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LONG-TERM DEBT AND NET WORTH

THE FORCES AFFECTING the character and relative proportions of long-term debt and net worth are so numerous and so difficult to appraise in quantitative terms that the interpretation of variations in these accounts with respect to industry, size, and profitability is bound to be hazardous. Such factors as depreciation policy, the reinvestment of earnings, corporate taxation, and security market regulations are among the complex forces (other than cost considerations and market conditions) which result in the financial plan of an enterprise. The declaration of stock dividends, the revaluation of stock, the sale of stock at a premium or discount, and various other surplus adjustments also should be mentioned. Nevertheless, interest remains in the analysis of net worth and long-term debt, according to industry, size, and profitability, if for no other reason than to determine whether such factors tend to eliminate any systematic pattern in these elements of financial structure.

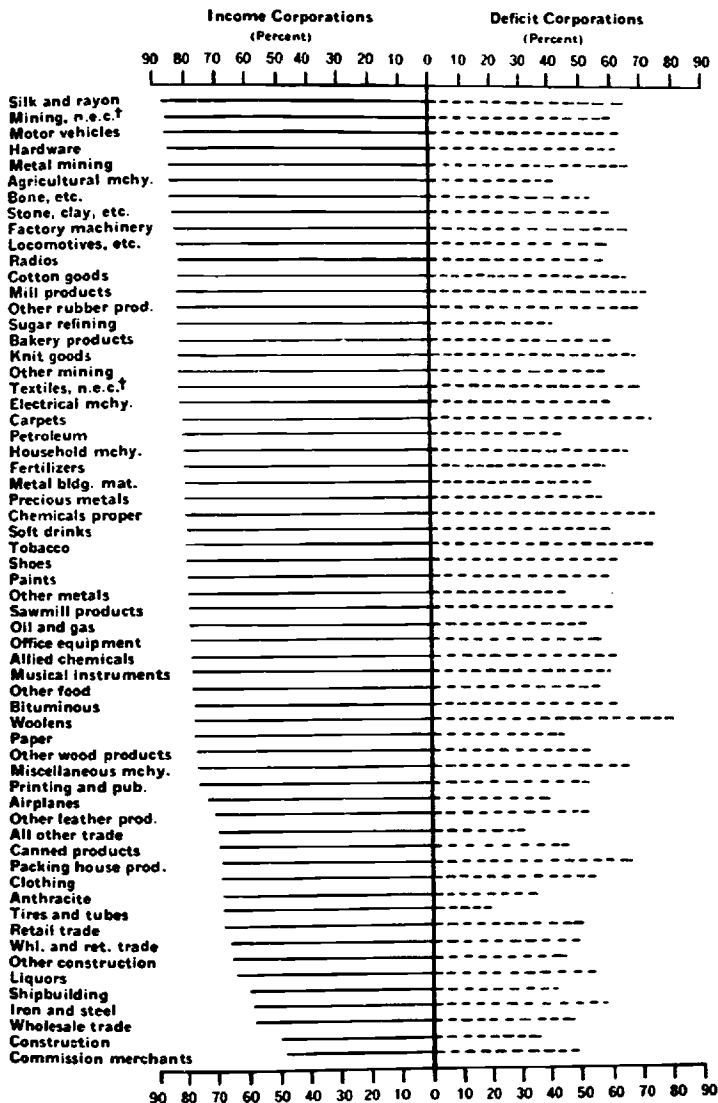
DEBT AND EQUITY CAPITAL

To what extent does the proportion of owned assets vary among different classes of corporations? In answering this question, we shall use the ratio of net worth to total assets, rather than the more conventional ratio of net worth to total debt, because the former may be compared directly with ratios of other items to total assets, which we have examined in previous chapters.

Certain broad industrial variations in the ratio of net worth to total assets are of interest. Manufacturing as a whole has the highest ratio (74 percent) and is followed closely by mining (72 percent); trade corporations are in an intermediate position (60 percent); and construction (52 percent) is the lowest of the major groups included in our survey.¹ Chart 12 reveals that the

¹ The utilities, railroads, and service corporations—which are not included in our study—have ratios of 55, 45, and 34 percent, respectively.

Chart 12—RATIO OF NET WORTH TO TOTAL ASSETS FOR INCOME AND DEFICIT GROUPS OF MINOR INDUSTRIAL DIVISIONS, 1937*



*Based on data from *Source Book of Statistics of Income for 1937*. For composite of income and deficit corporations, see Data Book (National Bureau of Economic Research) Table C-28.

†Not elsewhere classified.

industrial rankings of income corporations frequently differ from those of the corresponding deficit concerns, although the rank correlation between the two groups is above the level of statistical significance. Some evidence of the stability of the industrial differences is afforded by the considerable similarity between the rankings of the ratio in 1937 and in 1931. A test of the SEC data also reveals significant differences in the proportion of equity capital among the major industrial divisions.² The evidence on the whole indicates that industrial variations in the proportion of equity capital are not the product of mere random forces. Classification according to producers' and consumers' goods industries does not yield significant differences, however.

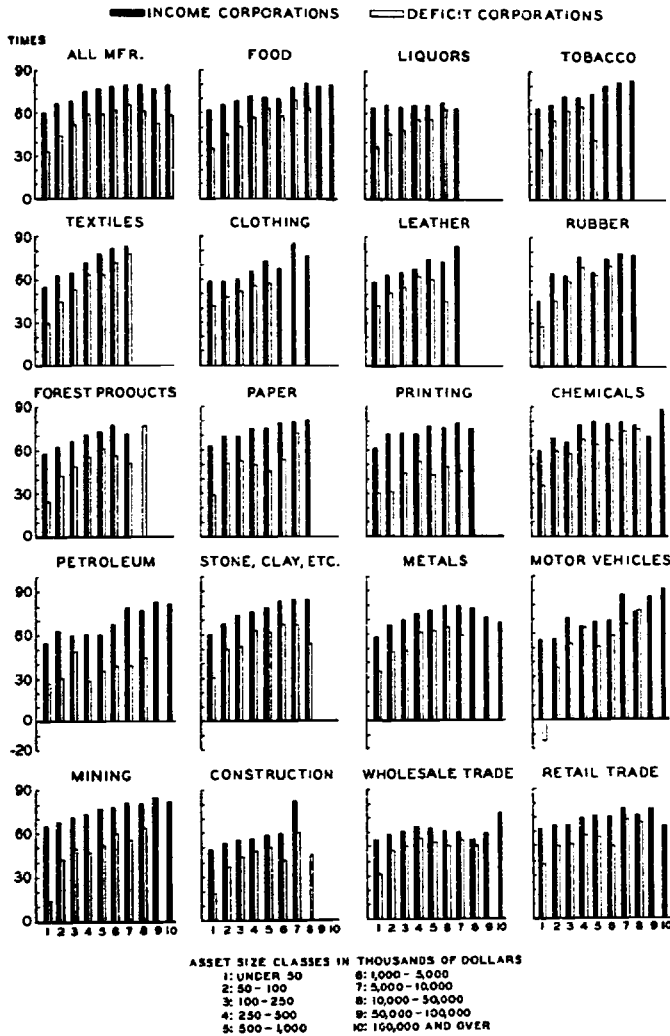
In both income and deficit corporations of the major industrial divisions the ratio of net worth to total assets tends to increase consistently with size of corporation (Chart 13).³ This behavior is complementary to the inverse variation with size of the current liabilities as a percentage of total assets. The variation of the net worth/total assets ratio reflects primarily the striking behavior of the surplus component of net worth, which is discussed on page 99, below. The ratio of capital stock to total assets actually varies inversely with size, while the ratio of long-term debt does not show any consistent variation.

The ratio of net worth to total assets is decidedly lower among deficit than among income corporations. The SEC data on net worth compared with total debt, grouped into several profitability classes, also show the same relationship, which is found to be statistically significant. Further examination reveals that the surplus component of net worth is the basis of this behavior, just as in the case of the variation with corporate size. There is a significant rank correlation between the profitability of minor industrial divisions and the net worth/total assets ratio; this correlation indicates that the effect of profitability upon net worth is sufficient to be a factor in determining industrial differences in the ratio. However, differences in the profitability of various size

² The test was made with data for the ratio of net worth to total debt, which would, of course, give the same results as the net worth/total assets ratio.

³ This tendency is stronger, however, among corporations with assets of less than \$1,000,000 than among larger concerns. In fact, the SEC data for the ratio of net worth to total debt, which relate primarily to corporations with assets over \$1,000,000, do not exhibit statistically significant variations with corporate size.

Chart 13—RATIO OF NET WORTH TO TOTAL ASSETS FOR INCOME AND DEFICIT GROUPS OF MAJOR INDUSTRIAL DIVISIONS, 1937, BY ASSET SIZE*



*Based on Table C-15 in Data Book (National Bureau of Economic Research). Wholesale and retail trade figures are for the year 1938.

classes within the major industrial divisions do not appear to exercise a similar effect upon the net worth/total assets ratio.

THE COMPOSITION OF NET WORTH

Is the distribution of net worth between capital stock and surplus related to industrial, size, and profitability differences among corporations? We must admit at the outset that to treat capital stock and surplus as if they were two independent components of net worth is to some extent an artificial procedure. Stock dividends, revaluations, and the sale of stock at a premium all contribute to the uncertainty of the significance of the division of net worth into two components, as well as of the meaning of the total.⁴ Other adjustments entering into the surplus reconciliation also render the figures ambiguous. The analysis of the sources and uses of corporate funds is far more effective in dealing with such problems than a cross-section analysis of the present type. In the present discussion it will be best not to think of capital stock and surplus as a measure of sources of funds for corporate outlays but as two formal categories in an accounting sense.

Industrial Variations

Both absolutely and relatively surplus varies more widely than capital stock among the minor industrial divisions. Surplus, with a median value of 25 percent of total assets, varies from 6 to 52 percent. Capital stock, with a median value of 48 percent, varies from 28 to 66 percent. (See Table C-28 in Data Book.) While the absolute range of the ratios for both these items is large, it should be remembered that the two items comprise a substantial portion of total liabilities; accordingly, their range of variation, when compared with that of other liabilities, is moderate. There is little evidence that capital stock and surplus act as substitutes in the corporate balance sheet. Only a very mild tendency exists, more pronounced among deficit than among income corporations,

⁴The Internal Revenue data provide only one figure for "surplus and undivided profits." The SEC data go into greater detail, separating surplus into capital surplus, earned surplus, unsegregated surplus, and surplus reserves. Earned surplus for all listed corporations is 54 percent of total surplus. The figure for earned surplus is also affected by various adjustments which render its interpretation difficult. See *Statistics of American Listed Corporations*, p. 212.

for a high percentage of capital stock to be associated with a low percentage of surplus and vice versa. Nevertheless, the ratio of capital stock to surplus varies from 62 to 567 percent, with a median value of 193 percent⁵ (Table C-28 in Data Book).

The capital stock/total assets ratio varies among the minor industrial divisions in a fairly random fashion; that is, the variation does not reflect specific industrial characteristics. The correlation between the rankings of income and deficit corporations is only mildly significant. Division of minor industrial groups into producers' and consumers' goods industries does not yield significant results. Also, the industrial variations of the ratio show no relation whatever to the average asset size or to the profitability of the minor divisions.

The industrial variations in the ratio of surplus to total assets are, for the most part, no more systematic than those of capital stock. The correlation between the rankings of income and deficit corporations is not significant; and classification according to producers' and consumers' goods also yields no significant results. However, the surplus component reflects significant differences in asset size and profitability among the minor industrial divisions. The larger the average asset size, the higher the proportion of surplus. Similarly, the more profitable the industrial division, the greater the ratio of surplus to total assets. How much of the variation is attributable independently to size and how much to profitability is not shown by the simple correlation coefficients used in this study. The fact that there is little correlation between average asset size and industrial profitability, however, indicates that both factors exert independent influence on the surplus/total assets ratio. The rank correlation between profitability and the ratio of surplus to total assets is only moderately strong, and numerous industries of relatively high profitability have relatively low surplus components. This is probably more true of any single year than of a period of years, since sooner or later the effect of profitability on surplus should be felt.⁶

⁵ Mining and quarrying "not elsewhere classified" and all the trade groups with extremely high ratios have been excluded from this range.

⁶ Unfortunately, a comparison of 1937 results with earlier years is not possible. In 1937, the item "other liabilities" was reclassified, which resulted in the shifting of surplus reserves from "other liabilities" into "surplus." See *Statistics of Income for 1937*, Part 2, p. 23.

Variations with Corporate Size

Both capital stock and surplus show systematic variations with size of corporation in a majority of industrial divisions. The ratio of capital stock to total assets declines as size of corporation increases; among the income corporations, however, most of the decline is confined to corporations of less than \$1,000,000 total assets (Table C-13 in Data Book). The surplus/total assets ratio rises sharply and consistently among deficit concerns and among income corporations with assets of less than \$1,000,000 (Table C-14 in Data Book).

The variation of the surplus component dominates the relationship between net worth and corporate size. The movement of the capital stock/total assets ratio appears to be largely in the nature of a compensatory or passive adjustment to the variation of surplus. There is no theoretical basis for expecting capital stock to be a smaller component of total liabilities among the large corporations; if anything, the contrary might be expected, because of the greater ease for large corporations to float securities and their tendency to avoid short-term debt. Perhaps one explanation is that small corporations capitalize their surplus more rapidly.

What is the basis for the sharp increases in the surplus component among corporations with total assets of less than \$1,000,000? In the case of the deficit corporations, the answer appears clearly to be the sharp rise in the rate of profit (decline in the rate of loss). The enormous deficits of the unprofitable corporations with assets under \$250,000 dominate the upward sweep of the surplus/total assets ratio and in turn of the ratio of net worth to total assets. This is an outstanding case of the interaction between corporate size and profitability. The basis of the increase in the ratio of surplus to total assets among income corporations with assets of less than \$1,000,000 is less clear, since the rate of profit in most industrial groups actually declines slightly as size of corporation increases. The comparatively small surplus among the small corporations of the income group may reflect the greater instability of earnings and possibly a relatively shorter life, on the average, of small enterprises.

In connection with variations in the surplus component, the relation between corporate size and the reinvestment of earnings is

of interest.⁷ The data reveal that the proportion of net profits retained in 1937 actually declines as size of corporation increases, the small corporations plowing back a larger percentage of earnings than the large concerns in corresponding industrial groups.⁸ These data, therefore, do not explain the behavior of the surplus/total assets ratio, although we should add that the variations with size of the ratio of cash dividends to net profit may be somewhat misleading, since among smaller corporations part of the salaries paid out should properly be included in profits. An estimate of salary payments cannot be made from the data available. The inclusion of such payments, however, would undoubtedly tend to reduce the disparity between the rate of reinvestment of earnings in small and large corporations, since adding part of salaries paid out to both numerator and denominator would raise the ratio of cash dividends to net profit.

Variations with Profitability

As in the case of size variation, the difference in the capital stock/total assets ratio between income and deficit corporations appears to be linked directly with the behavior of surplus. Particularly among the small and medium-sized corporations with assets under \$10,000,000 the surplus component is much smaller in the deficit than in the income group, and the capital stock component is proportionately higher. For the very large concerns, in which the disparity between the surplus/total assets ratio of income and deficit corporations is narrow, the ratio of capital stock to total assets is only slightly lower among the deficit than among the

⁷ Data on the ratio of cash dividends to net profit or loss (less total tax) were obtained from the *Source Book of Statistics of Income for 1937*.

⁸ The ratio of cash dividends to net profit or loss (less total tax) for all manufacturing corporations in 1937 is as follows:

<i>Size Class</i>	<i>Income Corporations</i>	<i>Deficit Corporations</i>
Under \$50,000	64.2%	1.3%
50,000-100,000	67.9	3.6
100,000-250,000	72.9	3.7
250,000-500,000	74.2	5.3
500,000-1,000,000	72.6	7.3
1,000,000-5,000,000	74.2	11.3
5,000,000-10,000,000	76.6	18.2
10,000,000-50,000,000	84.4	24.3
50,000,000-100,000,000	93.1	34.7
100,000,000 and over	90.2	79.6

income concerns. Taking all manufacturing corporations as a whole, the higher ratio of capital stock among deficit compared with income corporations (52 percent and 46 percent, respectively) reflects the weight of the small and medium-sized corporations. Among the minor industrial divisions the differences in the proportion of capital stock between income and deficit corporations are also related to the fact that the deficit corporations are smaller than the corresponding income corporations. For those deficit corporations whose ratio of capital stock to total assets is higher than that for income corporations, total assets apparently have shrunk while the book value of outstanding capital stock has not been reduced proportionately, if at all.

LONG-TERM DEBT

Industrial Variations

In 1937 the long-term debt of nonfinancial corporations was twice the size of short-term debt in the form of notes and accounts payable and 56 percent of the outstanding capital stock. The figure was strongly affected by the great volume of long-term debt of the railroads and public utilities; in manufacturing and trade, the long-term debt was much less important. For manufacturing corporations it amounted to 67 percent of notes and accounts payable and 19 percent of capital stock; in trade, the respective percentage figures were 24 and 16.

Among the minor industrial divisions the ratio of long-term debt to total assets ranges from 1 to 36 percent, with the central half of the distribution lying between 5 and 10 percent. (See Table C-28 in Data Book.) The rankings of income and deficit corporations are very similar—an indication of fairly persistent industrial differences. The industrial rankings for 1937 and 1931 also are very similar, which would be expected since the short-run changes in the volume of long-term debt are bound to be relatively small. The long-term debt ratio is higher on the average among industries manufacturing producers' goods than among consumers' goods industries, but the variation within the two groups is so great that the difference is not statistically significant.

Differences in the average asset size of minor industrial groups do not affect the relative volume of long-term debt. Among these groups the relationship between profitability and the percentage

of long-term debt is slightly inverse, but it is barely above the level of statistical significance.

The relationship between the ratio of fixed capital assets to total assets and the ratio of long-term debt to total assets is moderately direct among the minor industrial divisions. On the basis of the SEC data industrial differences in the ratio of long-term debt to fixed assets are statistically significant, a fact which yields further evidence of the existence of a relationship between long-term debt and fixed capital assets.⁹

Do long-term debt and short-term debt act as substitutes for each other among the various minor industrial divisions? An analysis of the rank correlations of the ratios of long-term and short-term debt to total assets indicates no statistically significant relationship, inverse or direct. The same absence of a substitute relationship, on an industrial basis, is found to characterize long-term debt and capital stock.

Variations with Corporate Size

The relationship of corporate size and the proportion of long-term debt to total assets differs between income and deficit corporations. In the former group size is not a significant factor. Among the deficit corporations as a whole, however, the ratio rises appreciably as corporate size increases (Table C-12 in Data Book), although a number of major industries do not conform to the general pattern. Moreover, the increases are not important among corporations with total assets of less than \$1,000,000, so that the tendency might better be described as a difference in the level of long-term debt between corporations with assets of less than \$1,000,000 and those with assets in excess of \$1,000,000.

The ratio of notes payable to long-term debt (and also the ratio of notes and accounts payable to long-term debt) declines sharply as size of corporation increases (Table 10). This does not indicate, however, that long-term debt substitutes for short-term debt, since, as noted above, long-term debt does not increase with corporate size, except among the deficit corporations and then only in an irregular fashion. Long-term debt as a percentage of net worth shows no significant relationship to corporate size until corporations with total assets of more than \$1,000,000 are

⁹ See *Statistics of American Listed Corporations*, Table 95, p. 320.

Table 10—RATIO OF SHORT-TERM DEBT TO LONG-TERM DEBT, OF LONG-TERM DEBT TO NET WORTH, AND OF LONG-TERM DEBT TO FIXED CAPITAL ASSETS, FOR INCOME AND DEFICIT DIVISIONS OF ALL MANUFACTURING CORPORATIONS, 1937, BY ASSET SIZE* (in percent)

Size ^b	Notes Payable to Long-Term Debt		Notes and Accounts Payable to Long-Term Debt		Long-Term Debt to Net Worth		Long-Term Debt to Fixed Capital Assets	
	Income	Deficit	Income	Deficit	Income	Deficit	Income	Deficit
Under \$50,000	163.7	137.6	534.5	388.9	8.6	33.7	16.1	30.9
50,000-100,000	156.3	133.9	427.6	342.5	8.0	22.7	15.7	26.2
100,000-250,000	142.2	134.0	354.5	300.4	8.2	20.4	16.2	25.2
250,000-500,000	127.0	108.0	295.5	221.0	7.9	19.0	16.3	25.8
500,000-1,000,000	120.0	93.7	278.1	189.6	7.0	20.8	14.5	28.3
1,000,000-5,000,000	100.0	65.2	228.9	129.2	7.2	23.7	15.3	33.8
5,000,000-10,000,000	56.5	29.5	141.4	66.7	8.6	29.1	18.8	39.1
10,000,000-50,000,000	45.9	26.2	117.2	80.3	9.6	30.0	20.5	37.9
50,000,000-100,000,000	20.6	13.4	78.7	24.3	15.6	64.3	31.6	65.4
100,000,000 and over	31.2	25.2	143.5	72.0	10.0	38.8	19.8	50.3

* Based on data from *Statistics of Income for 1937*, Part 2.

^b Inclusive of the lower limit and exclusive of the upper.

reached, when the ratio begins to rise appreciably. The ratio of long-term debt to fixed capital assets varies irregularly with size, but its level among corporations with assets over \$1,000,000 is definitely higher than among smaller concerns. A test of SEC data for the ratio of long-term debt to fixed capital assets reveals no significant variation with size, however; these data relate primarily to large manufacturing corporations with assets over \$1,000,000.

Variations with Profitability

The ratio of long-term debt to total assets is considerably higher among deficit than among income corporations in corresponding asset classes and minor industrial groups. The differences tend to increase with size of corporation because of the sharp rise of debt among the deficit concerns. Since deficit corporations also have a larger proportion of current liabilities, the higher ratio for long-term debt cannot be interpreted as a substitution of long-term for short-term obligations. For the most part it appears to reflect a shrinkage in the assets of deficit corporations without a corresponding shrinkage in the long-term debt. In other words, it reflects the difference between the surplus components of income and deficit corporations.

As indicated above, no correlation exists between profitability and the level of long-term debt among minor industrial groups. Among the size classes of the major industrial groups, also, no relationship is evident between the variations of long-term debt and profitability. In addition, the SEC data show no significant variation with profitability in the ratio of long-term debt to fixed assets.

The Frequency of Long-Term Debt

Since a corporation has no inherent need for any long-term indebtedness, it is interesting to know what types of corporations rely more or less frequently upon this source of funds. Data from *Statistics of American Listed Corporations* indicate that among corporations with assets of more than \$1,000,000 the proportion of concerns having funded debt increases with corporate size in a consistent fashion (Table 11). A distinction should be drawn, however, between funded debt and "other long-term debt," which

Table 11—PERCENTAGE OF LISTED MANUFACTURING CORPORATIONS HAVING LONG-TERM DEBT, AND THE RATIO OF FUNDED DEBT TO OTHER LONG-TERM DEBT, 1937, BY ASSET SIZE^a

Size ^b (in millions)	Proportion of Corporations Having Funded Debt	Proportion of Corporations Having Other Long-Term Debt	Proportion of Corporations Having Funded Plus Other Long-Term Debt	Ratio of Funded Debt to Other Long-Term Debt
Under \$1	6.0	30.2	33.6	23.7
1- 3	8.6	27.8	33.3	102.6
3- 5	21.2	25.8	38.6	240.2
5- 10	23.1	33.1	44.4	244.5
10- 20	26.3	24.8	42.6	311.5
20- 50	30.8	24.2	44.2	979.7
50-100	37.5	31.3	56.3	335.1
100-200	47.1	29.4	55.9	1,776.9
200-500	61.9	66.7	76.2	890.9
500 and over	70.0	70.0	80.0	275.4

^a Based on data, as of December 31, 1937, from *Statistics of American Listed Corporations*, Part I, Table 64, pp. 226-45.

^b Inclusive of the lower limit and exclusive of the upper.

is in the form of mortgages for the most part.¹⁰ The proportion of corporations having other long-term debt of a non-funded variety declines slightly until corporations with assets of over \$200,000,000 are reached, after which the proportion rises sharply. This rise may be due to the importance among the largest corporations of term loans, oil land purchase obligations, and other purchase obligations. Among the smallest corporations funded debt forms a lower proportion of total assets than other long-term debt; but for corporations with assets in excess of \$1,000,000 funded debt is the higher of the two items.

Table 12 reveals that the relative frequency of funded debt varies considerably among industries with assets of more than \$1,000,000. Utilities have the highest proportion, and extractive industries the lowest, of the main industry groups. Within manufacturing the frequency varies from a high of 48 percent in iron and steel to a low of 10 percent in textiles. The frequency of other

¹⁰ "Other long-term debt" is defined to include mortgage loans and notes with a maturity of one year or more. Mortgage bonds, collateral bonds, debentures, equipment trust obligations, and long-term notes of the bond category are included in funded debt. Funded debt coming due within one year is excluded from this category. See the explanatory notes, *Statistics of American Listed Corporations*, p. 181.

long-term debt, largely mortgages, is higher on the whole and its range is narrower than that of funded debt. A comparison of the first two columns in Table 12 indicates the relative importance of funded debt and what may be presumed to be mortgage

Table 12—PERCENTAGE OF LISTED CORPORATIONS HAVING LONG-TERM DEBT, 1937, BY INDUSTRIAL GROUPS*

<i>Industry</i>	<i>Proportion of Corporations Having Funded Debt</i>	<i>Frequency of Other Long-Term Debt</i>	<i>Proportion of Corporations Having Funded Debt and/or Other Long-Term Debt</i>
All corporations	24.2	31.2	43.8
All manufacturing	21.4	29.3	41.4
Food	30.3	24.2	44.4
Tobacco	19.0	9.5	23.8
Beverages	17.9	37.5	44.6
Textiles	10.2	22.0	28.8
Lumber	25.0	37.5	50.0
Paper	47.2	41.7	66.7
Printing and publishing	29.2	45.8	50.0
Chemicals	14.7	30.7	40.0
Petroleum refining	39.5	60.5	65.8
Rubber	23.5	41.2	52.9
Leather	16.7	11.1	22.2
Building materials	25.5	23.6	41.8
Iron and steel	48.0	32.0	62.0
Nonferrous metals	27.8	30.6	52.8
Machinery and tools	16.3	24.2	33.7
Transportation equipment	11.8	29.2	36.6
Merchandising	15.4	47.9	51.5
Chain stores	12.0	53.0	55.4
Department stores	31.6	55.3	63.2
Extractive	10.1	21.1	25.9
Utilities	95.9	47.3	98.6

* Based on data, as of December 31, 1937, from *Statistics of American Listed Corporations*, Part I, Table 63, pp. 212-23.

debt. In trade, particularly, the frequency of mortgage debt is much greater than the frequency of funded debt.

Little information is available on the frequency of long-term debt among corporations with assets under \$1,000,000. A study of a sample of 1,300 small manufacturing firms with assets of less than \$250,000 showed that in 1936 only 26 percent of these cor-

porations had bonds or mortgages.¹¹ This percentage figure may be contrasted with 41 percent for manufacturing corporations with assets of more than \$1,000,000 (Table 12). Very likely the small concerns have not only a lower proportion of long-term debt but also a lower frequency of this type of liability.

Some further light is thrown on the relative frequency of different types of long-term liabilities by certain SEC data, which define four types of "capital structure" (Table 13). The most

Table 13—TYPES OF CAPITAL STRUCTURE, ALL LISTED CORPORATIONS, 1937*

Capital Structure	Frequency	Percent of Total	Average Assets (millions)	Average of Net Profit per Dollar of Net Worth	Ratio of Fixed Assets to Total Assets
Common stock only	801	46	\$12	\$9.56	47.7
Common and preferred stock; no funded debt	510	29	21	10.56	36.3
Common stock and funded debt	144	8	55	5.13	58.2
Common stock, preferred stock, funded debt	286	17	129	6.52	58.6

* Based on data, as of December 31, 1937, from *Statistics of American Listed Corporations*, Part I, Table 51, p. 188, and Table 70, p. 294.

frequent type consists of common stock only, found predominantly among corporations of the smallest average size (i.e., those with assets under \$1,000,000), which own only 15 percent of the assets of all listed corporations.

Table 13 shows that the complexity of capital structure is related to the average asset size of corporations, the complexity growing as average size increases. The table also indicates that the absence of funded debt is associated with a relatively high level of profitability. This relationship may possibly reflect particular industrial or size differences as well as profitability, but the available data do not permit a determination of this point.

Corporations with funded debt have a relatively high ratio of fixed capital assets to total assets, reflecting no doubt the presence

¹¹ Charles L. Merwin, Jr., *Financial Characteristics of American Manufacturing Corporations*, Temporary National Economic Committee, Monograph No. 15 (Washington, 1941) pp. 110-12. Five industries were sampled: baking, men's clothing, furniture, stone and clay, and machine tools.

of a number of utility corporations in the sample. Reasons for the difference between the ratio of fixed capital assets for corporations with common stock only and that for corporations with both common and preferred stock are not clear.

INVESTED CAPITAL AND CAPITAL ASSETS

One of the most pervasive features of balance-sheet structure is the margin by which invested capital (net worth plus long-term debt) exceeds fixed capital assets. Only a few classes of deficit corporations do not show this margin. That some non-current sources of funds are employed for the financing of current assets is roughly indicated by the degree to which current assets exceed current liabilities, as measured by the current ratio.¹² A complementary measure showing the margin between fixed capital assets and invested capital is provided by a ratio between the two items.

Among the minor industrial groups, the ratio of invested capital to fixed capital assets varies from 1 to 11 times, with a median value of 2; the central half of the distribution lies between 2 and 3 (Table C-28 in Data Book). A considerable degree of stability in these industrial differences is indicated by a high rank correlation between income and deficit corporations. No strong connection between industrial types and the size of the ratio is discernible, however, and a test reveals no significant difference between the mean ratio of the producers' and consumers' goods industries.

The ratio rises moderately, but not regularly, with corporate size—particularly among deficit concerns. (See Table C-26 in Data Book.) The tendency for less of the long-term funds to be used to finance long-term fixed capital requirements as corporate size increases indicates that a progressively large proportion of the funds goes to finance intercorporate investments and current assets.

The ratio is consistently higher among income corporations than among deficit corporations, indicating, like the current ratio, that income corporations employ a larger proportion of their long-term liabilities for current purposes. Part of the difference may also be attributable to the decrease in the surplus component of deficit corporations without a proportionate decrease in the valuation of fixed capital assets.

¹² This statement is not meant to imply a direct connection between a given source and a given use of funds, but merely to indicate that a part of the current assets must, in the final analysis, be financed by non-current funds.