FOOTNOTES

CHAPTER ONE

1 Securities and Exchange Commission, Cost of Flotation for Registered Securities, 1938–1939 (Washington, 1941) and Release No. 572 of the Statistical Series (June 6, 1941).

2 The large manufacturing and trade corporations included in the study are listed in Appendix A along with their total assets and net sales at the beginning and at the end of the period studied.

3 These tabulations were prepared under the supervision of Arthur B. Hersey of the Division of Research and Statistics, who presented a summary of his studies before the American Statistical Association in December 1940. See Arthur B. Hersey, "Sources and Uses of Corporation Funds," Journal of the American Statistical Association (June 1941).

4 Most of this source material is available in the Marvyn Scudder Financial Library of Columbia University.


6 Particularly its annual publication, Statistics of Railways in the United States.

7 Annual data on the sources and uses of funds of the Bell Telephone System were secured directly from the Federal Communications Commission. Data for groups of years can be found in the Commission’s Report on the Investigation of the Telephone Industry in the United States (Washington, 1939) p. 425.

8 Edison Electric Institute, The Electric Light and Power Industry in the United States.

9 The ratio data utilized in this study pertain to a given point of time, for example, December 31, 1920. The sources and uses of funds data, on the other hand, refer to the differences in balance-sheet items between two given points of time, for example, between December 31, 1920 and December 31, 1921. For this reason when we speak of ratios over the entire period studied—December 31, 1920 to December 31, 1939—we speak of the period 1920–39; and when we speak of sources and uses of funds over the entire period, we speak of 1921–39.


11 Annual Report to Stockholders of the American Telephone and Telegraph Company.

12 Unfortunately, no accurate comparison of the coverage of the mail-order sales of our sample with that of total mail-order sales as re-
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ported by the Census can be made because the Census reports mail-order sales only and large mail-order houses in their annual reports publish mail-order combined with retail store sales. Assuming that mail-order and retail store sales are roughly equal, our coverage in 1935 was approximately 90 percent.


14 Value of product is "the selling value at the factory or plant, of all commodities produced (or, for some industries, receipts for work done) during the census year, whether sold, transferred to other plants, or in stock, and consequently, under normal conditions, the total value of products covers the cost of production (including overhead expenses) and profits." See Bureau of the Census, Census of Manufactures, 1937, Part I (1940) p. 8.

15 In the case of trade these figures are not strictly comparable because in the sales comparison our trade sample is compared to retail trade sales only, while in the asset comparison, it is compared to total trade assets.

16 The coverage of individual industries, in particular, should not be interpreted too rigidly. For example, in automobiles and trucks, although our sample was responsible for 52 percent of the sales of all business enterprises in 1937, it possessed only 40 percent of the total assets of corporations in the industry in 1933. Either a larger sales/total assets ratio in the case of large, profitable automobile companies than in the case of the rest of the industry, or the difference in time, may have been responsible for these, at first glance, inconsistent coverage figures.

17 In a sample of 745 large manufacturing corporations in 73 minor industrial groups, 93.5 percent of aggregate notes payable was due to banks. Thirty-two of the minor industrial groups had notes payable to banks exclusively; 33 had notes payable to banks and to suppliers; 6 had no notes payable; and 2 had notes payable to suppliers only. See National Bureau of Economic Research (Financial Research Program), The Financial Structure of Incorporated Business: A Cross-Section View, 1937, by Walter A. Chudson (ms. 1942). A similar conclusion concerning the relative importance of notes payable to banks and to others was reached by the author after an examination of a large number of individual corporation reports submitted to the Securities and Exchange Commission on Form 10K.

18 Moreover, when consolidated financial statements were first drawn up, the subsidiary having previously been carried on the books as an investment—for example, the change in reporting its foreign subsidiaries by Standard Oil of New Jersey in 1939—adjustments were made for the shifts in classification of balance-sheet items from the investment in subsidiaries account to such other accounts as property, inventory, and long-term debt.

19 These and the following statistics are computed from Statistics of Income for 1937, Part 2. For purposes of this study small corporations have been defined to include all corporations with total assets
under $500 thousand; medium-sized corporations, those with total assets between $500 thousand and $10 million; and large corporations, those with total assets over $10 million.

Since the breakdown between common stock and surplus is quite arbitrary and often misleading, it seems more realistic to consider these two items together. In many cases, for example, common stock is listed on the books at a purely nominal value, the premium paid for the stock above the nominal value having been credited to a surplus account. The privilege of issuing stock dividends, purely a bookkeeping transaction, may also change the relative proportions of common stock and surplus to total liabilities significantly. In spite of the effect of these bookkeeping practices on the relative magnitude of common stock and surplus in financial structure, it is probably true that the earned surplus of small corporations as a whole is less than that of medium-sized and large corporations. See W. L. Crum, *Corporate Size and Earning Power* (Harvard University Press, 1939) pp. 17-33.

CHAPTER TWO


3 For the samples of manufacturing and trade companies, fixed property expenditures were calculated for each individual company by adding to the change in the net property account: (1) all ordinary charges to income for depreciation, depletion, and amortization applicable to the property account; (2) all extraordinary charges to income or surplus for writedowns, or losses on the disposal, of property; and (3) all decreases in property resulting from the reclassification of assets; and subtracting from the change in the net property account: (1) all extraordinary credits to income or surplus for write-ups, or profits on the disposal, of property; and (2) all increases in property resulting from reclassifications of assets and purchases of subsidiaries. Extraordinary expenditures, such as tooling expenses of automobile companies and blast furnace relinings, have been excluded because of lack of adequate data.

4 The estimates for total manufacturing are those of Lowell J. Chawner of the Department of Commerce. See "Capital Expenditures for Manufacturing Plant and Equipment—1915 to 1940," *Survey of Current Business* (March 1941) p. 10. Dun & Bradstreet estimates that "total expenditures for improvements and enlargements by manufacturing concerns" were $1.8 billion in 1937. See *Dun's Review* (July 1938). The estimates of the fixed property expenditures of our sample differ from those of Chawner and of Dun & Bradstreet in that our estimates contain expenditures on such natural resources as land, oil fields and mines, and are net of disposals of property.
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5 Iron Age (January 6, 1938) p. 388.


9 Annual Report to Stockholders of Sears, Roebuck & Co. for the year ending December 31, 1939. It is important to note that the expenditures of Montgomery Ward on its retail distribution system were reflected in increases in the balance-sheet account "investments in subsidiaries" while those of Sears, Roebuck & Co. were reflected in increases in the "property" account. This contrast arises as a result of the different accounting methods used by the two companies in the expansion of their retail store systems. Whereas Montgomery Ward formed a subsidiary for the sole purpose of handling its retail store business, Sears, Roebuck & Co. did not. Therefore any interpretation of the relative expansion of these two large mail-order houses should be made from data on total fixed capital expenditures rather than on either of the two components, property expenditures or investments in subsidiaries and affiliates.

10 This trend toward less costly construction is discussed by Carl N. Schmalz, Controller of R. H. Stearns Department Store in Boston, in "Some Current Trends in Retailing," Chain Store Age (Administration Edition, April 1936) pp. 42 ff.

11 Since maintenance expenditures were excluded from the fixed property expenditures of other industries because of the lack of data, they have also been excluded from railroad property expenditures. Because of the technical character of the railroad industry and of specific rulings of the Interstate Commerce Commission, maintenance expenditures are of relatively greater importance in this industry than in manufacturing and trade. During the period 1921–39, for example, they amounted to over two and one-half times the amount expended on capitalized property.

12 Maintenance expenditures in 1937 were less than in any year of the twenties. Such expenditures were only $1.1 billion in 1937 as contrasted to $1.8 billion in 1929, and $2.1 billion in 1923.


14 The term "depreciation" as used hereafter embraces accruals to depreciation, depletion and amortization reserves, and a special item in the case of oil companies, intangible development costs (that is, costs of explorations for crude oil).

Revaluations include all writedowns and writeups of property to income, surplus, and capital reserves which were discernible in financial statements.
Ruth P. Mack, utilizing Securities and Exchange Commission data, has investigated the relationship between retirements and book depreciation, and retirements and property expenditures of 54 companies from 1932–38. She finds: (1) that retirements were consistently and quite considerably less than depreciation; and (2) that property is more likely to be retired in good years when money is being spent for improvements and replacements than it is during the tight-fisted days of depression. See The Flow of Business Funds and Consumer Purchasing Power (Columbia University Press, 1941) pp. 74-77.

Adjusted for such non-cash charges as stock dividends and asset revaluations.


As has been pointed out previously, the most important method of accounting for property “consumption” in the railroad industry is the maintenance charge. For “ways and structure,” for example, the percentage of depreciation charges to cost of maintenance is extraordinarily low, between 1 and 2 percent. See National Bureau of Economic Research, Capital Consumption and Adjustment, by Solomon Fabricant (1938) Chapter 4.

This is somewhat less than Kuznets’ estimate of the average ratio of net to gross business capital formation, excluding the net changes in business inventories, for 1919–35, of 21 percent. The Kuznets’ estimates of capital consumption, which were prepared by Solomon Fabricant, exclude property revaluations. See National Income and Capital Formation, 1919–35, pp. 47-51.

A more meaningful ratio would be that of property expenditures to “value added,” that is, value of product less cost of materials, supplies, containers, fuel, purchased electric energy, and contract work. Since comparable data on these two items for all of our samples are not available, sales data have been used instead of “value added.”


An earlier period of concentration which had striking similarities to the period 1925–29 was in 1897–1903. Some of the contemporary large corporations formed during this earlier period are International Harvester, Corn Products Refining, DuPont and United States Steel.


CHAPTER THREE


3 Analysis of annual financial data conceals, of course, many intra-year working capital requirements. Large inventories, or receivables held only during the summer months, would not be noticed in an analysis of year-end financial statistics. Nor would cash temporarily built up during the year prior to incurring capital expenditures be recorded on a year-end balance sheet.

4 These data were derived from annual balance sheet changes, after adjusting balance sheets for reported asset revaluations, indicated shifts in classification, and consolidations.

5 Data for this chart and all other insert charts are from National Bureau of Economic Research (Financial Research Program), *Data for Studies in Business Finance* (ms. 1943), hereafter referred to as Data Book.


9 That is, inventory revaluations as reported on profit and loss and surplus reconciliation statements. The coverage of these revaluations is probably incomplete because of the lack of sufficiently detailed published information.

10 George Terborgh recently found that although the book value of manufacturing inventory decreased over 20 percent in 1921, there was no significant net liquidation of physical inventory. "Manufacturing Inventories During and After the World War," *Federal Reserve Bulletin* (July 1941) p. 616.

11 Moses Abramovitz, of the National Bureau staff, has, however, made considerable progress in developing such indexes. His data were incomplete at the time this study was in preparation.

12 George Terborgh has reached the same conclusion for the relationship between total manufacturing inventory and total manufacturing
"value of product." He finds that "an examination of the curve for the ratio of the value of inventory to the value of products discloses no perceptible trend for the period as a whole" (1915–40). Interestingly enough, his preliminary estimate of the level of the ratio for 1941 is lower than for any previous year. See "Volume and Turnover of Manufacturing Inventory, 1915–40" (June 25, 1941) p. 2, an unpublished memorandum of the Division of Research and Statistics, Board of Governors of the Federal Reserve System.

13 Bureau of Foreign and Domestic Commerce, Retail Credit Survey, 1938, by Malcolm L. Merriam, p. 3.

14 Ibid., p. 57.


16 It is computed by dividing 365 by the ratio of sales to year-end receivables. Since the sales data include cash as well as credit sales, the average collection period does not indicate the average maturity of credit sales alone.

17 There does not appear, however, to be any clear relationship between size of corporation and size of the ratio of receivables to trade payables. For all manufacturing and trade corporations in 1937 the ratio varied as follows among four different size groups as measured by total assets:

<table>
<thead>
<tr>
<th>Size Group</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $250,000</td>
<td>1.3</td>
</tr>
<tr>
<td>$250,000-1,000,000</td>
<td>1.7</td>
</tr>
<tr>
<td>$1,000,000-10,000,000</td>
<td>1.7</td>
</tr>
<tr>
<td>10,000,000 and over</td>
<td>1.3</td>
</tr>
</tbody>
</table>


18 For example, the insurance depreciation fund assets of United States Steel—in cash and marketable securities—varied as follows from 1928 to 1933 (in millions):

<table>
<thead>
<tr>
<th>Year</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$133</td>
<td>58</td>
<td>42</td>
<td>$4</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

19 The tendency among large petroleum companies to make term loans in the recovery of the thirties may also be cited as evidence of "financial behavior leadership" although this development was probably due as well to suggestions from financial institutions common to many of these companies.

CHAPTER FOUR

1 The American Telephone and Telegraph Company, for example, has had easy access to the capital market because of the attractiveness of
its securities to investors. Company witnesses in rate cases have declared that the $9 dividend on the common stock, maintained since 1922, is essential to obtain capital.

2 It should be noted that our analysis of short-term financing is derived almost entirely from year-end financial data. Thus, seasonal financing is discussed only if the peak in business activity occurs at the year end.

3 In our discussion of balance sheet proportions, all balance sheet items, whether they are assets or liabilities, will be related to total assets. Total assets are equal, of course, to total liabilities, including net worth.

4 For sources, see Chapter 3, footnote 2.

5 Notes payable and bank loans are treated here as synonymous. Big business owes possibly less than 10 percent to a miscellaneous group of other creditors.

6 Additional data on seasonal bank borrowing were secured directly from eight of the fourteen companies included in the department store sample. One company replied that although it had never used bank credit, it had no objection to borrowing from banks but was fortunate in enjoying a particularly strong working capital position. The other seven concerns used bank credit in varying amounts. Two were almost continuous borrowers although they were able to pay off their bank loans at least one month in every year. Others were users of bank credit only in the period of greatest activity, in the late fall and winter. All seven companies stated that their principal use for bank credit was the support of seasonal inventory, although on a few occasions funds had been borrowed in advance of some anticipated permanent financing, such as refunding of a bond issue. Although for the eight department stores as a group fiscal year-end (January 31) notes payable were usually considerably less than the maximum monthly borrowings of November and December they were roughly equivalent to average monthly indebtedness throughout the year. See Pearson Hunt and Albert R. Koch, Financial Requirements of Department Stores, 1920-40 (Bulletin 115, Bureau of Business Research, Harvard University, May 1942).

7 The total resources of all national banks have averaged about 50 percent of the total resources of all commercial banks during the past two decades. See Pearson Hunt, Portfolio Policies of Commercial Banks in the United States, 1920-1939 (Bureau of Business Research, Harvard University, 1940) p. 2.

8 This is not to infer that these corporations, as going concerns, would have been able to liquidate all of their bank indebtedness with their deposit claims. Much of their deposit account undoubtedly was necessary for day-to-day operations and could have been used to retire current debt only in case of the discontinuance of business; also there were variations in ratios among individual concerns.

CHAPTER FIVE


2 This definition of funds from operations is not restricted to cash credits and charges to income. For example, credit sales, uncollected at the fiscal year end, are treated similarly to cash sales, even though they resulted in no receipt of cash but only in a liquid claim to future cash, that is, an account receivable. Likewise, materials charged to cost of sales as an expense may have been purchased on credit, resulting in the assumption of a liability, an account payable, rather than in an immediate drain on cash.


4 It should be noted that this is true of the aggregation of Class I railroads and their lessor companies as a group. These dividends were not always paid out of surplus, for while some roads had undistributed earnings after dividend payments, the majority of roads had substantial losses and paid no dividends.

5 See footnote 14 of Chapter 2.


7 Ruth P. Mack finds that in recent years, for manufacturing corporations in different industries, high maintenance costs were generally associated with high depreciation costs rather than with relatively low
The Financing of Large Corporations

ones. See Mack, *op. cit.*, pp. 49-53. Although Dr. Mack's data are confined to a small number of companies in recent years, if this association has been true throughout the past two decades, and for other industries as well, our analysis of the relative importance among industries of property expenditures and depreciation accruals excluding maintenance expenditures would be similar to that including maintenance expenditures although the dollar magnitudes would, of course, be considerably different.

Maintenance expenditures fluctuate considerably throughout the various phases of the business cycle, increasing in years of recovery and prosperity and decreasing in years of recession and depression. They behave similarly to sales and property expenditures rather than to depreciation accruals. (See also Solomon Fabricant, *op. cit.*, pp. 42-48.)

8 Expenditures (in millions) for maintenance of Class I railroads and their lessor companies, 1921-39, were:

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1921</td>
<td>$1,852</td>
</tr>
<tr>
<td>1922</td>
<td>1,811</td>
</tr>
<tr>
<td>1923</td>
<td>2,074</td>
</tr>
<tr>
<td>1924</td>
<td>1,845</td>
</tr>
<tr>
<td>1925</td>
<td>1,852</td>
</tr>
<tr>
<td>1926</td>
<td>1,918</td>
</tr>
<tr>
<td>1927</td>
<td>$1,848</td>
</tr>
<tr>
<td>1928</td>
<td>1,763</td>
</tr>
<tr>
<td>1929</td>
<td>1,799</td>
</tr>
<tr>
<td>1930</td>
<td>1,481</td>
</tr>
<tr>
<td>1931</td>
<td>1,126</td>
</tr>
<tr>
<td>1932</td>
<td>761</td>
</tr>
<tr>
<td>1933</td>
<td>$721</td>
</tr>
<tr>
<td>1934</td>
<td>811</td>
</tr>
<tr>
<td>1935</td>
<td>879</td>
</tr>
<tr>
<td>1936</td>
<td>1,042</td>
</tr>
<tr>
<td>1937</td>
<td>1,123</td>
</tr>
<tr>
<td>1938</td>
<td>893</td>
</tr>
<tr>
<td>1939</td>
<td>1,029</td>
</tr>
</tbody>
</table>

Data are from the annual publications of the Interstate Commerce Commission, *Statistics of Railways in the United States*.

9 The Federal Communications Commission concluded that annual depreciation charges in the telephone industry have been in excess of probable needs to provide for the recovery of the service value of the property during its life. The Commission contended (1) that the life of telephone property is increasing gradually, and (2) that when the Bell System revises its depreciation rates downward, it does not make adjustments for the excessive accumulations of past depreciation charges. (Federal Communications Commission, *op. cit.*, pp. 325-49.)

10 Solomon Fabricant, *op. cit.*, p. 89.

11 The average of annual depreciation charges of $31 million during the thirties was 2.7 times the average ($11 million) during the twenties. The average of annual sales, on the other hand, increased only 1.7 times ($1.7 billion to $2.9 billion) from the twenties to the thirties.

CHAPTER SIX


2 The capital market is also an indirect source of funds of business through the financing of their commercial, individual or government customers. The deficit financing of the Federal government in recent years, for example, has been an important indirect source of funds of
business. The importance of this source of funds cannot, of course, be established quantitatively.


5 The data for the National Bureau samples have been adjusted to a basis comparable to the Eddy estimate.

6 These data on security sales include securities issued for the acquisition of subsidiaries and affiliates. The data covering the Bell Telephone System are not comparable to those covering the samples of large manufacturing and trade corporations for two reasons: (1) they were computed from industry, rather than individual company, figures; and (2) they include refunding issues.

7 Recent SEC data substantiate this finding for recent years. For the fiscal year ending June 30, 1939, for example, the industrial distribution of the net proceeds, less selling and distributing costs, received by all manufacturing corporations registering issues with the SEC for all purposes except the retirement of preferred stock and the repayment of long-term debt was as follows:

<table>
<thead>
<tr>
<th>Industry</th>
<th>Net Proceeds (millions)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum refining (including distribution)</td>
<td>$187</td>
<td>49%</td>
</tr>
<tr>
<td>Iron and steel (excluding machinery)</td>
<td>51</td>
<td>13</td>
</tr>
<tr>
<td>Tire and rubber products</td>
<td>36</td>
<td>9</td>
</tr>
<tr>
<td>Transportation equipment</td>
<td>24</td>
<td>6</td>
</tr>
<tr>
<td>Beverages</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>74</td>
<td>20</td>
</tr>
<tr>
<td><strong>ALL MANUFACTURING</strong></td>
<td><strong>$382</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>


9 *Electrical World*, 37th Annual Statistical Number (January 11, 1940) pp. 102-03.

10 The fact that operating revenues of both telephone and electric light and power companies continued to increase in 1930 was undoubtedly partly responsible for continued property expenditures and sales of securities during this year.


**APPENDIX A**

a The Chrysler Corporation was formed in 1925 to acquire the Maxwell Motor Corporation. In 1928 it acquired Dodge Bros., Inc.

b Data pertain to 1923.

c Data pertain to 1922.

d Data not available.

e The American Radiator and Standard Sanitary Corporation was formed in 1929 to acquire the American Radiator Company and the Standard Sanitary Manufacturing Company.

f The International Cement Corporation was formed in 1919. It changed its name to the Lone Star Cement Corporation in 1936.

g The Jones & Laughlin Steel Corporation and the Shell Union Oil Corporation were organized in 1922; the data pertain to that year.

h The Baldwin Locomotive Works acquired the majority interest in the Midvale Company in 1926.

i Remington Rand, Inc. was formed in 1927 to consolidate several companies of which the most important were Remington Typewriter Company and Rand Kardex Bureau, Inc.

j Underwood Typewriter Company acquired control of Elliott Fisher in 1927 and changed its name to Underwood Elliott Fisher Company.

k The Marland Oil Company was incorporated in 1920. In 1929 it changed its name to Continental Oil Company (Del.).
Footnotes

m The Standard Oil Company of New York acquired the Vacuum Oil Company in 1931 and changed its name to Socony-Vacuum Corporation. In 1934 the name was changed again to the Socony-Vacuum Oil Company, Inc.

n The Standard Oil Company of California (a Delaware corporation) was organized in 1926 to acquire the Standard Oil Company of California (a California corporation) and the Pacific Oil Company.

o The Tide Water Associated Oil Company was formed in 1926 to acquire control of the Associated Oil Company and the Tide Water Oil Company.

p The Ginter Company was incorporated in 1917. It changed its name to First National Stores, Inc. in 1925 when it was consolidated with the John T. Connor Company and O’Keeffe’s, Inc.