

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: The Pattern of Corporate Financial Structure: A Cross-Section View of Manufacturing, Mining, Trade, and Construction, 1937

Volume Author/Editor: Walter A. Chudson

Volume Publisher: NBER

Volume ISBN: 0-870-14135-X

Volume URL: <http://www.nber.org/books/chud45-1>

Publication Date: 1945

Chapter Title: A Survey of Corporate Financial Structure

Chapter Author: Walter A. Chudson

Chapter URL: <http://www.nber.org/chapters/c9209>

Chapter pages in book: (p. 1 - 16)

## A SURVEY OF CORPORATE FINANCIAL STRUCTURE

---

THE APPRAISAL OF THE FINANCIAL position of an enterprise by examination of its balance-sheet ratios has long engaged the attention of credit analysts and continues to be an important phase of credit granting. Use of the balance sheet as a basis for measuring and predicting solvency and earning power has tended, however, to obscure the light that the financial statement may shed on a broader range of questions of interest to the general economist, the banker, and the student of the capital market.

In what way does the structure of assets and liabilities of a given concern reflect the kind of industry in which a concern is engaged, the concern's size and level of profitability? Are there significant differences in the use of short-term, long-term, and equity financing among various classes of business enterprise? Is the use of bank credit concentrated more strongly in certain sectors of the business community than in others? Do some concerns rely more than others on trade credit? Are there significant relationships between short-term assets and short-term liabilities; for example, do concerns with a high proportion of inventories tend to have a high proportion of notes payable? Is corporate liquidity, as reflected by the current ratio, associated with the industry, size, or profitability of a corporation? Finally, are there any elements in the corporate balance sheet, either on the asset or the liability side, whose range of variation is so narrow that it is possible to speak of a "normal" pattern of financial structure?

For the analysis of such questions we have assembled a comprehensive tabulation of corporate balance-sheet items primarily for the years 1931 and 1937, covering the fields of manufacturing, trade, mining, and construction, but excluding such industries as service, utilities, and finance—groups whose financial structure is typically different from that of the industries selected for analysis. The original data have been drawn largely from pub-

lished or publicly available compilations of the Bureau of Internal Revenue, where they appear as dollar aggregates of the various balance-sheet accounts, classified by industry, by size of assets, and by corporations with and without net income, which for convenience we shall call "income" and "deficit" corporations, respectively. Each component of the balance sheet has been studied for differences that may be revealed in the financial structure of (1) the various industries, (2) corporations of different sizes within the same industry, and (3) corporations with net income compared with those having no net income. We have confined attention mainly to the 1937 data, which are the most complete; where possible, however, comparisons have been made between 1937 and 1931, to appraise the stability of the balance-sheet pattern over a short period of time.<sup>1</sup>

When the financial structures of selected classes of concerns are compared, each balance-sheet item must be related to some common basis. This basis may be either total assets or the volume of operations, measured most conveniently by sales. In order to provide a general picture of the relative size of the various components of the balance sheet, we shall, in the chapters that follow, present each item as a percentage of total assets. In addition, items whose turnover is of great interest will be related to the volume of sales; these include the various current assets and liabilities, fixed capital assets, and total assets.<sup>2</sup>

Both total assets and sales have certain shortcomings as bases of comparison. If a given item forms a large percentage of total assets, other accounts are, of course, relatively small; yet in evaluating the importance of differences in particular ratios based on total assets there is a misleading tendency to think of each ratio as independent. A second, although minor, defect in the use of total assets as a denominator is the possibility of misleading comparisons

<sup>1</sup> For a complete description of the sources used, and a discussion of the characteristics of the data, see Appendix A.

Extensive tabulations pertaining to the corporations covered in the present study may be found in a separate volume, available to those who wish to examine the data in detail: National Bureau of Economic Research (Financial Research Program), *Corporate Financial Data for Studies in Business Finance* (ms. 1945), hereafter referred to as Data Book.

<sup>2</sup> For a discussion of the degree to which the pattern of financial ratios will differ according to the basis of comparison, total assets or sales, see Appendix B.

when the renting of fixed capital assets (usually business premises) is more common among some classes of concerns than among others. This exaggerates the importance of current assets, particularly in the case of retail trade.

Sales also have features which affect the interpretation of ratios. The sales data refer to operations of a whole year, while the balance-sheet data refer to the year end. Distortions in comparisons therefore arise when business conditions are changing rapidly or when seasonal variations of balance-sheet items are of different patterns and amplitudes. Adjustment for seasonality cannot be made at present because we lack comprehensive balance-sheet and sales data for quarterly or more frequent intervals.

Three general matters of interpretation deserve brief mention here. First, while cross-classification of the data according to industry, size, and profitability provides the basis for an appraisal of financial differences according to these criteria, the industrial comparisons are inevitably affected to some extent by the fact that industries differ also in their average asset size and profitability. Similarly, size comparisons within major industrial groups involve classes which differ not only in size but to some extent in profitability. Secondly, our data are in the form of dollar aggregates for each class of corporations, and we therefore must apply methods of comparison appropriate to such data and forego an examination of variations in the balance-sheet ratios of individual concerns *within* each class. Tests have been applied, however, which justify the conclusion that these two qualifications do not substantially affect the results.<sup>3</sup> Finally, the balance sheets from which the data are drawn are unconsolidated, as required by law. This reveals the extent of intercorporate investment but at the same time affects the relation of the other assets to the total.<sup>4</sup>

## BASIC FEATURES OF FINANCIAL STRUCTURE

We may summarize the basic findings of this study most conveniently in terms of the questions that at the outset we planned to investigate.

<sup>3</sup> For a description of the statistical devices used to test the significance and stability of the results, see Appendix B, pp. 126-28.

<sup>4</sup> See Appendix C for a discussion of consolidated and unconsolidated balance sheets.

(1) In what way does the structure of assets and liabilities of a given concern reflect the kind of industry in which a concern is engaged, the concern's size and level of profitability?

The range of variation by industries for a number of balance-sheet ratios indicates that the industry in which a corporation falls is a significant factor in determining the structure of the corporation's balance sheet. Differences among industries in certain balance-sheet items, such as inventory and receivables, can be traced to such factors as the length and technical character of the production process, the durability of the product, the degree of vertical integration, and the amplitude of seasonal fluctuations. On the other hand, variations in current liabilities and intercorporate investments with few exceptions appear to be largely the result of random forces or institutional arrangements quite independent of industrial characteristics of the type cited above. This is particularly true among the subdivisions of manufacturing.

The financial structure of a corporation within an industry is also influenced by the size of the corporation. For the different balance-sheet ratios, the variations as corporate size increases are most pronounced among corporations with assets ranging up to \$5,000,000. Above this level the movements are less definite, and, in the largest size brackets, appear to reflect the characteristics of a few dominant firms, with diversified output, whose classification in a particular industry is somewhat arbitrary.

Our findings confirm generally held views regarding the association of profitability and corporate financial liquidity. This association is largely determined by differences in the proportion of current liabilities of profitable and unprofitable enterprises; the proportion of current assets of income and of deficit concerns is strikingly similar. Intercorporate investments and surplus are significantly greater in profitable than in unprofitable concerns.

(2) Are there significant differences in the use of short-term, long-term, and equity financing among various classes of business enterprise?

The reliance on short-term and long-term debt varies considerably from industry to industry, and the differences are greater for short-term than for long-term debt. Variations in the proportion of equity among industries are relatively narrow.

Changes in the proportion of common and preferred stock as

size of corporation increases are not so pronounced as those of surplus; the proportion of surplus grows consistently with the size of concern. Among deficit corporations this movement largely follows variations in the rate of loss. While there is little variation in the rate of profitability among large and small concerns of the income group, the longer average life of the larger corporations appears to be an important factor contributing to this result.

(3) Is the use of bank credit concentrated more strongly in certain sectors of the business community than in others?

Short-term credit in the form of notes payable to banks comprises a smaller part of the liabilities of large than of small corporations, and also a smaller part of the liabilities of profitable than of unprofitable concerns, within comparable industrial groups. The turnover of bank credit, however, does not vary substantially among corporations of different size. This behavior is probably based on the greater degree of vertical integration among large concerns. In relation to value added by production, bank borrowing may be expected to decline significantly with increased corporate size.

(4) Do some concerns rely more than others on trade credit?

Both accounts receivable and accounts payable display wide industrial variations. A substantial part of these variations is undoubtedly explained by financial practices developed over many years, such as the factoring of receivables. But for certain industries the volume of trade credit extended is directly related to the perishability of the product and the volume of trade credit received to the length of the production process.

When comparisons are made by size of corporation, we find that the large concerns show a slight tendency to extend trade credit for a longer period than do small concerns. Generally, large and small corporations rely to about the same extent on trade credit to finance their current output. However, as with notes payable, this behavior would appear to be quite consistent with a decline in accounts payable in relation to value added by production as corporate size increases.

As would be expected, the turnover of accounts payable is greater among income than among deficit corporations. In con-

trast, the turnover of accounts receivable is approximately the same in both groups of corporations.

(5) Are there significant relationships between short-term assets and short-term liabilities?

Industries with large inventory holdings tend to have a large volume of notes payable, and vice versa. But when corporations are classified by size or by profitability, no systematic relationship between inventory and notes payable is found.

Among the industrial divisions, current assets and current liabilities as a whole tend to show the same variations. The ratio of both current assets and current liabilities to total assets declines with size, but the liabilities decline the more strongly. As between profitable and unprofitable corporations of the same size and industry, total current assets form only a slightly larger proportion of total assets among income than among deficit corporations, while current liabilities are considerably smaller among income concerns.

Finally, among the various industrial and size classifications, notes payable do not show any tendency to substitute for accounts payable. In the case of cash and marketable securities, which might, to a certain extent, also be considered substitute types of balance-sheet accounts, there is some tendency among the larger concerns for cash to be replaced by marketable securities.

(6) Is corporate liquidity, as reflected by the current ratio, associated with the industry, size, or profitability of a corporation?

The behavior of the current ratio indicates that liquidity varies widely among industries; that liquidity tends to increase as corporate size increases; and that profitable concerns, when compared with unprofitable, have a higher degree of liquidity.

(7) Are there any elements in the corporate balance sheet, either on the asset or the liability side, whose range of variation is so narrow that it is possible to speak of a "normal" pattern of financial structure?

The wide range of variation among financial ratios indicates clearly that there is no normal or typical pattern of financial structure for the economy as a whole. Available data indicate, however, that within particular industry, size, and profitability groups there is a clustering of ratios. As criteria for credit analysis, therefore, financial ratios take on significance only when

compared within a given class of concerns or when examined for the same group of firms over a period of time.

In general, the importance of industry, corporate size, and profitability as determinants of financial structure varies among the several balance-sheet accounts and also according to the basis of comparison, sales or total assets. None of the three factors may be said to dominate the pattern of financial structure.

Finally, the data which we have analyzed indicate that the comparative features of financial structure are stable over short periods of time, despite the effect of business fluctuations on current assets, current liabilities, and surplus.

### INDUSTRY, SIZE, AND PROFITABILITY AS DETERMINANTS OF FINANCIAL STRUCTURE

The preceding questions have been answered here only in the most general terms, since each of the following chapters provides a detailed account of the pattern of a particular balance-sheet account with respect to industry, size, and profitability. The several chapters, however, will be of varying interest to different readers; therefore, a summary of the pattern of financial structure, as outlined in Tables 1 and 2, is desirable.

#### *Industrial Variations*

Among such broad industrial groups as public utilities, railroads, manufacturing, and trade, differences in the structure of both assets and liabilities have been widely recognized. Public utilities, for example, require a much smaller proportion of current assets than do manufacturing concerns, while manufacturing concerns in turn generally have smaller current requirements than have corporations in wholesale and retail trade. Short-term liabilities of these four groups display a similar pattern. Within the industrial subdivisions of manufacturing, trade, mining, and construction, however, our findings reveal a very complex pattern. Certain branches of manufacturing have a financial structure more similar to that of certain types of trade than to other branches of manufacturing. Furthermore, the relative range of variation among industrial subdivisions is by no means the same for the several balance-sheet accounts. (See Table 2, Column 4.)



Table 1—COMPARISONS OF RATIOS OF BALANCE-SHEET ACCOUNTS, 1937, BY INDUSTRY, SIZE, AND PROFITABILITY

Ratio (1)	Relative Variation of Ratio Among Industries <sup>a</sup> (2)	Movement of Ratio as Size of Corporation Increases (3)	Ratio for Profitable Compared with Unprofitable Corporations (4)
<b>Ratios to Total Assets</b>			
Cash	Moderate	Falls	Profitable—higher
Government securities	Wide	Rises	Profitable—higher
Cash plus government securities	Moderate	Irregular	Profitable—higher
Receivables	Wide	Falls	Little difference
Inventory	Wide	Irregular	Little difference
Fixed capital assets	Moderate	Rises	Profitable—lower
Other investments	Wide	Rises	Little difference
Notes payable	Wide	Falls	Profitable—lower
Accounts payable	Moderate	Falls	Profitable—lower
Other liabilities	Wide	Falls	Profitable—lower
Long-term debt	Wide	Irregular	Profitable—lower
Capital stock	Narrow	Falls	Profitable—lower
Surplus	Narrow	Rises	Profitable—higher
Net worth	Narrow	Rises	Profitable—higher
<b>Ratios to Sales</b>			
Cash plus government securities	Moderate	Rises	Profitable—higher
Receivables	Wide	{ Mfg.—Irreg. Trade—Rises	Little difference
Inventory	Wide	{ Mfg.—Rises Trade—Irreg.	Little difference
Fixed capital assets	Wide	{ Mfg.—Rises Trade—Irreg.	Profitable—lower
Notes payable	Narrow	Irregular	Profitable—lower
Accounts payable	Wide	Irregular	Profitable—lower
Total assets	Moderate	Rises	Profitable—lower
<b>Other Ratios</b>			
Current assets/current liabilities	Moderate	{ Mfg.—Rises Trade—Irreg.	Profitable—higher
Invested capital/capital assets	Moderate	Irregular	Profitable—higher
Net income/net worth	Wide	{ Inc. corp. <sup>b</sup> —Falls Def. corp. <sup>b</sup> —Rises	• • •

<sup>a</sup> Based on index of relative variation, Table 2, Column (4).

<sup>b</sup> Inc. corp. = Income corporations.

Def. corp. = Deficit corporations.

Among the industrial divisions that we have studied,<sup>5</sup> the two closely related asset accounts—(1) cash and (2) cash plus marketable securities—when expressed as percentages of total assets show a range of variation that is narrower than that of most of the other asset items (Table 2, Column 4). The range of the ratio of cash to total assets is not surprising, since all industries require a minimum cash fund for current operations, while the factors setting the upper limit are fairly similar throughout the economy. Variations of the ratio for cash plus marketable securities are roughly similar to those of cash alone. Although marketable securities held by various industrial groups show wider relative variations than do cash, their volume in 1937 had been reduced to negligible proportions following the liquidation of the depression years. In striking contrast, the holdings of marketable securities in 1931 approximated those of cash in many industries, and in some cases they actually exceeded cash holdings.

Inventory and receivables exhibit wide variations among industries, in both absolute and relative terms. The broad range of inventory holdings appears to depend largely on the technical character of the production process, particularly its length (as, for example, in tobacco, shipbuilding, and the engineering trades, all of which have high ratios). Other factors of apparent importance are the relationship of the industry to its sources of raw materials and to its selling outlets, and the seasonal pattern of the industry as reflected in calendar year-end balance sheets. Variations in the proportion of receivables evidently depend largely on the institutional relations with an industry's markets, which have been developed over a period of years, as well as on such specific factors as the durability of the product, since producers of certain perishable products (e.g., food and beverages) often extend a smaller volume of trade credit than other industries.

Although investments in plant and equipment display a smaller degree of industrial variation than do inventory and receivables, the great variety of technical requirements for fixed capital pro-

<sup>5</sup> The Bureau of Internal Revenue has classified corporations into a large number of so-called minor industrial divisions, of which we have selected 61 for comparison in our study. These 61 divisions, which are grouped as indicated below, are listed in Appendix E.

Manufacturing: 47 divisions  
Trade: 5 divisions  
Construction: 2 divisions

Shipbuilding: 1 division  
Mining and  
Quarrying: 6 divisions

**Table 2—RANGE OF VARIATION OF BALANCE-SHEET RATIOS  
AMONG MINOR INDUSTRIAL DIVISIONS,<sup>a</sup> 1937  
(in percent)**

Ratio (1)	Range		Median (3)	Index of Relative Variation <sup>b</sup> (4)
	Low	High		
<b>Ratios to Total Assets</b>				
Cash				
Government securities	1.4	13.0	6.2	35.5
Cash plus government securities	.1	4.9	1.8	61.1
Receivables	3.3	16.7	8.2	41.5
Inventory	5.5	37.9	13.7	58.4
Fixed capital assets	.5	47.5	22.7	62.6
Other investments	4.9	74.4	34.6	47.4
	5.3	25.6	12.6	72.2
Notes payable	1.2	16.6	5.2	69.2
Accounts payable	4.4	29.4	7.6	43.4
Long-term debt	1.2	35.9	6.9	78.3
Capital stock	27.5	66.1	47.7	16.1
Surplus	6.1	51.7	25.2	32.1
Net worth	42.7	84.9	75.4	18.7
<b>Ratios to Sales</b>				
Cash plus government securities				
Receivables	1.7	19.6	7.7	53.2
Inventory	4.9	28.0	12.7	59.8
Fixed capital assets	4.7	38.5	18.2	57.7
	3.8	186.3	30.6	84.6
Notes payable	.8	20.5	4.8	37.5
Accounts payable	2.5	23.4	7.7	59.7
Other liabilities	1.0	14.7	3.9	94.9
Total assets				
	30.6	239.2	94.7	48.6
<b>Other Ratios</b>				
Current assets/current liabilities <sup>c</sup>	.6	5.1	2.5	40.0
Invested capital/capital assets <sup>c</sup>	1.1	10.8	2.2	45.5
Net income/net worth	-7.7	14.5	5.8	70.5

<sup>a</sup> For a list of the minor industrial divisions, see Appendix E.

<sup>b</sup> Interquartile range as a percentage of median. See Appendix B, p. 128, for a further discussion of this measure.

<sup>c</sup> In times.

duces a far from uniform pattern. Investments in affiliates are characterized by a greater range of variation than fixed capital assets, but unlike the latter show little or no relation to easily identifiable industrial characteristics. Since intercorporate investments are not essential for carrying on business operations, the amount held clearly depends on decisions of financial policy, which vary

more from one concern to another than among industries of particular types.

On the liabilities side of the balance sheet, the range of industrial variation is considerably wider among the items representing indebtedness than among the equity accounts. Manufacturing as a whole has a smaller proportion of current liabilities than trade, a feature which appears to be related to the comparatively smaller volume of current assets. Similarly, among the subdivisions of manufacturing, there is a significant parallel relationship between the volume of current indebtedness and the capital requirements for the financing of inventory and receivables. Notes payable, reflecting the optional nature of this source of funds, show a greater variation than accounts payable; and, likewise, sizable industrial differences in the ratio of long-term debt to total assets reflect the optional character of this liability account in the financial plan of an enterprise. Analysis reveals that the proportion of long-term debt shows some tendency to vary in the same way as the proportion of fixed capital assets.

The inter-industrial range of net worth and its two components, capital stock and surplus, is comparatively narrow. Accordingly, an inspection of industrial characteristics does not provide very significant clues to the reasons for variations in these balance-sheet items. While this is true of the various subdivisions of manufacturing, it is, of course, less applicable to broad industrial groups such as manufacturing, trade, and public utilities. Among these broad groups the differences in asset structure as between current and fixed assets are so great that they have a perceptible effect on the proportion of invested capital, as contrasted with short-term liabilities in the form of notes and accounts payable.

The turnover of balance-sheet items, expressed through ratios based on sales, in most cases shows a range of variation among industries which is somewhat wider than that of ratios based on total assets. This fact serves further to emphasize the significance of industrial requirements and operating standards in the determination of corporate financial structure. It is important to note, in this connection, that ratios based on sales display industrial rankings which are frequently dissimilar to those of ratios based on total assets. The fact that an industry has a comparatively small percentage of notes payable to total assets, for example,

does not mean necessarily that the turnover of notes payable is relatively high. Disparities in the degree of vertical integration, in profitability, and in the length of the production process may all contribute to produce differences in the industrial rankings of the two types of ratios.

### *Variations with Corporate Size*

A comprehensive survey of financial structure with respect to corporate size is of particular interest in view of discussions in recent years of the financial characteristics and problems of "small business," since these discussions assume that significant financial differences exist among corporations of varying sizes.

Among the asset items of the balance sheet, investments in affiliates when expressed as a percentage of total assets rise steadily as size of corporation increases. Large concerns are in a much better position than small to avail themselves of whatever advantages accrue from the holding of such investments. This tendency is revealed sharply in the present analysis, because of the use of unconsolidated balance sheets. For many industries, fixed capital assets also show a tendency to rise, but the upward movement is much less marked than in the case of intercorporate investments. Were the balance sheets in consolidated form, the rise in the proportion of fixed capital assets would, of course, be more pronounced.

While total current assets as a percentage of total assets decline as size of corporation increases, certain individual current items do not conform to the general pattern. (See Table 1, Column 3.) Marketable securities tend to rise substantially with corporate size, while the sum of cash and marketable securities displays irregular variations. The rise of marketable securities no doubt reflects the fact that it is less economical for small concerns than for large to employ this type of liquidity reserve. For inventory the range of variation is not very great and the movement of the ratio is frequently irregular; the largest proportion of inventory is found among medium-sized concerns. The ratio of cash to total assets declines slightly as size of corporation increases, while the proportion of receivables declines more sharply. Just as the intercorporate investments included in unconsolidated balance sheets tend to reduce the rise of fixed capital assets with increasing size,

so they may accentuate the decline in current items. However, even when expressed on the basis of total assets minus intercorporate investments, the current accounts as a whole decline with size, being dominated largely by the decline in receivables.

Among the liabilities, the general pattern of financial structure is dominated by the substantial increase of net worth, particularly surplus, as asset size rises, with a complementary and pronounced decrease in current liabilities. The decline in notes and accounts payable appears to confirm the frequent assertion that large concerns tend more commonly than small to employ non-current sources of funds to finance their working capital requirements. Long-term debt does not show a very consistent variation with size among the income corporations; among the deficit corporations, however, the ratio rises appreciably as corporate size increases.

The rise of the ratio for net worth occurs consistently among both income and deficit corporations. Within the income group, the upward movement probably reflects the greater stability and age of the large concerns; the small size classes contain a substantial proportion of corporations whose average life is short and whose opportunity to reinvest earnings, in the volume that is characteristic of the large firms, is therefore comparatively small. In the deficit group, the basic factor influencing the upward movement is no doubt the enormous unprofitability of the small concerns. Within a single year all of the pre-existing surplus may be wiped out, or even turned into a deficit.

Among the various manufacturing industries, the current ratio generally rises as corporate size increases. This increase in corporate liquidity reflects a more pronounced decline in the current liability items than among the current asset items, as size of corporation becomes larger.

A striking feature of the variations in financial structure with corporate size is the contrast between ratios based on total assets and those based on sales (Table 1, Column 3). The general nature of this difference is revealed by the movement of the ratio of total assets to sales, which indicates a steady decline in turnover as asset size increases, particularly among the subdivisions of manufacturing. This behavior is best analyzed in terms of the turnover pattern of the individual assets. Among manufacturing corporations,

the pronounced rise in the inventory/sales ratio as size increases appears to be associated with the greater extent of vertical integration among the large concerns, which would increase the proportion of goods-in-process to the final value of the output. The rise of the fixed capital/sales ratio among manufacturing industries also could be attributed to the influence of vertical integration. A final factor influencing the movement of the total assets/sales ratio is the volume of intercorporate investments, as revealed in the unconsolidated balance sheets. These investments are not closely related to the volume of operations and therefore contribute strongly to the reduced turnover of total assets as size increases.

A reduced turnover of inventory and of fixed capital assets as size increases is not characteristic of wholesale and retail trade, however; and a contrast between manufacturing and trade corporations may also be noted in the turnover of receivables. The turnover of receivables declines—i.e., the average collection period lengthens—as corporate size increases in both wholesale and retail trade; in the latter case, this movement probably reflects the credit sales of large department stores. In most branches of manufacturing, however, the turnover of receivables varies only moderately with size, indicating that receivables are closely linked to sales, unlike cash, inventory, and fixed assets.

The turnover of notes and accounts payable shows remarkably little tendency toward systematic variation with corporate size, indicating that short-term credit is "used" to about the same extent in both large and small concerns. This result is of particular interest since much emphasis has been placed on the tendency, noted above, for notes and accounts payable as a proportion of total assets to decline substantially as corporate size increases. If the "use" of short-term credit were measured on the basis of value added by production, however, we should probably find a decline in the use of short-term credit as size of corporation increases, but no adequate statistics are currently available to test this hypothesis.

### *Variations with Profitability*

Classifying corporations into those with and those without net income, we find on the asset side of the balance sheet that a high degree of liquidity in the form of cash and reserves of marketable

securities is associated with a high level of profitability. On the other hand, the proportion of receivables, and also of inventory, to total assets shows remarkably little difference between the income and deficit groups of corporations in the same industry. The same is true, furthermore, of the turnover ratios for receivables and inventory. The absence of a higher turnover of inventory among income-earning corporations than among deficit concerns is hardly in accordance with general expectations, and further investigation shows that 1937 was not a typical year in this respect. In 1931 and all other years in the intervening period, income corporations did have a more rapid turnover of inventory, indicating that the 1937 data reflect the inventory boom and the sharp recession that followed, which left income-earning corporations particularly overstocked in relation to their unexpectedly curtailed sales volume. The 1931 ratios for receivables, on the other hand, present the same features as those for 1937, suggesting that the similarity of income and deficit corporations is not a product of the particular characteristics of the year-end of 1937, but reflects rather the close link between receivables and sales.

While fixed capital assets form a smaller portion of total assets among income than among deficit corporations, this feature would appear to have little independent significance. The turnover of fixed capital assets among the income group is considerably greater than among the unprofitable concerns, which is in accordance with expectations.

Differences in corporate earning power appear to have a more pronounced effect on the current liabilities than on the current assets. The deficit corporations are considerably heavier borrowers on short term, measured on the basis both of total assets and of sales. Furthermore, deficit corporations have a larger proportion of accrued liabilities than have concerns earning a net income. Therefore, the current liabilities of deficit corporations as a whole are substantially greater in relation both to assets and to sales than those of the income group. Since there is relatively little difference in the proportions of the *total* current assets of the two groups, the ratio of current assets to current liabilities—which has traditionally been used as a symptom of solvency and profitability—is substantially higher among profitable than among unprofitable corporations, and it is worth noting that the basis of



the higher ratio for income concerns lies in differences in the current liabilities.

Complementing the behavior of current liabilities, invested capital as a whole forms a substantially greater proportion of total liabilities in the profitable than in the unprofitable corporations. But this feature of financial structure is almost entirely related to the much greater proportion of surplus among the profitable concerns. The proportion of long-term debt is higher among the deficit than among the income corporations. The ratio of capital stock to total liabilities moves more or less inversely with the ratio of surplus, particularly among small corporations in which the difference between the surplus of profitable and unprofitable companies is particularly great.

On the basis of a comparison of data for 1931 and 1937, years of very different profit levels, it may be stated tentatively that shifts in the general level of profitability leave the comparative differences between the financial structure of profitable and unprofitable corporations unchanged wherever such differences are appreciable—with the exception of the turnover of inventory.