, investment increased at only a slightly greater rate than sales. With the margin of possible error to which the investment data are subject, this difference between a 25 and a 22 per cent increase is not to be regarded as possessing any significance.¹ Indeed the two series may be regarded as having grown at approximately the same rate during the last five years of the period. This close correspondence in the *general* growth of sales and investment affords an illuminating contrast to the specific situation prevailing in particular industries.²

The course of net income over the ten years, as would be expected, is far less regular than that of either sales or investment. From about 2½ billion in 1919, income fell to just 2 billion in 1920, then to half a billion in 1921. Thus while the volume of sales, as we have seen, declined by only 33 per cent between 1920 and 1921, net income was reduced by 75 per cent.

Recovery in 1922 brought the income figure to 1¾ billion. From then to 1928 a general upward trend was evident, although a temporary decline of 9 per cent occurred in 1924, and of 18 per cent in 1927. In 1928 net income stood at about 2¾ billion, as compared with 2½ billion in 1919. The data for all ten years are plotted in Chart 39, while the absolute figures may be found in Appendix B.

3. SURVEY OF THE MAJOR MANUFACTURING GROUPS

a. Foods and Food Products

In the Food and Food Products group are 215 corporations. They averaged a net return of about 4 per cent on sales in 1919, about 2 per cent in 1920 and slightly less than 2 per cent in 1921. Between 1922 and 1928 the return ran between 4 and 5 per cent in every year, about half the figure for All Manufacturing during the same period.

The return on investment in the Food group is much higher than on sales by reason of a capital turnover of two to two and one-half times a year. In 1919 the return on investment was 12 per cent.

¹ Attention is again called to the valuation of capital assets, etc., discussed in Ch. 45; see also Ch. 7.

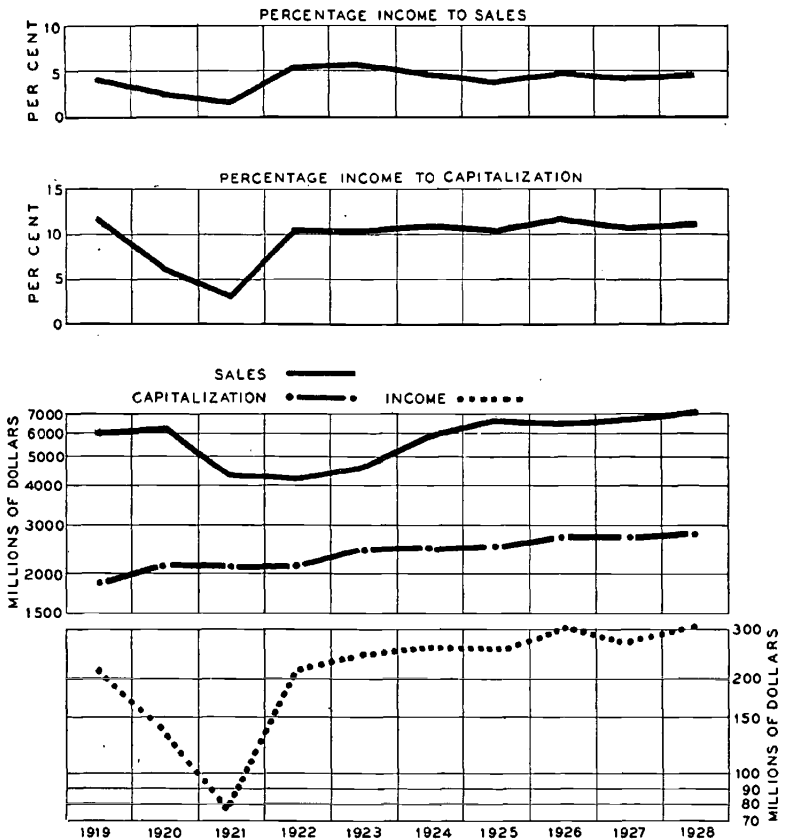
² Discussed in Ch. 7 (the second of the two chapters on cyclical fluctuations) and also in Ch. 47.

This was cut in half in 1920, and again cut in half in 1921, when it reached 3 per cent. Recovery in 1922 brought the return up to 10 per cent and it remained on a level of 10 or 11 per cent in every year from then until the end of the period, except for 1926, when it approached 12 per cent. These rates represent approximately the same level as that for All Manufacturing.

Sales in the Food group declined from about 6 billion dollars in

CHART 40
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 1: FOODS



both 1919 and 1920 to a little over 4 billion in 1921 and 1922. They then expanded until they reached almost 7 billion in 1925 and remained approximately upon that level, or somewhat above it, until the end of the period. Investment showed general growth from 1919 to 1926 and then remained stable. In 1928 it stood at $2\frac{3}{4}$ billion dollars as compared with somewhat less than 2 billion in 1919. Net income fell from about 220 million in 1919 to about 75 million in 1921; then recovered to about 220 million again in 1922, and showed a general although irregular growth to the end of the period, when it stood at slightly over 300 million.

Tabular data for the Food and other major groups appear in the chapters following.

b. Textiles

In the Textile group are 289 corporations. The peak for this group occurred in 1919, when the net return upon sales was 17 per cent. This fell to a low point of 5 per cent in 1920, but with the recovery of 1921 the rate rose to 9 per cent. In 1922 it rose still more, reaching 13 per cent. In 1923, at the end of the first half of the period, it was 11 per cent. From 1924 on it fluctuated between 6 and 8 per cent in every year.

Upon investment the return was in all years higher. It fell from 30 per cent in 1919 to 8 per cent in 1920; then rose to 17 per cent by 1922. But after that year earnings declined to a much lower level. Between 1924 and 1928 the return ranged from 7 to 9 per cent, standing at the end of the period at 7 per cent.

Sales volume shows a substantial decline in 1921 and recovery in 1922 and 1923, but no growth for the period as a whole. In 1919 sales were about 1400 million; in 1928, they were almost exactly the same figure.

Investment shows a general increase over the period, growing from about 800 million in 1919 to 1200 million in 1928. The 1928 figure, however, represents a very slight decline from that of 1927. Net income shows excessive oscillation for the entire period, but fluctuates about a lower level during the last five years than during the first five. The 1927 figure was about 110 million, the 1928 figure 80 million. Unlike most groups, the Textile industry as a whole showed a higher net income, both in absolute terms and relative to capital investment, in 1927 than in 1928.

CHART 41
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 2: TEXTILES

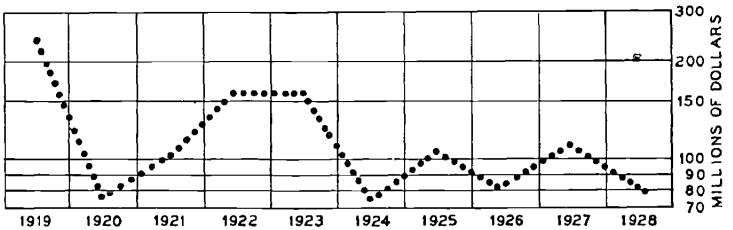
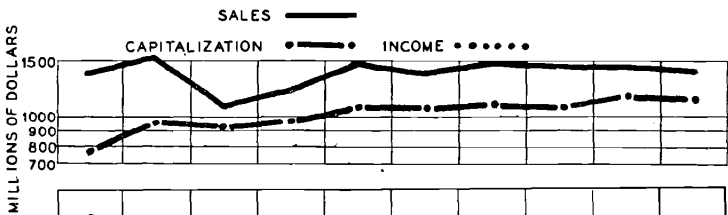
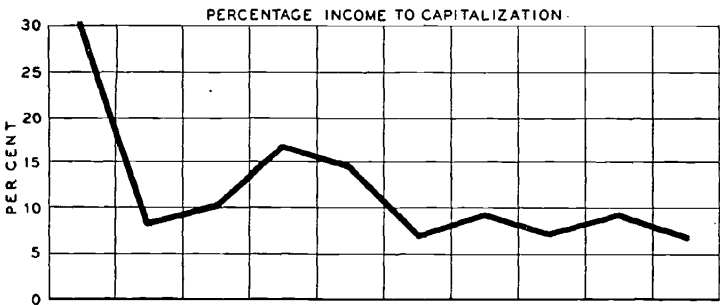
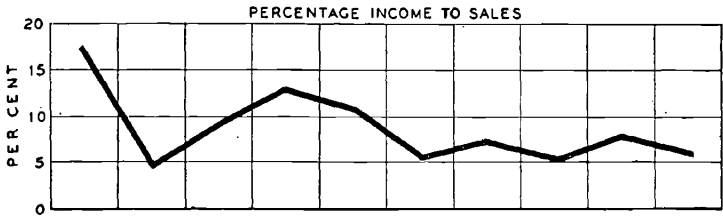
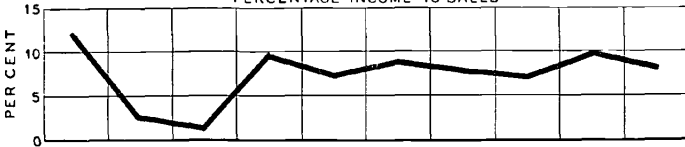
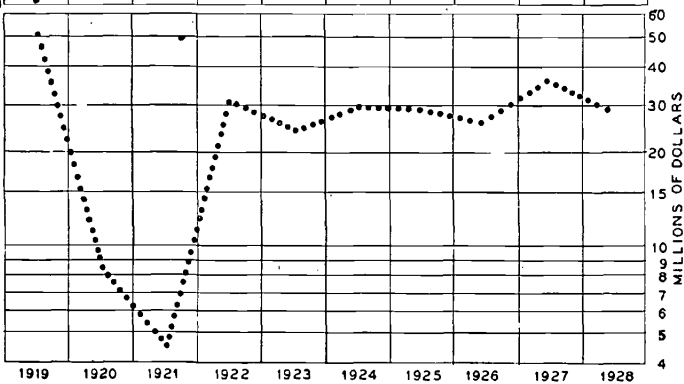
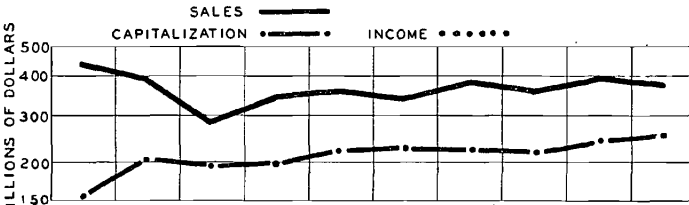
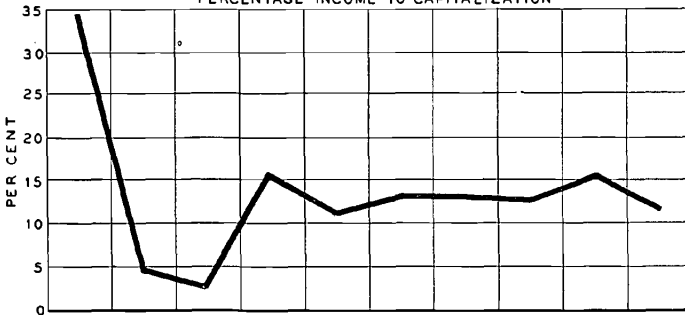


CHART 42
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 3: LEATHER
PERCENTAGE INCOME TO SALES



PERCENTAGE INCOME TO CAPITALIZATION



c. Leather

The 54 corporations belonging to the Leather group earned 12 per cent on sales in 1919, but only 2 per cent in both 1920 and 1921. Between 1922 and the end of the period the rate fluctuated between about 7 and 9 per cent, or about a level somewhat below that for Manufacturing as a whole.

Upon investment, earnings are substantially higher. In 1919 they stood at 34 per cent, but fell to 4 per cent in 1920 and 2 per cent in 1921. In 1922 the rate recovered to 16 per cent. For the remainder of the period it was about 12 or 13 per cent in most years, or at almost the level for Manufacturing as a whole.

Sales declined from 436 million in 1919 to slightly under 300 million in 1921. They increased gradually from 1921 to the end of the period; but the 1928 figure of 380 million is slightly less than the 1927 figure and is below the level of 1919. Investment increased during the period, from about 150 million in 1919 to 250 million in 1928. Net income shrank from over 50 million in 1919 to 5 million in 1921; then recovered to about 30 million in 1922. Between 1922 and 1928 it manifested no trend, but fluctuated about a level of 30 million annually.

d. Rubber

The 26 corporations of the Rubber group earned 12 per cent on sales in 1919; 1 per cent in 1920; and suffered an aggregate deficit of 13 per cent in 1921. By 1925 the return rose to 11 per cent, and then by 1928 declined to 1 per cent.

Upon investment much the same striking upswings and downswings occurred. A deficit of 13 per cent was recorded in 1921; then an upward movement culminated in 1925 with a return of 19 per cent; this declined to 1 per cent in 1928.

Because funded debt occupies a proportionately larger place in the capital structures of the corporations belonging to this group than is the case with the other major groups, the percentages of total profit to total capital, as well as those for net income to capitalization, are plotted in Chart 43. Earnings upon total capital (interest on funded debt being included in earnings) amounted to 2 per cent in 1928.

Sales amounted to about a billion dollars in 1920. They declined to half that figure in 1921 and recovered to about a billion dollars in 1925. In 1926 the figure was the same. In 1927 and 1928 sales

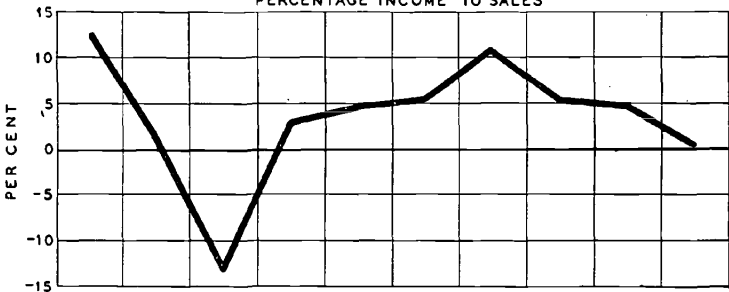
declined somewhat, standing at 935 million at the end of the period. Investment increased from 489 million in 1919 to 660 million in 1927, but dropped to 583 million in 1928. Net income fluctuated enormously, declining from over 90 million in 1919 to a deficit of 77 million in 1921. It then increased to 115 million in 1925, and fell off to eight million in 1928.

e. Lumber

The 190 corporations of the Lumber group showed a return on sales that oscillated between 6 and 15 per cent during the years

CHART 43
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 4: RUBBER
PERCENTAGE INCOME TO SALES



— PERCENTAGE INCOME TO CAPITALIZATION
••••• PERCENTAGE PROFIT TO TOTAL CAPITAL

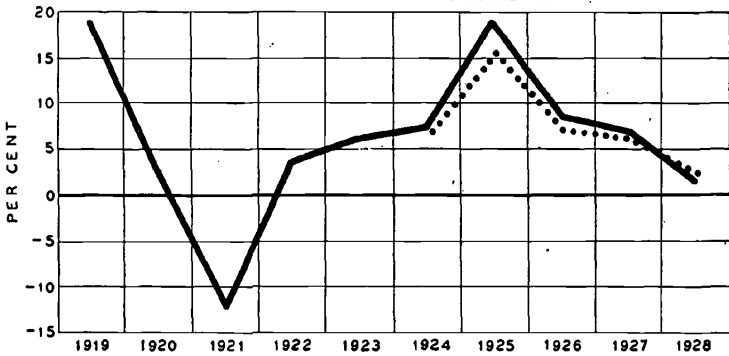
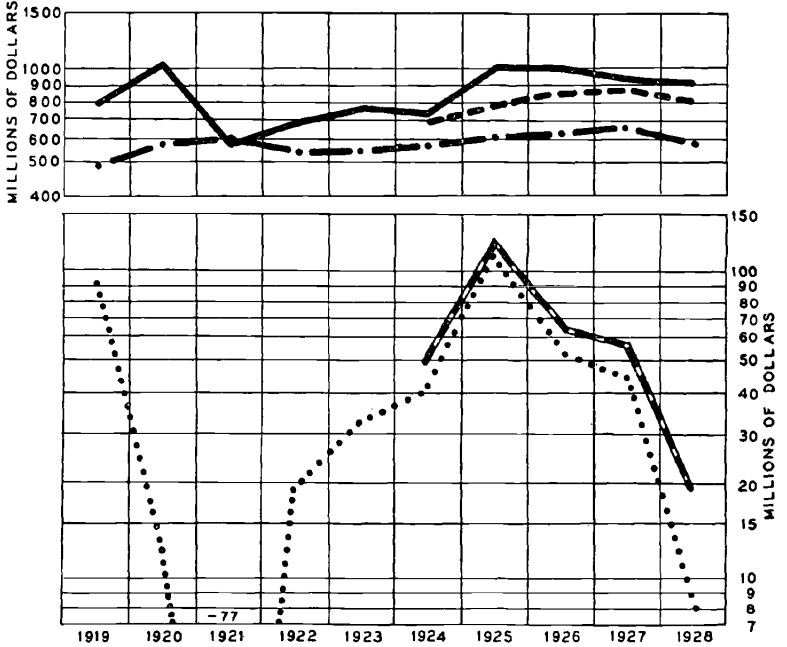


CHART 43 (CONT.)
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 4: RUBBER

- SALES
- CAPITALIZATION
- INCOME
- - - - - TOTAL CAPITAL
- TOTAL PROFIT

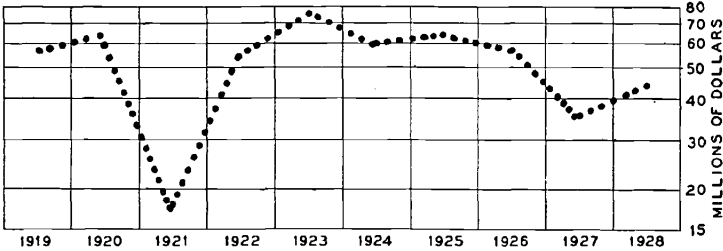
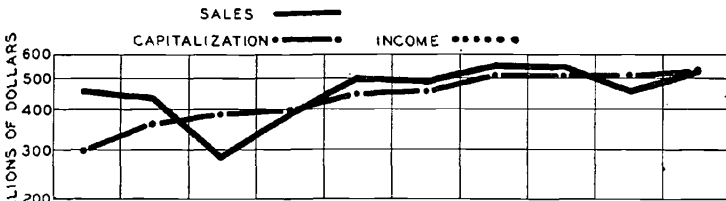
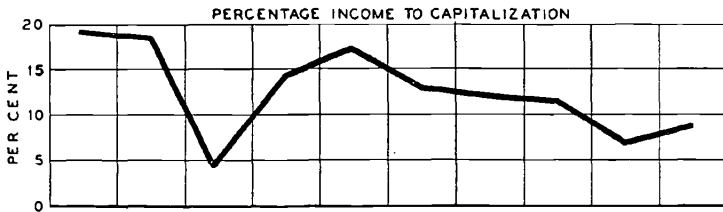
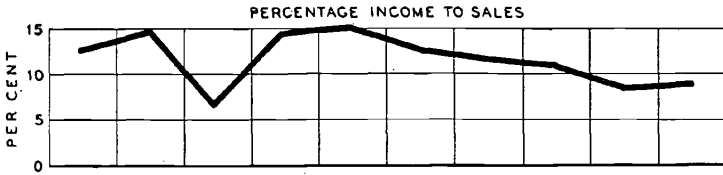


1919-23. From 1923 to the end of the period the return showed a general decline, falling from 15 per cent in 1923 to 8 per cent in 1928. The return on investment in all these years was almost the same as that upon sales.

Sales volume declined from 456 million in 1919 to 286 million in 1921. By 1925 it recovered to 531 million and fluctuated about a level of approximately half a billion dollars annually from then until the end of the period. Investment showed a general increase, growing from about 300 million in 1919 to slightly over 500 million in 1928. Net income oscillated greatly from 1919 to 1923 but there-

CHART 44
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 5: LUMBER



after showed a general decline, falling from 77 million in that year to 44 million in 1928.

f. Paper

The 111 corporations of the Paper group earned 13 per cent upon

sales in 1919 and 16 per cent in 1920. This return was cut to 2 per cent in 1921, but recovered to 8 per cent in 1922 and for the remainder of the period was either 8 or 9 per cent in every year, a level somewhat lower than that for All Manufacturing.

Upon investment the rate of return fell from 28 per cent in 1920 to 2 per cent in 1921; then recovered to 8 per cent in 1922 and ranged from 7 to 10 per cent for the remainder of the period, again a level somewhat lower than that for Manufacturing as a whole. The 1928 figure was 7 per cent.

Sales declined from 552 million in 1920 to 300 million in 1921. They showed general and steady growth from 1922 to the end of the period, but in 1928 stood at almost exactly half a billion dollars which was about 50 million less than the 1920 figure. Net income fell from about 90 million in 1920 to 6 million in 1921; then recovered to 27 million in 1922. In 1924 it stood at 40 million and remained closely at that level throughout the last half of the period.

g. Printing and Publishing

The 100 corporations of the Printing group, which includes Publishing, earned from 16 to 18 per cent on sales in every year of the period except in 1921 and 1922, when the figures were 14 and 21 per cent respectively. These rates are, of course, far higher than the level for Manufacturing as a whole.

Upon investment even larger returns were obtained, the rates in most years being 20 per cent or higher. In no year was less than 17 per cent earned; in several years earnings ran from 23 to 27 per cent.

Sales, with the exception of a relatively slight decline from 1920 and 1921, show a steady and marked upswing for the period, growing from 229 million in 1919 to 623 million in 1928. Investment follows much the same course, expanding from 164 million in 1919 to 457 million in 1928. Net income, except for temporary and relatively slight declines in 1921 and 1925, shows an upward course that roughly parallels the trends of sales and investment, growing from under 4 million in 1919 to about 100 million in 1928.

h. Chemicals

The 210 corporations of the Chemicals group show a return on sales that fluctuates from 14 to 4 per cent between 1919 and 1922. From 1923 to the end of the period the trend might be said to be generally upward were it not for a substantial fluctuation between

CHART 45
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 6: PAPER

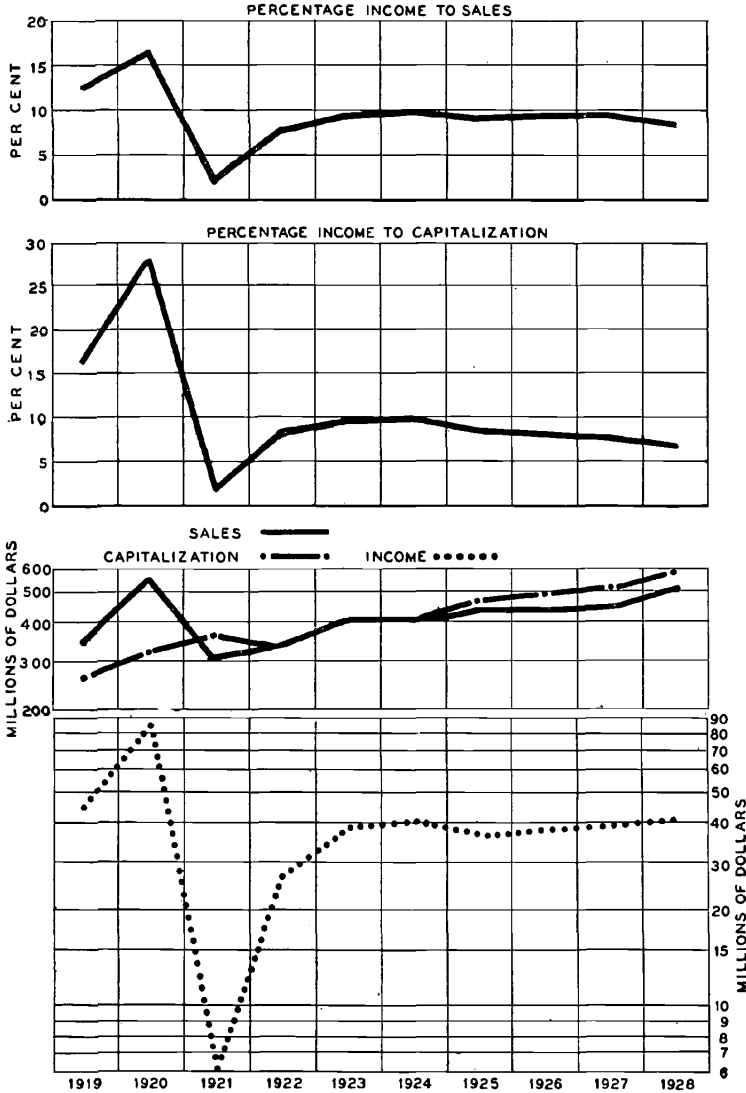


CHART 46
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 7: PRINTING AND PUBLISHING

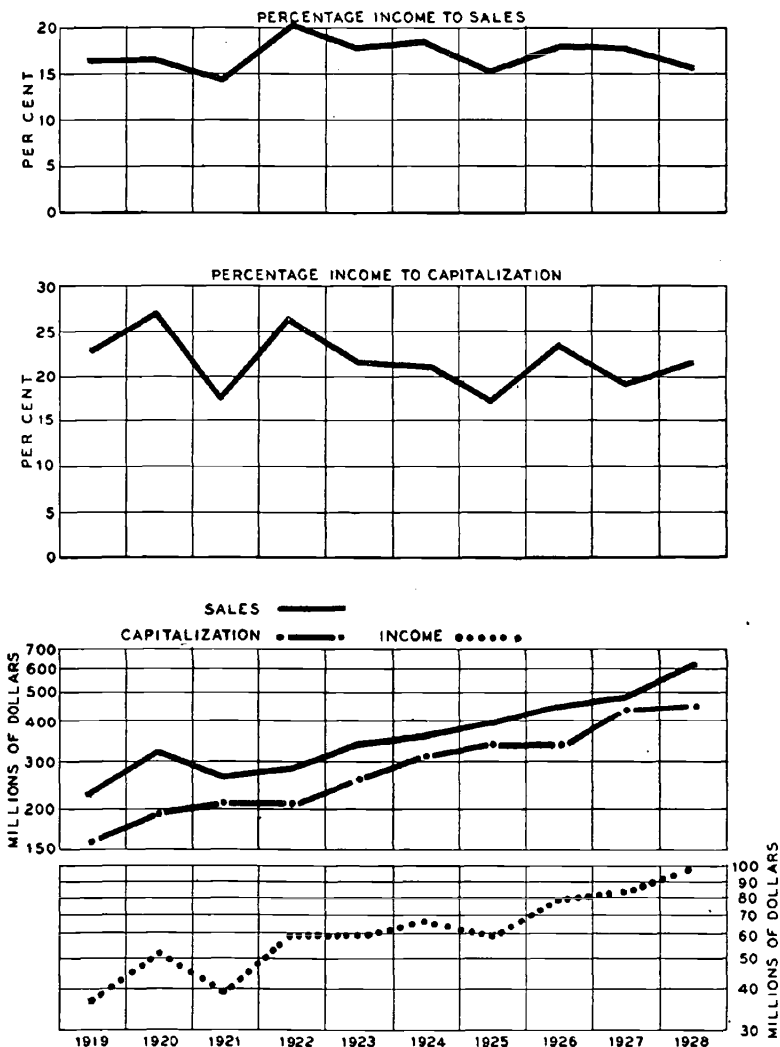
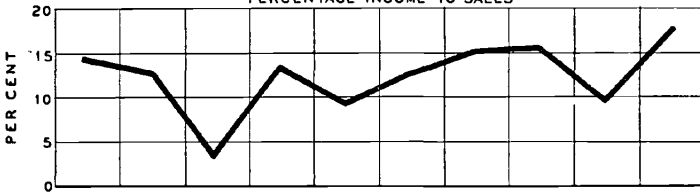


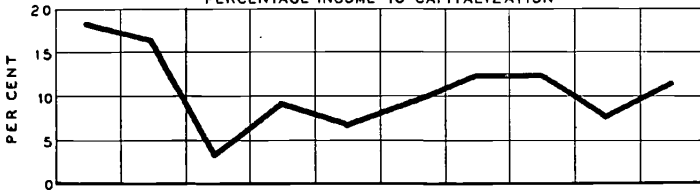
CHART 47
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 8: CHEMICALS

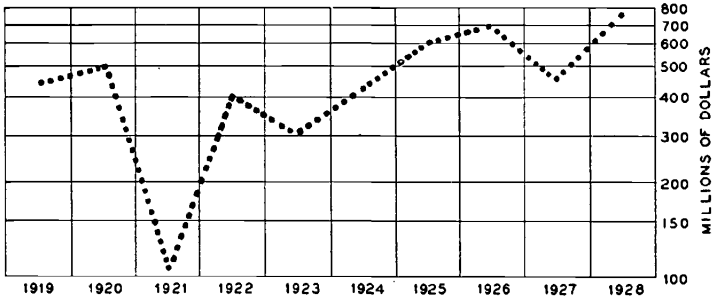
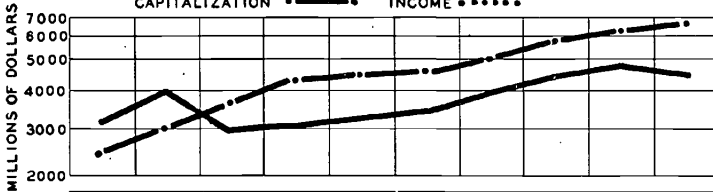
PERCENTAGE INCOME TO SALES



PERCENTAGE INCOME TO CAPITALIZATION



SALES ———
CAPITALIZATION •—•—• INCOME •••••



1926 and 1928. The 1926 return was 16 per cent; 1927, 10 per cent, and 1928, 18 per cent. During the second half of the period the return on sales thus fluctuated between 10 and 18 per cent, or upon a level substantially higher than that for Manufacture as a whole.

Upon investment lower earnings are shown. The return dropped from 18 per cent in 1919 to 3 per cent in 1921; then recovered to 9 per cent in 1922. Between 1922 and 1928 it fluctuated from 7 to 12 per cent, but showed some general upward sweep, standing at about 12 per cent at the end of the period.

Sales declined from 4 billion in 1920 to 3 billion in 1921 and showed but scant recovery in 1922. From 1922 to 1927 they grew steadily, reaching nearly 5 billion in the latter year. In 1928, however, they declined to about 4.5 billion. Investment expanded over the entire period, growing from 2.5 billion in 1919 to 6.75 billion in 1928. Net income dropped from about 500 million in 1920 to 109 million in 1921. It recovered to about 400 million in 1922, but showed great fluctuations in succeeding years. The income figure recorded in 1928, however, was nearly 800 million dollars.

i. Stone, Clay and Glass

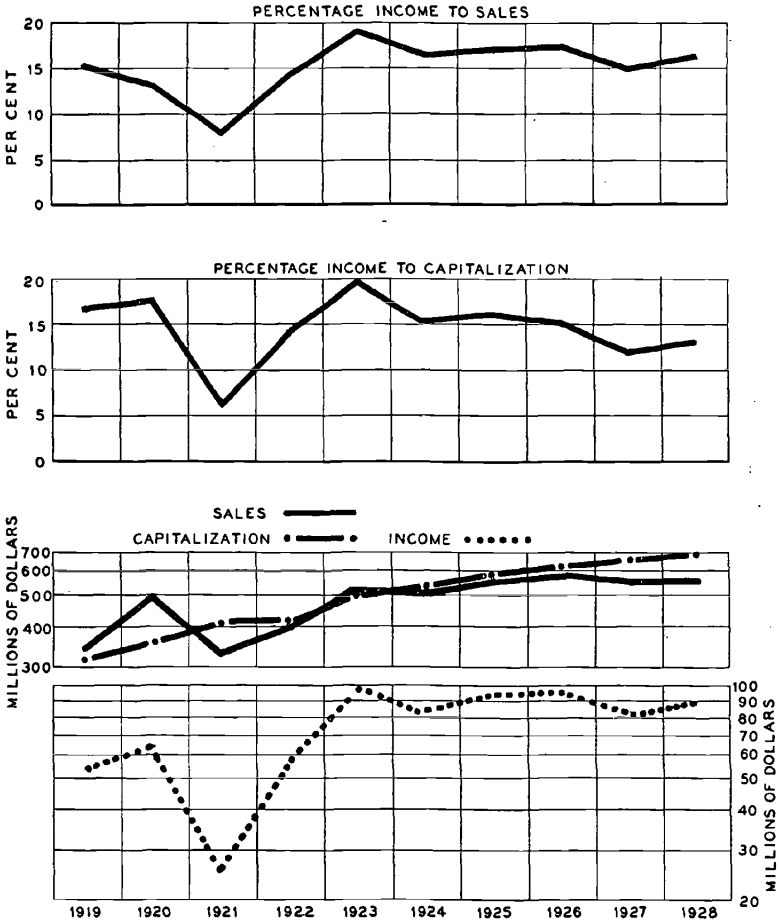
The 114 corporations of the Stone, Clay and Glass group showed great fluctuations in the rate of return upon sales for the first half of the period, the return ranging from 16 per cent in 1919 down to 8 per cent in 1921 and up again to 19 per cent in 1923. From 1924 to 1928, however, the rate varied only between 15 and 17 per cent, a level much higher than that for All Manufacture.

Upon investment much the same thing is true for the first half of the period. In 1927 and 1928, however, the return was only about 12 per cent instead of 16 per cent as in 1924-26.

Sales declined from nearly half a billion in 1920 to 330 million in 1921; then recovered to half a billion again by 1923; from 1923 to the end of the period they grew but little, standing at 550 million in 1928 as against 525 million six years earlier. Investment showed a general increase for the period, rising from 320 million in 1919 to about 700 million in 1928. Net income oscillated greatly during the first half of the period but remained relatively stable at between about 85 and 100 million annually during the last half.

CHART 48
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 9: STONE, CLAY AND GLASS



j. Metals

The 648 corporations of the Metals group showed a return of 15 per cent upon sales in 1919, 10 per cent in 1920, and 3 per cent in 1921. With recovery in 1922 the rate rose to 10 per cent, and remained at either 10 or 11 per cent in every year from 1922 to 1928.

Upon investment 18 per cent was earned in 1919, 12 per cent in 1920 and only 2 per cent in 1921. For the remainder of the period from 9 to 13 per cent was earned, the return in 1928 standing at 11 per cent or at exactly the figure for All Manufacturing. The Metals group, however, it is proper to point out, influences the figures for All Manufacture more than any other single group since it possesses 60 per cent of the total investment for all major manufacturing groups combined.

Sales exhibit great fluctuation, declining from nine and two-thirds billion dollars in 1920 to 5.5 billion in 1921; then increasing to the previous figure again by 1923. From 1923 to 1928 they show some fluctuation, but record a general increase of about 17 per cent, standing at 11.25 billion in 1928. Investment shows a sustained increase over the period, growing from 6.5 billion in 1919 to 10.5 billion in 1928. Net income fluctuates greatly between 1919 and 1923, falling from over a billion dollars in 1919 to 166 million in 1921; then reaching over a billion dollars again in 1923. From 1923 to 1928 it fluctuates between 880 and 1175 million annually.

k. Special Manufacturing Industries

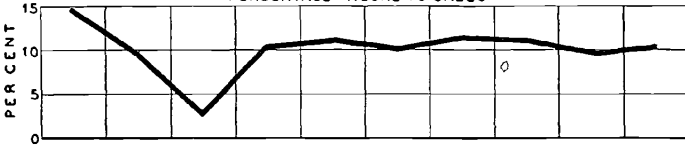
The 89 corporations belonging to this major group carry on manufacturing activities which cannot be well classified under the heading of Foods, Metals, Textiles, or some other specific commodity caption. They include establishments engaged in the production of Scientific Instruments, Toys, Pianos and other fabricated articles not elsewhere classified. But although it comprises a heterogeneous collection of activities, the group is quite as important quantitatively as two or three others of the major groups, its annual sales volume and investment amounting to half a billion dollars each at the end of the period.

The return on sales fluctuates between 10 and 20 per cent during the first half of the period; from 1924 to 1928, between 15 to 18 per cent in most years. Upon investment the return during the first half of the period varies between 11 and 28 per cent; during the last half of the period, between 17 and 20 per cent in most years.

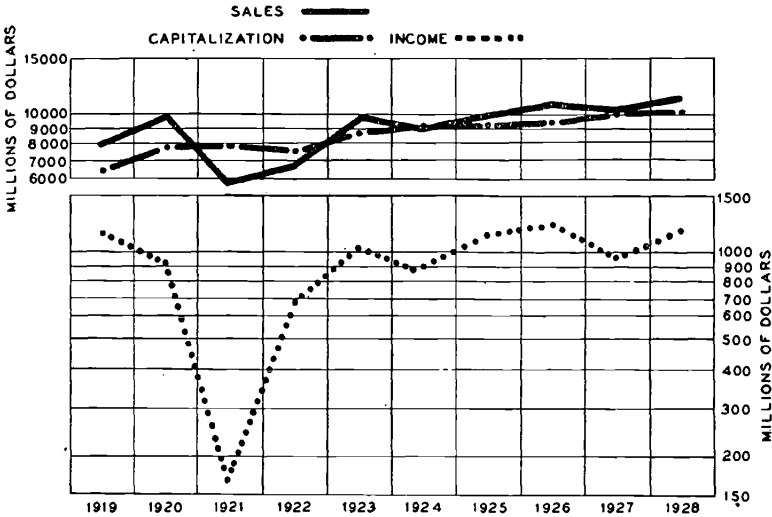
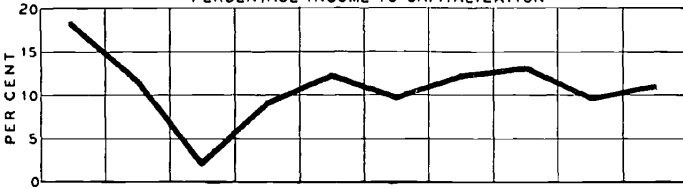
CHART 49
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 10: METALS

PERCENTAGE INCOME TO SALES



PERCENTAGE INCOME TO CAPITALIZATION



In both 1927 and 1928 earnings on investment stand at 17 per cent, which is a substantially higher figure than that for All Manufacture.

Sales show a decline in 1921 but show growth for the period as a whole, the 1928 figure being 539 million as compared with 394 million in 1919 and 469 million in 1920. Investment increases at a faster rate, particularly during the first part of the period, expanding from 258 million in 1919 to 353 million in 1922. At the end of the period it stood at 502 million. Net income was cut in half between 1919 and 1921, but by 1922 more than regained its earlier level. It showed a substantial decline in 1924; then, a marked increase in 1925 and 1926. Between 1926 and 1928 it was about 80 or 90 million dollars annually.

4. DIVIDENDS AND EARNINGS, 1924-1928

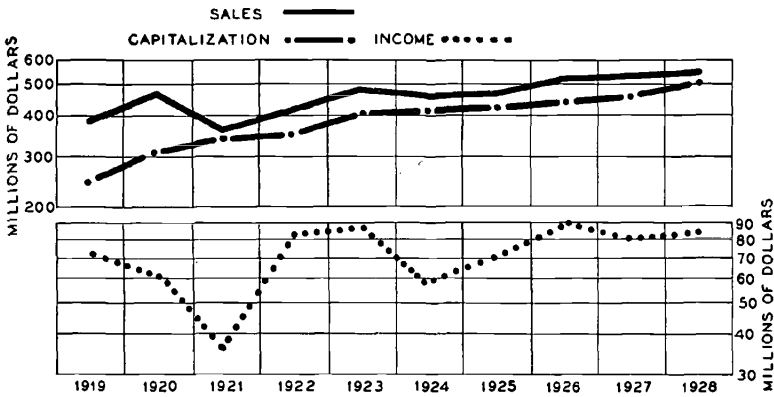
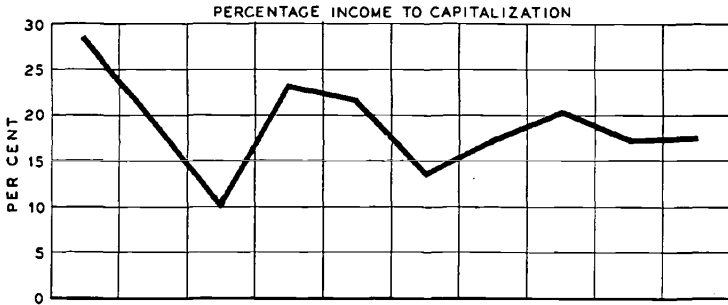
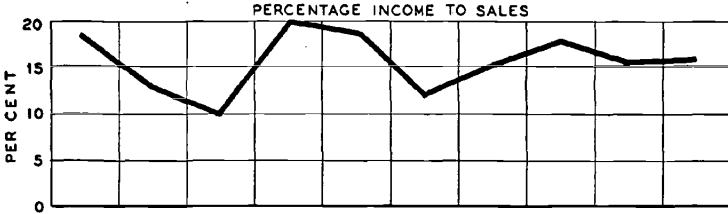
We have data upon the amount of earnings paid out in the form of dividends, for these 2,046 Manufacturing corporations, over the last half of the period, that is, for the years 1924-28. The percentages that the cash dividends paid in each of these years bore to net income are shown in Table 42. The figure was either 50 or 55 per cent in each of the three years 1924, 1925 and 1926; but in 1927 it reached 72 per cent and in 1928 stood at 65 per cent.

Thus for Manufacture as a whole the average dividend disbursement in most years apparently runs between 50 and 65 per cent of income. The 1927 ratio is somewhat higher because many groups suffered a substantial decline of income in that year but maintained their regular dividend rates.

The figures for the Food, Printing and Metals groups are much like those for All Manufacturing. In each, the ratio runs between about 50 and 65 per cent in most years; and in each, 1927 shows the highest percentage of disbursement, the rate being something like 70 per cent. In viewing these several ratios as typical or non-typical, however, it is again to be recalled that the Metals group is by far the largest of all major manufacturing groups and thus influences the aggregate figures for All Manufacturing more than does any other single group, or even any two groups, combined.

The other eight major groups show figures that do not conform so closely with those for All Manufacturing. Details for all groups are given in Table 42.

CHART 50
 IDENTICAL CORPORATIONS SERIES, 1919-28
 MAJOR GROUP 11: SPECIAL MANUFACTURING INDUSTRIES



5. EARNINGS OF INDIVIDUAL CORPORATIONS

In the first section we discussed the general average rates of return on investment earned by our 2,046 Manufacturing corporations in the various years of the period 1919-28. We have now to inquire how the earnings of these individual corporations ranged above and below the general average figures obtained when their income and investment figures are combined. The present section will discuss these ranges for the 2,046 corporations in All Manufacturing as one large industrial division. Similar data for the major groups separately are presented in succeeding chapters. It may be remarked here, however, that the wide variation in earnings rates characterizing these 2,046 corporations in All Manufacturing does not appear simply because the companies in question belong to several diverse major groups. Much the same variation is found in several of the major groups themselves for which charts and data are presented elsewhere.

In 1919 our 2,046 Manufacturing corporations earned a combined return of 18 per cent upon their investment. Seventy-one per cent, however, earned more than this rate. Half earned over 27 per cent, while one-fourth earned over 43 per cent. In 1920 the general average return was reduced to 12 per cent. Still nearly 70 per cent (to be exact, 67 per cent) of the corporations earned more than the average rate. Half earned over 19 per cent, while the upper quarter earned in excess of 32 per cent.

The depression year 1921 brought the general average figure for All Manufacture down to 3 per cent. Again, however, 70 per cent of the corporations earned in excess of this rate; half earned more than 8 per cent, while the upper fourth earned over 17 per cent. At the same time, more than one-fifth earned no net income at all; in fact, they suffered actual deficits. Here is variation indeed! In a year of undeniably deep depression half of these large manufacturing corporations succeed in earning net incomes at rates clearly in excess of what we are accustomed to call 'normal interest'. That is to say, exactly one-half of these corporations earned more than 8.6 per cent; a few less than half earned over 10 per cent; a fifth earned over 20 per cent; and less than a tenth earned over 30 per cent.

In 1922 the general average return recovered to 10 per cent. Again, however, almost three-quarters of the corporations earned in

excess of this figure; half earned over 17 per cent; the upper quarter earned over 28 per cent; while the lower quarter earned under 9 per cent. Over a fifth, in this year of recovery, earned over 30 per cent.

Between 1922 and 1928 the distribution of the earnings of individual corporations, while continuing to show substantial variation, exhibited a general decline in the number of companies receiving the highest earnings (and a corresponding increase in the number receiving the lowest). Chart 51 presents these changes in the distribution by broad classes of earnings rates.³ It will be observed that while in 1922 and 1923 something like a fourth of the corporations earned under 10 per cent, about 40 per cent did so in 1928. Examining the highest bracket of the chart, we see that whereas almost two-thirds of the corporations earned 20 per cent or over in 1922 and 1923, only about one-fifth did so in 1928. The proportion of companies occupying the middle of the three brackets of the chart—the 10 to 19 per cent class of earnings rates—remains roughly constant between 1923 and 1928, that is, approximately two-fifths of the corporations in most years earned between 10 and 19 per cent upon their investment. Detailed figures for the distribution in each year are given in Table 42.

³The four broad class intervals of this chart, and of those like it in succeeding chapters, are shown as 'Under Zero', '1 to 9 per cent', '10 to 19 per cent', and '20 per cent and over' respectively. This appears to omit the range from zero to one per cent. Actually it does not. The theoretically possible case of an exact zero income was never encountered in the original calculations. The original data themselves, on which the *Source-Book* is based, had been rounded off to the nearest dollar. All calculated percentages for income to capitalization were thus either positive or negative. But these calculated percentages themselves were rounded off to the nearest whole per cent. In the case of all positive percentages falling in the 0.1 to 0.9 class, these were regarded as belonging to the 'one per cent' category. Thus 'Under Zero' means negative earnings rates of any size, and '1 to 9' per cent includes the positive rates which may have been fractional before they were rounded off in the preparation of the *Source-Book*.

CHART 51
 FREQUENCY DISTRIBUTION OF EARNINGS RATES,
 INDIVIDUAL COMPANIES (IDENTICAL CORPORATIONS SERIES)

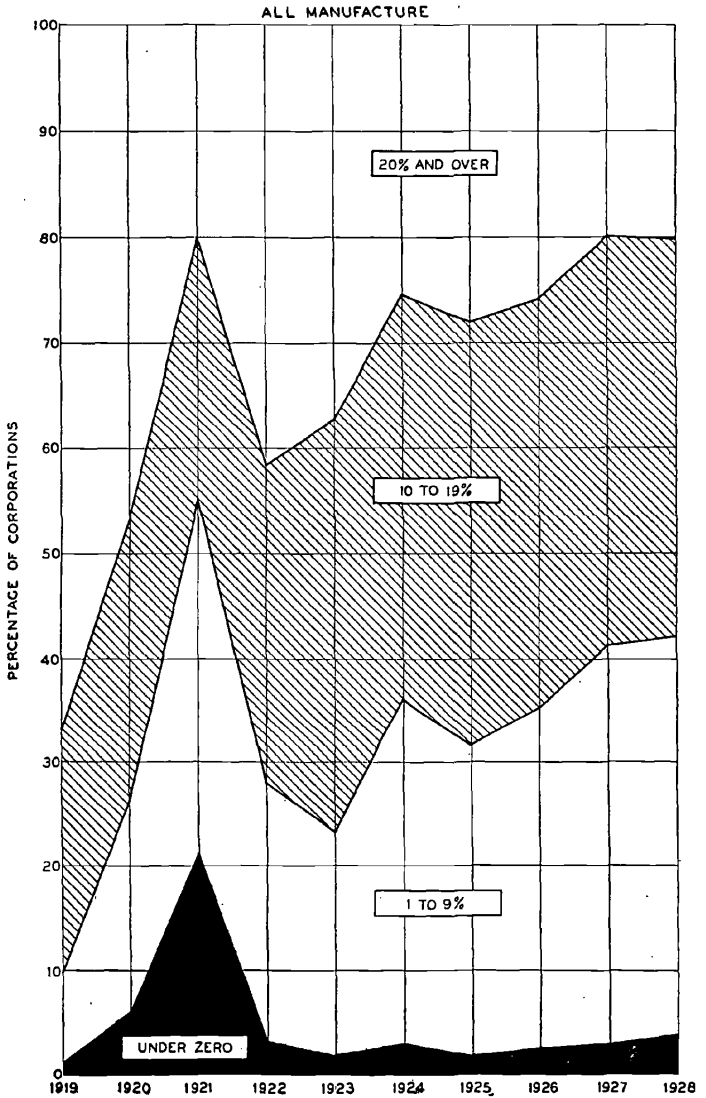


TABLE 42

MANUFACTURING AND ITS MAJOR GROUPS, LARGE IDENTICAL CORPORATIONS SERIES

(A) SIZE AND CHARACTER OF SAMPLE

| | NUMBER OF CORPORATIONS | AVERAGE CAPITAL PER CORPORATION ¹ (<i>millions of dollars</i>) | |
|-------------------------------------|------------------------------|--|--------|
| | | ARITHMETIC MEAN | MEDIAN |
| All manufacturing | 2,046 | 13.50 | 1.97 |
| <i>Major group</i> | | | |
| 1 Foods | 215 | 14.76 | 2.17 |
| 2 Textiles | 289 | 4.30 | 1.73 |
| 3 Leather | 54 | 4.85 | 2.40 |
| 4 Rubber | 26 | 31.03 | 2.83 |
| 5 Lumber | 190 | 2.95 | 1.15 |
| 6 Paper | 111 | 6.00 | 1.58 |
| 7 Printing and publishing | 100 | 5.69 | 1.36 |
| 8 Chemicals | 210 | 34.44 | 2.22 |
| 9 Stone, clay and glass | 114 | 6.48 | 2.08 |
| 10 Metals | 648 | 18.31 | 2.38 |
| 11 Special manufacturing industries | 89 | 5.75 | 2.32 |

¹ Total capital (i.e., includes funded debt) as of December 31, 1928.

TABLE 42 (continued)

| | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1919- 1928 ^a |
|---|------|------|-------|------|------|------|------|------|------|------|----------------------------|
| (B) PERCENTAGE INCOME TO SALES | | | | | | | | | | | |
| All manufacturing | 11.5 | 7.9 | 3.1 | 9.9 | 9.8 | 8.9 | 10.0 | 10.1 | 8.3 | 9.7 | 9.1 |
| <i>Major group</i> | | | | | | | | | | | |
| 1 Foods | 3.7 | 2.3 | 1.7 | 5.1 | 5.3 | 4.4 | 3.8 | 4.8 | 4.1 | 4.4 | 4.0 |
| 2 Textiles | 16.9 | 4.9 | 9.0 | 12.6 | 11.0 | 5.4 | 7.2 | 5.5 | 7.7 | 5.8 | 8.5 |
| 3 Leather | 12.1 | 2.2 | 1.6 | 9.2 | 6.8 | 8.4 | 7.6 | 7.3 | 9.5 | 7.6 | 7.4 |
| 4 Rubber | 12.1 | 1.1 | -13.2 | 2.9 | 4.3 | 5.6 | 11.2 | 5.2 | 4.8 | 0.8 | 4.0 |
| 5 Lumber | 12.4 | 14.7 | 6.3 | 14.3 | 15.2 | 12.3 | 11.7 | 10.8 | 7.8 | 8.2 | 11.5 |
| 6 Paper | 12.5 | 16.1 | 1.9 | 7.6 | 9.2 | 9.9 | 8.6 | 8.9 | 8.9 | 8.1 | 9.5 |
| 7 Printing and publishing | 16.5 | 16.5 | 14.4 | 20.7 | 17.8 | 18.4 | 15.2 | 17.7 | 17.5 | 15.8 | 17.0 |
| 8 Chemicals | 14.0 | 12.5 | 3.7 | 12.9 | 9.4 | 12.3 | 15.4 | 15.6 | 9.6 | 17.5 | 12.6 |
| 9 Stone, clay and glass | 15.5 | 13.1 | 7.9 | 14.4 | 18.9 | 16.5 | 16.9 | 16.8 | 15.0 | 16.2 | 15.4 |
| 10 Metals | 14.7 | 9.7 | 3.0 | 10.2 | 11.1 | 10.1 | 11.4 | 11.1 | 9.8 | 10.4 | 10.4 |
| 11 Special manufacturing industries | 18.3 | 12.9 | 10.0 | 19.9 | 18.1 | 12.2 | 15.0 | 17.6 | 15.4 | 15.9 | 15.6 |
| (C) PERCENTAGE INCOME TO CAPITALIZATION | | | | | | | | | | | |
| All manufacturing | 18.3 | 12.3 | 2.9 | 10.2 | 11.2 | 10.0 | 12.1 | 12.4 | 9.5 | 11.0 | 10.8 |
| <i>Major group</i> | | | | | | | | | | | |
| 1 Foods | 11.9 | 6.5 | 3.4 | 10.3 | 10.4 | 10.9 | 10.1 | 11.7 | 10.5 | 11.1 | 9.8 |
| 2 Textiles | 30.2 | 8.1 | 10.6 | 16.5 | 14.5 | 6.7 | 9.2 | 7.1 | 9.0 | 6.7 | 11.2 |
| 3 Leather | 34.1 | 4.3 | 2.4 | 15.5 | 11.2 | 12.8 | 12.7 | 12.1 | 15.4 | 11.5 | 12.7 |
| 4 Rubber | 19.0 | 2.1 | -12.6 | 3.6 | 6.0 | 7.3 | 18.9 | 8.6 | 6.9 | 1.3 | 5.9 |
| 5 Lumber | 19.1 | 18.0 | 4.6 | 14.2 | 16.9 | 12.8 | 12.3 | 11.6 | 7.1 | 8.5 | 12.1 |
| 6 Paper | 16.6 | 27.6 | 1.7 | 7.8 | 9.5 | 9.9 | 8.1 | 7.9 | 7.6 | 6.9 | 9.6 |
| 7 Printing and publishing | 23.0 | 26.9 | 17.6 | 26.6 | 21.7 | 21.0 | 17.2 | 23.0 | 19.4 | 21.5 | 21.4 |
| 8 Chemicals | 18.0 | 16.5 | 2.9 | 9.2 | 6.7 | 9.1 | 12.2 | 12.1 | 7.5 | 11.6 | 10.2 |

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| | | | | | | | | | | | |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| 9 Stone, clay and glass | 16.7 | 17.4 | 6.3 | 14.1 | 19.6 | 15.6 | 16.2 | 15.2 | 12.3 | 12.8 | 14.5 |
| 10 Metals | 18.0 | 12.0 | 2.1 | 8.8 | 12.1 | 9.8 | 12.1 | 13.1 | 9.8 | 11.1 | 10.8 |
| 11 Special manufacturing industries | 28.0 | 19.4 | 10.6 | 23.1 | 21.5 | 13.9 | 16.9 | 20.2 | 17.0 | 17.0 | 18.4 |
| ¹ Ten-year aggregate. | | | | | | | | | | | |

| | (D) PERCENTAGE PROFIT TO TOTAL CAPITAL | | | | | (E) PERCENTAGE OF INCOME PAID OUT IN CASH DIVIDENDS | | | | |
|-------------------------------------|--|------|------|------|------|---|------|------|-------|-------|
| | 1924 | 1925 | 1926 | 1927 | 1928 | 1924 | 1925 | 1926 | 1927 | 1928 |
| All manufacturing | 9.5 | 11.4 | 11.7 | 9.0 | 10.4 | 55.0 | 50.0 | 55.0 | 72.0 | 65.0 |
| <i>Major group</i> | | | | | | | | | | |
| 1 Foods | 10.1 | 9.3 | 10.9 | 9.7 | 10.3 | 58.3 | 64.7 | 59.4 | 76.7 | 61.2 |
| 2 Textiles | 6.6 | 9.1 | 7.0 | 8.9 | 6.6 | 82.3 | 58.6 | 72.6 | 52.6 | 71.0 |
| 3 Leather | 12.6 | 12.5 | 12.0 | 15.0 | 12.2 | 26.7 | 33.0 | 33.7 | 24.4 | 58.4 |
| 4 Rubber | 6.8 | 15.7 | 7.6 | 6.4 | 2.3 | 24.1 | 21.4 | 56.4 | 114.1 | 270.1 |
| 5 Lumber | 12.4 | 11.9 | 11.4 | 7.0 | 8.2 | 53.4 | 60.3 | 73.7 | 97.8 | 66.1 |
| 6 Paper | 9.4 | 7.5 | 7.3 | 7.0 | 6.7 | 45.7 | 56.5 | 48.6 | 66.4 | 76.4 |
| 7 Printing and publishing | 19.4 | 15.6 | 20.2 | 16.5 | 18.3 | 44.3 | 58.3 | 59.0 | 69.9 | 48.6 |
| 8 Chemicals | 8.9 | 11.8 | 11.6 | 7.3 | 11.1 | 66.8 | 54.0 | 60.5 | 88.7 | 70.5 |
| 9 Stone, clay and glass | 15.3 | 15.9 | 15.0 | 12.1 | 12.3 | 42.3 | 45.8 | 59.7 | 60.0 | 49.9 |
| 10 Metals | 9.2 | 11.3 | 12.2 | 9.3 | 10.4 | 49.2 | 44.2 | 48.4 | 67.5 | 62.7 |
| 11 Special manufacturing industries | 13.7 | 16.7 | 20.1 | 16.9 | 16.8 | 71.9 | 74.5 | 61.5 | 47.5 | 72.3 |

TABLE 42 (continued)

(F) FREQUENCY DISTRIBUTIONS OF PERCENTAGES OF TOTAL NET INCOME TO CAPITALIZATION, INDIVIDUAL CORPORATIONS, 1919-23. ALL MANUFACTURING

| PERCENTAGE INCOME TO CAPITALIZATION | 1919 | | 1920 | | 1921 | | 1922 | | 1923 | |
|-------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|
| | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES |
| Under zero | 1.0 | 1.0 | 6.0 | 6.0 | 21.2 | 21.2 | 3.2 | 3.2 | 1.9 | 1.9 |
| Zero to 4 | 2.2 | 3.2 | 7.1 | 13.1 | 15.5 | 36.7 | 9.2 | 12.4 | 6.3 | 8.2 |
| 5 to 9 | 6.5 | 9.7 | 13.3 | 26.4 | 18.4 | 55.1 | 15.4 | 27.8 | 15.1 | 23.3 |
| 10 to 14 | 10.9 | 20.6 | 14.0 | 40.4 | 14.8 | 69.9 | 16.5 | 44.3 | 19.4 | 42.7 |
| 15 to 19 | 12.6 | 33.2 | 13.0 | 53.4 | 10.2 | 80.1 | 14.2 | 58.5 | 20.0 | 62.7 |
| 20 to 24 | 12.4 | 45.6 | 9.9 | 63.3 | 6.3 | 86.4 | 10.9 | 69.4 | 13.2 | 75.9 |
| 25 to 29 | 9.4 | 55.0 | 8.5 | 71.8 | 4.2 | 90.6 | 9.2 | 78.6 | 9.3 | 85.2 |
| 30 and over | 45.0 | 100.0 | 28.2 | 100.0 | 9.4 | 100.0 | 21.4 | 100.0 | 14.8 | 100.0 |

(G) FREQUENCY DISTRIBUTIONS OF PERCENTAGES OF TOTAL PROFIT TO TOTAL CAPITAL, INDIVIDUAL CORPORATIONS, 1924-28. ALL MANUFACTURING

| PERCENTAGE INCOME TO CAPITALIZATION | 1924 | | 1925 | | 1926 | | 1927 | | 1928 | |
|-------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|
| | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES | PERCENT-AGE IN EACH CLASS | ACCU-MULATED BY SUCCESSIVE CLASSES |
| Under zero | 2.9 | 2.9 | 1.8 | 1.8 | 2.4 | 2.4 | 3.0 | 3.0 | 3.7 | 3.7 |
| Zero to 4 | 10.0 | 12.9 | 8.3 | 10.1 | 10.6 | 13.0 | 12.4 | 15.4 | 13.0 | 16.7 |
| 5 to 9 | 23.3 | 36.2 | 21.4 | 31.5 | 22.2 | 35.2 | 25.7 | 41.1 | 25.4 | 42.1 |
| 10 to 14 | 22.0 | 58.2 | 25.9 | 57.4 | 23.8 | 59.0 | 23.5 | 64.6 | 23.0 | 65.1 |

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| | | | | | | | | | | |
|-------------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 15 to 19 | 16.4 | 74.6 | 14.6 | 72.0 | 15.2 | 74.2 | 15.5 | 80.1 | 14.6 | 79.7 |
| 20 to 24 | 10.0 | 84.6 | 10.3 | 82.3 | 11.0 | 85.2 | 8.2 | 88.3 | 8.7 | 88.4 |
| 25 to 29 | 5.6 | 90.2 | 7.0 | 89.3 | 5.2 | 90.4 | 4.2 | 92.5 | 4.5 | 92.9 |
| 30 and over | 9.8 | 100.0 | 10.7 | 100.0 | 9.6 | 100.0 | 7.5 | 100.0 | 7.1 | 100.0 |