The private analysis for investment purposes of published financial statements and other information of industrial corporations

Floyd E. Walsh
University of Iowa

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The Private Analysis For Investment Purposes
of Published Financial Statements
and
Other Information of Industrial Corporations

by

Floyd E. Walsh

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, in the Department of Commerce, in the Graduate College of the State University of Iowa

August 1932
FOREWORD

The literature of investment has grown tremendously during the past ten years. Nevertheless, it has failed to keep pace with the growth in physical volume of investment securities available to the public, or with the increased desire to profit by investment knowledge.

Prior to 1920 the literature of investment dealt for the most part with securities bearing a fixed income. The general feeling seemed to be that common stocks hardly constituted a sufficiently reputable medium to be included in the category of investments. The great growth in public interest and in the participation in this type of capital commitment from 1922 to 1929 served to focus attention on common stock securities and investment literature dealing with them. Since the drastic decline in stock market values, beginning in October 1929, the investor in common stocks has felt still more keenly the need for a thorough knowledge of investment principles and a sound training in their application. Confidence in the advice of even professional investment counselors has been shattered,—the investor wishes to know for himself and act on his own judgment.

As a whole, the available literature dealing with common stocks has been subject to two general short-
comings from the standpoint of the investor: first, it has been long on description and short on analysis; and, secondly, it has been marked by disorganization. This disorganization has been inescapable for the reason that certain writers have devoted their attention to a study of the trend of corporation earnings, some to common stock prices and money rates, some to price-earnings ratios, some to yield, and so on throughout a list of nearly a hundred different specialized aspects of the subject.

Something over four years ago the writer conceived the purpose of gathering all the information relative to a given concern available without cost (i.e., without subscribing to professional investment services) and attempting to classify, analyse, and summarize it to the end that the principal criteria of investment value of its common stock might be ascertained. The present study is the fruit of this effort within the limited scope attempted.

Lest this study be likewise subject to the criticism of disorganization, the writer shall take the utmost care to identify the sector upon which he proposes to operate, and to define clearly the limitations of his work.

The writer wishes to make grateful acknowledgment of his indebtedness for valuable help and suggestions to the following persons: Dean Chester A. Phillips,
of the College of Commerce, of the State University of Iowa; Professors Sidney G. Winter and George R. Davies, both of the same institution; Professor Garfield V. Cox, of the School of Commerce and Administration, of the University of Chicago; and Mr. K. A. Lininger, who is manager of the Omaha branch of Logan and Bryan, brokers. Acknowledgment is also due to Professor Lawrence A. Cusack, of the College of Commerce, Finance and Journalism, of the Creighton University, and to numerous friends.

F. E. Walsh

Omaha, Nebraska
July 30, 1932
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CHAPTER I

THE PURPOSE AND SCOPE OF THE STUDY

The investor who contemplates the purchase of shares of common stock in a given concern, or who wishes to keep himself informed as to the current investment value of shares already purchased, has, in the main, four alternative methods of securing information on which to base his subsequent action.

The first method is to secure from a representative of a brokerage institution such oral or written information with respect to the given concern and its common stock as he may be in a position to provide. Very frequently this information is in the form of a published prospectus. While the information so received is not ordinarily unreliable to the extent of being contrary to fact, it may be and often is misleading in that it provides only information which is favorable to the concern. It is always more or less incomplete and is prepared for the express purpose of inducing the reader to purchase the stock.

A second method of securing information is to seek advice from an experienced banker, business man or friend. This method results in securing personal opinions rather than facts on which to base an impartial judgment.
A third method is to subscribe to one of the numerous professional investment services and obtain, as a part of the service, a report on the investment value of the common stock of the given concern. Such information is unbiased and usually well prepared. But there are two main disadvantages in this method: first, the data provided is, as a rule, not sufficiently comprehensive to constitute a satisfactory historical analysis; and, secondly, the cost of obtaining the information is usually prohibitive in the case of the small investor. Desirous of diversifying his investments and possessed of only limited means to invest, the latter usually finds that the cost of securing information from professional investment service companies is disproportionate to the sums which he wishes to invest in each company.

A fourth method is to obtain from various sources such information relative to a given concern and its common stock as may be available without cost, and then personally attempt to classify, analyse and summarize it for practical use. A considerable amount of time and access to a good public or private library are the first requisites for this method of securing information. Some knowledge and training in the principles of economics, investments, accounting, statistics, and business forecasting are essential for the successful classification and interpretation of the
data assembled. The prospective investor must have a clear conception of the factors to be considered in selecting common stocks for investment purposes; he must be familiar with the ordinary sources of free information relative to business concerns; he must adopt and follow rather closely a suitable method of recording and presenting the information; he must make use of many of the methods of the economic analyst, the accountant, and the statistician; he must be sufficiently conversant with business forecasting to be able to calculate reasonable future probabilities on the basis of all the factual information that can be assembled; and, above all, he must strive to maintain a strictly impartial attitude in order to insure a commonsense viewpoint.

It is with this fourth method that the present study is concerned. A careful definition of terms and a delimitation of the scope of the work is essential.

Analysis, as used in the title and throughout this thesis, is intended to imply the method of ascertaining, separating and evaluating each significant factor or part involved in the study, together with the relation of one part to another part and to the whole. Analysis of financial statements and other information relative to business concerns is prompted by a desire for such knowledge and understanding as
may not be gained through a mere cursory survey of facts and figures.

The word private, used to describe the type of analysis in question is intended to designate such a method of examination as may be performed by an individual having access only to customary sources of information. The individual, if already in possession of shares of common stock in a company, will be assumed to be both an absentee and minority partner. Nor will the individual referred to be an officer or employee of the company, who might be in possession of information not generally released by the company.

Another necessary assumption relative to the present or prospective investor who is to use the proposed method is that he be reasonably well versed in the principles and practises of economic analysis, investments, accounting, statistics and forecasting. His knowledge of security market matters, however, need not be equivalent to that of the professional—who, over a period of years, has been able to give his entire attention to the intensive study and analysis of security market phenomena. Stated in another way, the individual in mind is the average business-man investor; and, hence, this study need not take the form of a primer nor that of an elementary essay on general business and investment terminology and practise.
The viewpoint here taken of common stock investment will be that of the long-term investor. The long-term, for the purposes of this study, will be a period of at least a year or more—perhaps five, ten or twenty years. An investor will be one who purchases common stock securities for both yield and appreciation in value over a period of years, and not a trader who merely buys and sells quotations.

Published financial statements shall include balance sheets, statements of profit and loss, surplus statements and such analyses of income and expense elements as are available in Moody's Industrials¹,

¹ Moody's Investors Service—Industrial Section

published by the companies in their annual reports to stockholders, or reported in financial newspapers and magazines.

Other information, as used in the title of this study, shall include plant and property descriptions, data on production capacity, facts relative to managerial personnel and policies, statistics concerning physical volume of sales, sales prices, and distribution facilities. Important also are data pertaining to changes in capital structure, and fluctuations in dividend payments and in common stock market prices.

Since there are many radical differences between banking and financial institutions, public utilities,
and industrial concerns, this study shall deal exclusively with the latter group. No restriction shall be made, however, as to the industry in which the given industrial concern operates; nor as to whether it be of the manufacturing, wholesaling or retailing type.

In addition to the description of the chosen method of obtaining, classifying, analysing, and summarizing information for common stock investment purposes, the study includes five illustrations of the application of the method. These illustrations constitute Appendixes A, B, C, D and E respectively.

A brief explanation concerning the selection of each of the companies is appropriate.

**BETHLEHEM STEEL CORPORATION**

The steel industry has long been recognized as one of the basic industries of this country. It exemplifies, perhaps more than any other industry, the use of labor-saving machinery, mass production and complete integration. Since most of its products are machines or articles for use in other industries, the manufacture of iron and steel is therefore the nation's key-industry.

It is a well-known fact that the United States Steel Corporation controls approximately 40 per cent of the iron and steel production of this country.
Despite this fact many smaller companies have been able to effect remarkable expansion and integration, and to furnish active competition to the United States Steel Corporation in every department of the business.

The Bethlehem Steel Corporation was selected for study because, in the opinion of the writer, it is truly representative of the steel industry as a whole. Being approximately mid-way in size between the largest and the smallest of the completely integrated units, its products are well diversified and its volume of production is a significant proportion of that of the entire steel industry.

THE LOOSE-WILES BISCUIT COMPANY

The food products industry has shown a remarkable development during the past ten years and ranks among the leading industries in the country. A high degree of specialization exists in most of the concerns operating in this field. The biscuit and special bakery goods companies have expanded rapidly, both as to facilities and sales.

The Loose-Wiles Biscuit Company was selected as being representative of the concerns in its branch of the foods industry. It is one of the largest manufacturers of biscuits and fancy crackers in the United States.
OTIS ELEVATOR COMPANY

The Otis Elevator Company was selected for study for two principal reasons: it is sufficiently closely identified with the building trades to be reasonably representative of the concerns in that industry; and it enjoys a virtual monopoly in the elevator business, both in the United States and abroad.

PHILLIPS PETROLEUM COMPANY

Two reasons prompted the inclusion of an oil company for study: it is one of the very few basic industries in which domestic consumption of its principal product has remained, during this depression, at or near peak levels for all time; and it has shown of late some promise of being the first to work out of the depression.

Phillips Petroleum Company is only fourteen years old, but within that time has become a completely integrated concern. It is the largest manufacturer of natural gasoline in the world.

THE STUDEBAKER CORPORATION

The automobile industry in 1929 was ranked in first place among the manufacturing industries of the
country.\textsuperscript{2} The Studebaker Corporation is the oldest vehicle-maker in America, and since 1904 has engaged exclusively in the manufacture of both passenger automobiles and trucks. Therefore, in the writer's opinion, it may be considered as fairly representative of the established concerns in the motor industry.


\textsuperscript{3} A. R. Erskine, \textit{History of the Studebaker Corporation}, 1924, p. 25
CHAPTER II

FACTORS TO BE CONSIDERED IN SELECTING COMMON STOCKS OF INDUSTRIAL CORPORATIONS FOR INVESTMENT

Whether or not the purchase of common stocks of industrial corporations may properly be considered as an "investment" depends largely upon the definition of the term. It is certain that, although the dividends are not always received with as great regularity as interest payments on bonds, the common stockholder has greater opportunity of achieving larger dividends from earnings, greater distributions in the form of stock dividends, and much greater enhancement in the value of his securities. "The common stocks of some well-established organizations have reached a stage where they are entitled to a good investment rating."\(^1\)


THE COMPANY AND ITS PRODUCTS

The date of the incorporation of the Company is usually indicative of the period of time during which it has been engaged in its present line of activity. An exception is the case of a mere reorganization for the purpose of effecting changes in capital structure or of
consolidating affiliated companies. In any event, the period intervening between the date of incorporation and the present time is likely to measure the time opportunity of the present management.

The place of incorporation has little significance. Obtaining a corporate charter from a state other than that of the residence of the founders of the business, or foreign to the state where the principal activities of the business are to be carried on, has become a general and well-established practise. The principal reasons for such action include: some taxation advantages in organization and subsequent franchise taxes; convenience; and other advantages of the foreign corporation law. Foreign corporations are not properly to be regarded with suspicion.

The ascertainment of subsidiary and affiliated companies is likely to result in important information relative to products, production capacity, market outlets, financial strength, and managerial and financial policy. Some investigation of the subsidiary and affiliated companies should be made to determine the possibility of exploitation of one or more companies for the benefit of the stockholders of another.
The nature of the product and services of the company should be studied. The extensiveness of demand for a staple or necessary product vastly exceeds that of a luxury. A "repeat" product bespeaks continued demand. A "full line" is important in many branches of industry. The demand for certain goods is extremely erratic because of changes in seasonal requirements or the uncertainties of style. Whether or not the demand for the company's product depends upon activity in some other industry is an important consideration. The steel industry and the metal container industry are illustrative of the latter principle.

Integration,—by which is meant the effective control over raw materials, complete fabrication processes, marketing facilities and even, in some cases, the financing of sales to customers,—is highly important in some industries. It is frequently thought of as being merely a means of obtaining multiple profits but its major advantages may consist of superior quality and regularity of raw materials, and savings in overhead costs of distribution in all of its phases. 2


Since the concern must not only produce or buy
the product but then market it as well, ability to cope successfully with competition for sales is a highly important factor.

Mere size in a business concern carries with it both advantages and disadvantages. Briefly summarized, the advantages include: greater possibility of standardization; greater use of machines; further division of labor; and possible economies in buying, selling, and financing. Possible disadvantages of size include: greater complexity of organization, more impersonal relations, divided responsibility, and the undermining of initiative and spontaneous interest in the success of the business.\(^3\)

\(^3\) Ibid., p. 434.

Advantages accruing from the possession of basic patents are likely to be impermanent, both because patents rights expire and other methods of doing the same thing may be discovered. Advantages accruing from goodwill, especially that created through a long period of advertising, may be very significant but to maintain them requires constant effort on the part of the company. The advantage of operating in a "high cost to enter" field no longer provides much protection. The advantage of monopoly control over raw materials is likely to be terminated by the discovery of new sources of supply. Perhaps the greatest advantage over its
competitors which a concern can enjoy is that of superior efficiency in management, for it is the most likely to remain permanent.

THE MANAGEMENT

The men directing the policies of the concern should be honest, able and virile. They should have the desire to serve. They should be experienced in their present line of work, and preferably, in related lines as well. They should possess sound judgment and common sense.

The general business management of a concern can be rather accurately judged by: the quality of the product or service, ability to control operating costs effectively, ability to expand gross income at least proportionately to the expansion of facilities, and the ability to maintain profitable operations in dull times. Attitude toward research dealing with both products and improved methods of producing them is also significant.

A satisfactory labor management is indicated by freedom from major labor troubles and interest in the welfare of the employees. Such interest is frequently indicated by bonus systems, home-ownership plans, employee stock purchase systems, and similar provisions.
The financial management of the business concern is charged, first of all, with the responsibility of raising the initial capital needed and its proper apportionment for plant, equipment, and working capital. An enterprise poorly conceived or unsoundly founded is doomed to failure. An adequate supply of working capital must be maintained to preserve a good credit rating and to avoid the threat of insolvency. As need arises, funds must be provided for the expansion of the business without unduly burdening the concern with debt.

The financial management is likewise charged with responsibility for the accurate determination of profits. In this connection it must, first of all, see that proper provision is made for depreciation and maintenance charges, otherwise the capital investment will not be maintained intact. A conservative basis of valuation of all assets is at least prima facie evidence of a conservative statement of profits. Large carrying values of intangible assets, especially if they are not being reduced, constitute a warning of overstated profits. The allocation of net profits to dividends, surplus, and reserves also rests with the financial management. This matter will be more fully discussed in connection with earnings.
The question of the honesty of the management is one of the most difficult and most important of all questions connected with investment. Lack of honesty may range all the way from legal fraud to a willingness to use what are almost conventional and accepted methods of arranging the accounts so that they fail to disclose the precise situation of the enterprise. The investor must be constantly alert, during his analysis of information relating to the company, for evidences of dishonesty in any form; beyond such efforts he must rely on the general reputation of the men who make up the management personnel. "It is a matter of observation, and a natural enough phenomenon, that in their character managements tend to perpetuate themselves. If an enterprise has in the past always had an honest management, the probabilities that the present management is honest are increased." 

4 Hastings Lyon,-Investment p. 355 1926

Some of the more common managerial practises detrimental to the interests of common stockholders include: unreasonably large salaries and bonuses to officers, misrepresentation of the condition and earnings of the business to facilitate manipulative operations in the common stock by the management, and
the creation of parasitic enterprises. The latter may consist of independent concerns organized either to sell materials to the enterprise at exorbitant prices or to buy its product at ridiculously low prices.

EARNINGS

Investment in common stock is made primarily for the purpose of producing a net income. Since the commitment is perpetual in form (barring sale of the transferable shares), the investor is concerned with the principal fund almost wholly as a means of producing income. The business will return him his principal only in the event of liquidation, of which there is ordinarily no expectancy at the time the commitment is made. Since a share of common stock denotes an aliquot ownership right, it also carries with it a right to an aliquot portion of the net profit of the concern which is available to the common stockholder.

Consequently, the profit and loss statement is of great interest to the investor or prospective investor. Its purpose is to show the results of operations, in terms of profit or loss, over a specified period of time. Insufficient net profit,
including all of the various contributory factors—such as insufficient sales volume, inadequate selling prices, excessive operating costs and expenses, and inordinately large interest and other non-operating charges—can best be detected by the careful analysis of profit and loss statements covering a period preferably of about ten years.

Nor will the profit and loss statements alone suffice for the purposes of the prospective investor. The balance sheet, which has for its purpose the showing of the financial condition of the business concern at a specific moment of time, is likewise important. It should be carefully examined by the investor before the purchase of shares of stock to determine the general financial health of the concern. An examination of consecutive balance sheets of a business enterprise over a period of years will disclose such fundamental considerations as: adequacy of invested capital; sufficiency of working capital; over-investment in inventories, receivables, or fixed assets; and managerial policies pertaining to valuation bases, depreciation, depletion, intangible asset extinguishment, and changes in capital structure. At the end of the fiscal period, the individual who possesses shares of common stock of a company should inspect the balance sheet in conjunction with the
profit and loss statement to which it is both supplementary and complementary. He will thereby be apprised of increasingly or decreasingly satisfactory management ratios and of the use made of profits retained in the business.

The sales figure, if published, is usually shown on the profit and loss statement in the form of net sales; i.e., after the deduction of sales returns and allowances. Since the sales figure represents the product of physical volume of sales and selling prices, any satisfactory analysis of sales necessitates the availability of data concerning both. A decline in the sales occasioned by a reduction in the units sold is likely to be more serious than one resulting primarily from lowered selling prices. Especially is this true during periods of rapidly falling commodity prices.

The deduction of cost of goods sold from net sales results in gross trading profit or profit on sales. Unfortunately, cost of goods sold and operating expenses are frequently combined in published reports, and hence analysis of the merchandise cost of goods sold is impossible.

Operating expenses,—including selling, general, and administrative expenses,—are next deducted from
gross trading profit to arrive at the total operating profit (or loss) figure. The trend of operating expenses in relation to sales is highly significant as a forecast of future operating profits.

Non-operating expenses consist largely of taxes and interest on borrowed capital. The latter may absorb an entirely disproportionate amount of operating profit in the case of a large funded debt. The earning power of most companies is inherently unstable. It is therefore to the common stockholders' advantage that the payment of income on the company's securities should be a contingent and not a fixed charge. Some companies carry this policy so far as to issue no bonds whatsoever. It is apparent that if fixed charges are heavy, a slight variation in earnings will materially affect the amount that accrues to the benefit of the stockholders.

Non-operating incomes include, principally, interest earned on loans made (to affiliated companies or to others), the company's share of profits of affiliated companies, and profits on the sale of capital assets. The latter is not a regularly recurring item.

PREFERENCE CLAIMS AGAINST NET PROFITS

Preferred stock, carrying a preference as to
dividends at a specified rate, may have been issued by the company; or the preferred stock of a subsidiary company may have been guaranteed as to dividends. Such claims, of course, take precedence over those of the common stockholders and thereby reduce the amount of total net profits available to them.

DISPOSITION OF NET PROFITS AVAILABLE TO COMMON STOCKHOLDERS

The total net profit available to common stockholders may be distributed in the form of cash dividends or retained in the business, at the discretion of the board of directors. Cash dividends may also be declared by the directors from free surplus, since it represents accumulated profits of past periods. In general, directors may declare dividends so long as they do not impair capital; i.e., reduce the net worth to less than the par value of the shares outstanding. In case of no-par shares, the question has not been finally settled by the courts.5 In most states impair-

5 E. A. Saliers (Editor) The Accountant's Handbook p. 314, 1923
reduced below the amount for which the shares were originally issued, or, at least, if reduced below the "stated value" of the shares.

Available cash without unduly decreasing working capital is always a prerequisite for a cash dividend payment. In case of a temporary shortage of cash, scrip dividends may be issued. These are dividends paid by promissory notes of the company. They usually bear interest and have a definite due date. They may be negotiable or convertible into the company's own stock.

Net profit available to common stockholders in excess of that which is distributed as cash dividends, is retained in the business and may be held as free surplus, appropriated to specific reserves, or converted into capital stock through the process of declaration of stock dividends.

A large free surplus serves as a bulwark against possible losses and enables a corporation to pursue a consistent dividend policy. This tends to create a good credit rating. Frequently the dividend rate is fixed at a figure slightly below estimated minimum earnings, thus assuring regular dividend payments and more or less constant additions to surplus. This policy is especially commendable if income fluctuates widely because in such cases a larger surplus is
desirable than if income is stable. Appropriated surplus is withheld, temporarily at least, from possible dividend declaration by contractual agreement or as an expression of managerial policy.

Stock dividends in the case of par value stock affect a permanent retention of profits in the business, since the surplus is reduced by the amount of the par value of the new shares issued and capital stock correspondingly increased. The same is true of stock dividends in the case of shares having a stated value, the stated value being used as the basis of the transfer. Likewise, if the shares of common stock have no par value and surplus is shown separately from capital stock, it is sometimes the practise to transfer surplus to capital stock on a basis of the market price of the old shares on the day preceding the declaration of the stock dividend. This was the method used by the Phillips Petroleum Company in the case of their 5 per cent stock dividend declared in 1929.6

6 Phillips Petroleum Company, Annual Report 1929, p.3

An advantage of the stock dividend from the standpoint of the company is the reduction of surplus and consequently a lessening of the pressure from stockholders for large cash dividends. In general, stock
dividends may be declared whenever it is desirable to give the stockholders evidence of the increase in their interest (assuming the presence of a surplus) without reducing the working capital by a cash distribution. Two possible disadvantages are: first, the reduction of surplus to a point that might be unwise should heavy business losses occur (an impairment of capital would result more easily), and, secondly, a strain on working capital might follow should the directors feel under any necessity of maintaining the former dividend rate on the increased capitalization. Stock dividends are usually advantageous to the common stockholder for, although the book value of his equity has in no way increased, the market value of his total shares after the stock dividend is usually slightly greater. Should the company be able and willing to maintain the old cash dividend rate per share, his annual cash dividends will also be greater in amount.

Stock splits merely increase the number of total shares of common stock outstanding without altering the net worth of the company or even the percentages of it represented by capital stock and surplus respectively. In the case of par value stock, the par of the new shares must be reduced or the stock converted into no-par shares. In the case of stock which is already no-par, the number
of shares is simply increased in proportion to the basis of the split. From the standpoint of the company a stock split may be advantageous when the market price of the shares is high, for it thereby reduces the market price per share (although not proportionately) and encourages wider participation in the purchase of the shares,—thus strengthening their market. Under the same circumstances and for the same reason, a stock split is advantageous to the individual holder of the original shares, even though, as is ordinarily the case, the original cash dividend rate per share is not maintained. Such increased number of shares of stock may be disadvantageous to the company during a depression, both because of the greater capital stock tax which must be paid and because the inevitably lower-priced shares may sink to such low levels as to be classed with near-worthless stocks.

There have been many instances during 1930, and since, of what practically amounts to the reverse of the stock split process. The par value shares of companies having a profit and loss deficit (negative surplus) created through operating or other losses have been reduced as to par and the same number of shares of new stock exchanged for the old. This permits the reduction of the amount of the capital stock account
balance and a corresponding increase in surplus. The advantage gained is that the surplus thus created may be used to wipe out the operating deficit or even to legalize cash dividends. In the event of no-par shares, the same thing may be accomplished by issuing a lesser number of new shares for the old, or if the capital stock has no stated value, simply by an entry transferring a portion of the capital stock account balance to surplus. Other advantages of these procedures are: the enhancement of the market price of the shares and the improvement of their standing in the market; the improvement of the credit position of the company when new financial arrangements are necessary; and the possible reduction of capital stock taxes.

YIELD

The yield on a share of common stock is the percentage rate of return represented by cash dividends on the amount of the investment in the share. Both the amount of the investment in the share and the cash dividends must hence be considered.

The factors affecting the market price at which common stocks sell are far too numerous and varied in character to be treated in this study. The prospective
The investor is interested in the market price range over a period of past years of the common stock under consideration because it indicates the public esteem in which the stock has been held (based to a considerable extent upon past forecasts of future earnings), and because it throws considerable light upon the type of market sponsorship which the stock has enjoyed. Other things being equal, a stock which has had vigorous and effective market sponsorship over a period of time is likely to enjoy public favor in the future and hence to yield more easily to price stimulation.

The historical price range of the common stock of a given concern can best be studied in terms of its yearly high and low prices. Comparison of these prices with the par value (or values, in the event of change), although it may give a general indication of the public favor in which the stock is held, is of little real significance. The par value, in legal theory, is an amount which must be paid in full by a subscribing stockholder, else he or subsequent holders of his shares become liable for any unpaid balance when and if the corporation is unable to meet its debts. However, stock may be paid for with property rather than cash and the board of directors, to whose discretion the matter of value is left by the law in the absence of fraud, may grossly over-
value the property so acquired. Moreover, every corporation either accumulates profits or has losses, which alter the original worth of the owners' interests, even if it were exactly par originally.

Of somewhat greater significance is the comparison of past market prices with the book values of shares obtaining at the same time. By book value is meant the total common stock proprietary equity divided by the number of shares; or, in other words, the going concern value of net assets which is represented by each share of common stock outstanding. This is sometimes referred to as the "asset value" of the shares of stock. Forced liquidation values would of course be much lower. Book values of shares of common stock are of greater significance than par values largely because they give effect to the changing proprietary equity resulting from accumulated profits or losses. Market prices consistently above book values of stock are an indication of investors' confidence in the earning power of those assets, and vice versa.

A still more tangible evidence of confidence or lack of it in the earning power of the corporation is to be found in the comparison of market prices of the stock over a period with the earnings per share for the same period. This is frequently expressed as a price-
times-earnings ratio. The ratio is derived by dividing the price of the given share of stock by the annual earnings available for that share. Certain limitations must be kept in mind. Price-earnings ratio reports only that portion of the value of a share of stock which related to current earnings. On the other hand, price at any time reflects, in addition to current earnings, a conviction derived from past earnings record as to future earnings; it reports asset value, to some extent, and various other price-making factors which at times are quite remote from actual value. The price-earnings ratio deals with two sets of variables,- it changes when either price or earnings change, or when both change,- a fact which tends to limit somewhat the usefulness of the ratio. Price-earnings ratios show wide departures from the average. The contention that the long-term secular trend of average price-earnings ratios is upward finds some supporting evidence but not such as to warrant a final conclusion. The contention that certain stocks develop price-earnings ratio habits is also not without some truth, but there is no guarantee that these habits are to be unchanged in the future. The practical usefulness of the price-earnings ratio may be summed up about as follows: a high price-earnings ratio in times of prosperity (say greater than 20 times) suggests the
possibility of an advantageous sale of the stock; while a low price-earnings ratio (say 10 times or lower in a period of prosperity and 7 times or lower in a period of depression) is an invitation to investigate carefully the possibility of making a wise purchase.\(^7\)

\[^7\text{L. H. Sloan—Everyman And His Common Stocks, 1931, pp. 139-159}\]

Reported earnings are not necessarily disbursable earnings. As previously stated, available cash without decreasing working capital is always a prerequisite for a cash dividend payment. "On the average, during the period 1928-1929, only 70 per cent of reported earnings for common stockholders were disbursable."\(^8\) Moreover, from the viewpoint of the common stock investor, earnings withheld and invested in the business are not income but an expectation of income, and a present expectation, however good, cannot have the same value as a present certainty. Hence yield—the percentage rate of return represented by cash dividends on the amount of the investment in the stock—is of special importance.

The cash dividends considered for yield determination purposes are usually regular cash dividends, for
extras are, as a rule, wholly unpredictable as to declaration and amount. A study of such yield figures at both the highest and lowest prices for each year of a past term of years will give some idea of average yield and also indicate the frequency of opportunities to purchase the stock at some assumed "reasonable" yield percentage.

Another aspect of the yield problem is presented by the multiplication of shares over a period of time growing out of stock dividends and stock splits. Cash dividends were, of course, paid on these additional shares, and materially increased the yield as based on the investment of the original shares. This feature has been especially striking in the case of the Otis Elevator Company.

MARKETABILITY

Marketability is an important quality of common stocks, and is materially enhanced by listing on a recognized stock exchange. The advantages of such listing include: assurance of a published balance sheet and profit and loss statement once each year (a requirement of the exchange); an increased market for the security, as the consequence of a convenient and
customary meeting place for buyers and sellers; publication of current market prices, which aids shareholders in keeping informed and acts as a constant invitation to others to buy; and improved collateral value of the security. The listing of a security does not imply a financial guarantee on the part of the exchange, however.

Concerns whose stocks are listed on the exchanges are likely to be better known and their stocks more active in trade. As a consequence, greater attention is devoted to them in the various manuals and financial magazines discussed in the following chapter.
CHAPTER III

SOURCES OF INFORMATION

Since one of the chief characteristics of the method of private analysis under discussion in this study is that it be based on information obtained without cost, no attempt will be made here to catalog sources other than those ordinarily available in a good public library.

Information of interest to the present or prospective investor in common stocks falls into two main classes, - general and specific information. General information is studied principally in order that the investor may determine when to buy and when to sell. This necessitates a study of fundamental business conditions as affected by money rates, commodity prices, labor conditions, and many other factors. Again, general information is studied to obtain a broad knowledge of the various industrial fields in which the investor may consider placing his money. Since all industries do not prosper to the same degree, the investor must keep informed as to the relative position of different industries.

For purposes of general information, financial newspapers and magazines will be found most useful. The Wall Street Journal is an excellent daily newspaper dealing
with financial matters. Another daily financial publication is The Journal of Commerce, treating of commodity prices and commercial subjects. The United States Daily records governmental and political activities, and reports conditions prevailing over the entire country.

The Magazine of Wall Street, published bi-weekly, is an especially good treatment of current stock-market forces. Of the weekly publications, the Commercial and Financial Chronicle provides complete financial data, including commodities and price trends; The Annalist is excellent for general conditions, trends, and complete market quotations; and Barron's, Dun's Review, Bradstreet's Journal, and Commerce and Finance furnish excellent materials on credit and general business conditions. Forbes magazine, published bi-monthly, reports both general and specific financial information.

The Federal Reserve Bulletin reports monthly money and banking statistics. The Survey of Current Business provides statistical business data available during the past month. Reports on the current situation appear in various trade association publications, such as, - Steel, Iron Age, Power, Oil and Gas Journal, National Petroleum News, Automotive Industries, Printer's Ink Weekly, Printer's Ink Monthly, and many others.

Of the annual publications that are helpful, the Commerce Yearbook contains statistics on all lines of
business; the **Annual Federal Reserve Reports** deal in financial and banking statistics; the **Yearbook of Agriculture** specializes on crops and livestock data; the **Annual Report of the Comptroller of the Currency** reports extensive financial data; and the **Statistical Abstract of the United States** summarizes the statistics on all lines of economic activity.

The **Report of the Census**, compiled every ten years, contains much data on almost every economic subject, which the **Abstract of the Census** (available about two years after the census report) classifies for more effective use. The **Census of Manufacturers** (biennial) gives detailed information about the progress of different industries.

Specific information deals with the activities of different companies. By such study, one can gain insight not only into the past record of a company but also into its present progress and future possibilities. This knowledge is indispensable for the thorough analysis of a security. There are many sources of such information.

Perhaps the best known and most important of the financial manuals are those published by Moody's Investors Service of 65 Broadway, New York. The publications include industrial, public utility, railroad, and government sections, each separately bound. More recent volumes
cover bank, insurance and finance securities. The manuals are kept up to date by supplements containing current data. The volume dealing with industrial concerns is an important source of specific information. It reports, for most companies, the following: name, date and place of incorporation, principal products, plants and properties, officers and directors, subsidiary and affiliated concerns, balance sheet and operating statement for at least the most recent past period (sometimes covering five years), and a rather complete bond, preferred stock, and common stock record. Moody's Investment Letter and Consultation Service is available, as a rule, only in a stock brokerage office.

Standard Statistics publications (345 Hudson St., New York) cover a similar field. In general, they are divided into two parts, one devoted to stocks and the other to bonds. Stocks are covered by card reports for the important companies and by manuals which deal with the smaller corporations. Stock records are kept up to date by a current service. Other publications treat of general business conditions and the outlook for individual industrial and other securities.

The Fitch Manual, in one volume, covers all the various types of companies; and current supplements provide weekly reports on stocks, giving among other data, the
following facts: price range covering several years to date, yield, number of shares outstanding, and dividend and earning records. Other publications (Fitch Publishing Co., 138 Pearl St., New York) give comprehensive and authoritative price quotations.

The periodic reports to stockholders, published by the companies themselves, furnish much valuable information. Such reports range from brief and formal comments accompanying the current balance sheet to elaborate reports dealing with every aspect of the business and supported by complete certified financial statements. A marked tendency toward more complete information in these reports is noticeable.

The following magazines, ordinarily available in a good public library, are likely to be of aid in collecting specific information on individual industrial concerns: Barron's, Forbes, the Annalist, the Magazine of Wall Street, the Commercial and Financial Chronicle, Business Week, and Nation's Business. Information found in these publications ranges from brief dividend declaration notices to rather complete historical studies.

The Reader's Guide to Periodical Literature and the Industrial Arts Index are helpful in locating articles dealing with the general economic factors affecting various industries, and also with specific circumstances arising

In recent years several of the larger metropolitan newspapers have been publishing useful analyses of the securities of industrial corporations. Many smaller newspapers are publishing these syndicated articles on their financial page.
CHAPTER IV

THE METHOD

The first problem of the prospective investor-analyst is to determine the character of the information necessary for his purpose; the second is to discover the sources of that information; and the third is to decide upon a systematic method of recording, classifying, analyzing, and presenting the information in order that the interpretation and evaluation of the data may be facilitated.

The sources of information relating to the five companies studied in this thesis were the same. The first step in the procedure was to obtain from Moody's Investors Service, Industrial Section, the data, as given, for the compilation of ten-year comparative profit and loss statements. It was necessary to refer to the manuals of several different years in order to get this information; for, as a rule, the figures of but two years are given in the manual of any one year. The next step was to obtain from the respective companies a copy of their annual reports for each of the ten years under consideration. The balance sheet and profit and loss statement inform-
ation, as shown in the company's reports, was care­fully checked against that obtained from Moody's Service, figures supplied and composite figures broken down. In cases of discrepancies (due to different grouping of items reflected as composite figures), the reason for the difference was determined and, if possible, was corrected.

At the conclusion of this verification and amplification procedure, the items, reflected on the statements of a given company for the ten-year period, were far from being identical for each of the ten years. There were two principal reasons for this: first, the perfectly natural presence in certain years and absence in others of such items as call loans, deferred purchase obligations, inventory adjustments, and others; the second was the frequently and rather baffling changes in classification and combination of items. As an example of the latter, the balance sheet of the Phillips Petroleum Company showed in one year an item of Reserve for Insurance and Contingencies and in the following year a Reserve for Contingencies and Taxes.

The next step was to work out a practical and— in so far as possible— standardized grouping of balance sheet and profit and loss statement items resulting in
significant totals to form the basis of ratio and trend studies. The totals resulting from the selected grouping of the balance sheet items were: cash and other items (including call loans, government securities, and other highly liquid assets practically the equivalent of cash); total receivables; total quick assets; total inventories; total current assets; total fixed and other assets; and other assets. The totals obtained from the selected grouping of the liability and net worth items were: total current liabilities; total long-term liabilities; total liabilities (including both current and long term); total net worth; and total liabilities and net worth. The totals resulting from the selected grouping of profit and loss statement items were: net sales; total operating costs and expenses; net operating profit; total net profit; net profit available to common stockholders; dividends paid (to common stockholders); and net surplus additions. A complete reclassification of all balance sheet and profit and loss data was necessitated in order to give effect to the selected grouping method.

The problem of analysing an individual balance sheet is not so much one of studying actual amounts but rather one of determining relationships existing between the various classes of items composing the
statement.

The ratio method of studying individual balance sheets is the oldest of all methods and was originally devised, undoubtedly, for credit analysis purposes. It is subject to the following criticisms:¹

1 Stephen Gilman--Analyzing Financial Statements, 1925, p. 11.

1. "Any balance sheet ratio represents a relationship between two varying factors and any change in a ratio from one year to another must be interpreted by the examination of the changes in the two items from which the ratio is built.

2. The ratio is so artificial a figure that it is difficult for the analyst to keep in mind its connection with the actual balance sheet under survey.

3. The ratios give an unwarranted impression of finality, whereas the different ratios probably vary in their reliability.

4. In studying balance sheets by the ratio method it is difficult to obtain a bird's-eye view of the relation of various elements one to another." (The ratio method splits the problem into a series of different
Perhaps the greatest usefulness of the ratio method of analysis of consecutive balance sheets is in determining the company's past and present working capital position. Working capital is the excess of current assets over current liabilities. If the latter were larger than the former, the difference would be called floating debt. Two ratios are of special significance in this connection: the working capital ratio and the "acid test" ratio. The former is obtained by dividing the amount of the current assets by the amount of the current liabilities, the quotient thereof representing the number of current asset dollars for each dollar of current liabilities. The acid test ratio is obtained by dividing the amount of quick assets by the amount of current liabilities, the quotient indicating the number of quick-asset (current assets less inventories) dollars for each dollar of current liabilities. Both ratios are given for each year for each of the five companies studied and are to be found at the bottom of the respective comparative balance sheets (Exhibits A).

The ratios of each group or class of assets to total assets, and of each group or class of equities to total liabilities and net worth, are given for each year of each company studied. Although these ratios are of some
usefulness in studying a series of consecutive balance sheets of the same company, the previously mentioned limitations of the ratio method make highly desirable the supplementary use of an historical trend method.

The object of a trend method is to study the relationships existing between the amount of a given item (or group of items) in one year with the amount of the same item (or group of items) in other years. For the accomplishment of this object, the trend method is superior to the ratio method, for it brings out vividly the variations in each item over a period, whereas when the ratios for several single balance sheets are considered together, they shed some light on the trends but they represent a clumsy instrument for this purpose.

A trend method frequently used is one which might be described as percentages based on a common base year. It involves first a grouping of the individual asset and liability items for the various years into classes and the computing of the class totals for each year, as was previously described. The next step is to calculate the percentage which each class total represents for each year, based on the amount of the total for the same identical class as shown in the base year. In the case of this particular study covering the ten-year period of 1922 to 1931 (both inclusive), the 1922 class total
amounts represent 100 per cent in each case. The per-
centages of each class total for each subsequent year
were obtained by dividing the amount for each year
subsequent to 1922 by the amount for 1922. The per-
centage figures shown for each class total in Exhibit
A, Appendix C, balance sheet analysis of Otis Elevator
Company, are illustrative of this method.

But great masses of figures are confusing to the
lay mind, and, in any case, are hard to comprehend fully.
When a statement contains as many as ten or more columns,
it is too large to be easily grasped and the significance
of trend figures may be lost. However, the trend method
of analysis can very well be charted; and it is highly
desirable to do so. For this purpose, ordinary (not
logarithmic) graph paper should be used. The chart
visualizes only trends, and should not be misinterpreted
as portraying actual amounts. In the chart it is the
slope of the lines which is significant - the steepness
of the slopes shows the rates of increase or decrease of
the items. Figures 1a and 3a of Appendix C illustrate
such charts for the Otis Elevator Company's assets and
liabilities respectively.

A variation of this trend method is sometimes used
and serves essentially the same purpose. It considers
each year (instead of only the first year) as a 100 per
cent basis for figuring the percentages of the following years. Since the graphic chart of the trend percentage calculated by the single base year method shows the same facts just as vividly, and eliminates the need for this somewhat complicated calculation, this variation of the trend method was not used in this study, nor is it illustrated.

An alternative method of reflecting trends is to chart the actual figures of each class of data on logarithmic paper. Mr. Stephen Gilman, in his *Analyzing Financial Statements*, page 173, states, "a chart of trend percentages is equivalent to a chart on logarithmic paper using the actual figures themselves."

Since he illustrates his point on the following page of the same book by using semi-logarithmic paper, it was presumably this type of paper which he had in mind. Even so, his statement is not literally true, for a straight line on semi-logarithmic paper (one reflecting a constant increment increase on the paper) reports a constant ratio of change; while a straight line on ordinary graph paper (again one reflecting a constant increment of change on the paper), reports a constant increment of change. Nevertheless, the plotting of
actual figures on semi-logarithmic paper may be a useful method of visualizing class total figures of a comparative balance sheet. Figures 1b and 2b of Appendix C illustrate the use of this method in the case of assets and liabilities of the Otis Elevator Company for the ten-year period of 1922 to 1931, both inclusive.

The plotting of actual figures on ordinary graph paper is another useful method of visualizing relationships between group totals of assets and liabilities over a period of years, and is illustrated in Figures 1 and 2 of Appendix C. These figures reflect, in the case of the Otis Elevator Company, assets and liabilities respectively.

There is obviously no need for the prospective investor to use more than one of these methods of graphing the balance sheet information of a given company for consecutive years. A choice must therefore be made.

Plotting trend-percentage figures computed on the amounts of a common base year has the advantage of clearly visualizing trends, but likewise possesses the significant disadvantages of involving extensive calculation work in obtaining the trend percentage figures, and of being misinterpreted as representing actual amounts. Plotting actual figures on semi-logarithmic paper eliminates calculation of trend percentage figures and
visualizes trends in the form of compound interest lines (i.e., reflecting ratios of change). However, as in the case of Figure 2b of Appendix C, it is sometimes necessary to use different scales for different lines, or even to use two-cycle semi-logarithmic paper, as in the case of Figure 1b of Appendix C. Hence the method becomes rather difficult for the use of the layman. It is impossible to show negative figures on semi-logarithmic paper (except by broken lines) and even positive figures, which are small, are difficult to handle.

In the opinion of the writer, the simple and ready method of plotting actual figures on ordinary graph paper will adequately serve the purpose of aiding in visualizing the relationships between significant group totals of assets and liabilities and their respective general rates of increase or decrease over a period of years. This method has been used in the case of each of the five companies, the other two methods being employed in the case of the Otis Elevator Company for illustrative purposes only.

The problem of analysing an individual profit and loss statement is largely one of determining relationships existing between the various significant items. Two applications of the ratio method were used in
connection with the profit and loss statement for each year of each company, provided the necessary information was available. The operating ratios reflect the percentages of sales represented by cost of goods sold, gross trading profit, operating expenses, and net operating profit respectively. The net profit ratios reflect the percentages of total net profit required to satisfy preference claims and the resulting percentage of total net profit available to the common stockholders.

The method of plotting actual profit and loss statement figures on ordinary graph paper was used in the case of each company as an aid in visualizing increase and decrease tendencies during the ten-year period. This method seemed to be especially suitable in view of the numerous negative figures.

A uniform table of additional common stock statistics (Table A) was prepared for each of the companies studied. These data, for the most part, represent calculated rather than compiled figures, and consist of twelve items for each of the ten years under review.

Item 1 reflects the total net worth of the common stockholders' equity. In the absence of preferred stock having preference as to assets in liquidation, the sum of the capital stock, surplus, and proprietary reserve items, as they appear on the balance sheet for each
respective year, constitutes the net worth of the common stockholders' equity. In the event of there being preferred stock outstanding, the prior claims (except as to dividends for the pre-liquidation period) as well as the par of the preferred stock must be deducted from total net worth in order to reflect the net worth of the common stockholders' equity.

Item 2 lists the number of shares of common stock outstanding at the end of each respective year. This information was obtained from Moody's Manual and checked against the annual reports of the companies.

Item 3 shows the book value per share of the common stock outstanding at the end of each year. These figures are obtained by dividing those of Item 1 by the number of shares of common stock outstanding shown in Item 2.

Item 4 presents the par or stated value of common stock shares at the end of each respective year. These figures were compiled rather than calculated.

Item 5 shows the price range (high and low) of the shares of common stock for each year. These figures were obtained from Moody's Investors Service, Industrial Section and checked against similar reports in Fitch's Manual.

Item 6 reports the calculated price-earnings ratios at each of the annual high and low market prices. The
figures were obtained by dividing the market prices per share by the earnings per share (shown in Item 7). The ten-year averages of the price-earnings ratios based on annual highs and on annual lows is also shown.

Item 7 lists the annual earnings per share of common stock for the ten-year period. These figures were first compiled and then verified by dividing the annual total net profit available to common stockholders (as reported on the comparative profit and loss statements) by the respective number of shares of common stock outstanding at the end of each year.

Item 8 reports the amounts of common stock cash dividends per share paid in each of the ten years studied. Both regular and extra cash dividends are shown.

Item 9 exhibits the percentage of regular common cash dividends per share to the net profit per share available to common stockholders in each of the ten years. These percentages were calculated and reflect clearly the degree of conservatism of the cash dividend policy pursued by the company.

Item 10 lists the annual yield, based on regular cash dividends, per share of common stock if purchased at the highest annual market price and also at the lowest annual market price. These figures were obtained by dividing the regular cash dividend on common stock by the respective annual market high and low prices per share.
Item 11 shows the annual aggregate number of shares of common stock growing out of the ownership of one share in 1922. The indicated cumulative increases resulted wholly from the stock dividends and stock splits explained in detail in footnotes shown on the same sheet.

Item 12 reports the percentage of total net profit for each year to the total net worth at the beginning of each year. These figures are highly significant in that they represent the profitableness of the proprietary capital investment for each year. Individual concerns in the same or different industries show widely varying results in this respect. The figures were obtained by dividing the total net profit for each year by the total net worth at the beginning of each year. The ten-year average of these percentages is also shown. Incidentally, similar figures for the period from 1913 through 1921 may be obtained for each of the five companies, except the Phillips Petroleum Company, by referring to James H. Bliss' Financial And Operating Ratios In Management, pp. 245-258.

Tables B were prepared for the Bethlehem Steel Company, the Otis Elevator Company and the Phillips Petroleum Company, but are not uniform in nature or context.

Table B (Appendix A) for the Bethlehem Steel
Corporation shows yearly statistics dealing with sales volume (both units and value), production capacity, production operations as a percentage of capacity, number of employees, wages and average earnings of employees, and a comparison of annual percentage increase in capacity with annual percentage increase in net sales. All of this information was compiled from the annual reports of the Bethlehem Steel Company, which reports are unusually complete and informative.

Table B (Appendix D) for the Phillips Petroleum Company presents the company's annual production statistics of crude petroleum, natural gasoline, and natural gas for the ten year period. These figures were compiled from the company's annual reports. The yearly averages of average monthly prices per barrel of crude petroleum and the export price of gasoline were obtained from Moody's Investors Service, Industrial Section. The company releases no data on selling prices of its products.

Table B (Appendix C) for the Otis Elevator Company, consists of a complete common stock dividend record (including stock splits) since the incorporation of the company in 1898. The multiplication of shares of common stock arising from stock dividends and stock splits, was sufficient to increase an original holding of one share in 1898 to approximately nineteen shares in 1931. The
total of cash dividends received on the aggregate shares for the thirty-four years, amounting to $344.20, represents an average annual cash income of $10.12. The dividend record was obtained from Moody's Investors Service, Industrial Section, and then checked against the company's annual reports. The remaining data were calculated. It would be entirely possible to prepare such a dividend record for every concern in which a prospective investor was interested, but to make it a regular part of each study would be unnecessary and probably an unwise expenditure of time and effort. It is presented here purely for illustrative purposes.
CHAPTER V

LIMITATIONS OF THE METHOD

By far the greatest limitation of the proposed method of analysis for common stock investment purposes results from the insufficiency of available information, and from the lack of uniformity and clarity of that which is available.

All concerns whose common stocks are listed on the New York Stock Exchange must file annual statements, and hence an annual balance sheet in some form is available in Moody's Investors Service, Industrial Section and, usually, from the companies themselves. The consolidated form of balance sheet, which translates wholly-owned subsidiary investments into assets, liabilities and net worth, should be, and usually is, used. Investments in partially-owned companies may be exhibited in the same manner, showing the minority interest, or may be shown on the balance sheet simply as investments. The latter treatment, especially if the amount involved is large, is unsatisfactory for it defies analysis of the item. Moreover, the company frequently gives no indication of the basis of valuation of these invest-
ments. The Bethlehem Steel Corporation lists on its balance sheet for 1931 "Investments In And Advances To Affiliated Companies" of over nine million dollars with no indication of the basis of valuation. The Loose-Wiles Biscuit Company shows no such item, for all subsidiary companies are wholly owned. The Otis Elevator Company shows "Investments In Foreign Subsidiary Companies, unconsolidated, at cost or less" of nearly nine million dollars in 1931. The Phillips Petroleum Company lists "Capital Stock of, and Advances to, Affiliated and Other Companies" of over fifteen million dollars in 1931, with no detail or basis of valuation of this rapidly increasing item. The Studebaker Corporation lists a very small item of "Investments In And Advances To Other Companies" and fails to mention the basis of valuation; the investment in the Pierce-Arrow Company, however, is consolidated, with the minority interest indicated.

Three of the five companies list on their balance sheets as of December 31, 1931, an item of marketable securities, carried at market value. The Otis Elevator Company lists "Government Securities" at par value (prior to 1928, at cost), while The Studebaker Corporation carries a small item of "Investments" as a quick asset without indicating the basis of valuation.
All five companies show an appropriate classification of receivables but report accounts receivable net (after deduction of reserve for doubtful accounts), except The Studebaker Corporation, which lists a Reserve For Doubtful Accounts amounting to about 8 per cent of the accounts receivable.

The Phillips Petroleum Company carries its inventory of crude and refined products at market prices and that of material and supplies at cost or less. Each of the other four companies state their inventories to be valued at cost or market price, whichever is lower.

In 1931 all five companies exhibited on their balance sheets a stated reserve for depreciation item as a deduction from their principal property account. However, the Otis elevator Company has followed this desirable practise for but the past three years, the Loose-Wiles Biscuit Company for the past four, and the Phillips Petroleum Company for the past five years only.

Intangible assets are variously shown by the five companies on their respective balance sheets. The Otis Elevator Company exhibits "Patents and Goodwill" at a nominal value of $1. This practise has been followed since 1925, the date of the first appearance of the item. The Studebaker Corporation shows "Trade
Name, Goodwill and Patent Rights" of almost twenty million dollars, or 17 per cent of total assets. No apparent effort is being made to amortize this item. The Phillips Petroleum Company and the Bethlehem Steel Corporation show no intangibles whatever but may have included them in their respective property accounts, - an extremely bad practise. The Loose-Wiles Biscuit Company includes goodwill in their property account, the amount being unstated. In 1930, the company charged off against surplus more than $600,000 of goodwill. The method of creating the necessary surplus credit for this charge-off was most unusual. Properties of other companies had recently been acquired by issuing Loose-Wiles Biscuit Company stock, the acquired assets being set up on the Loose-Wiles books at a figure commensurate with the par value of the company's stock issued for them. Subsequently these assets were inflated to agree with the previous book values of the selling concern, the resulting credit to surplus being used for the purpose of writing down goodwill. The net result of this method was simply to write goodwill into the fixed asset accounts, an accounting procedure which is objectionable.1

1 Loose-Wiles Biscuit Company, Annual Report, 1930
Very little criticism can be made of the showing of liabilities on the balance sheets of any of the five companies. Except for an unhappy combination of proprietary and liability reserves in the form of a "Reserve for Contingencies and Taxes," exhibited in the net worth section of the Phillips Petroleum Company's balance sheets for 1925 and 1926, liabilities have been well classified and clearly stated.

Capital stock and surplus are shown separately on the balance sheets of all five of the companies for 1931. This has been true in the case of the Phillips Petroleum Company only since 1927, however. Proprietary reserves, with few exceptions, have been clearly stated as to purpose.

In general, therefore, balance sheet data were found to be fairly complete, and, with the exceptions noted above, reasonably satisfactory for purposes of classification, analysis and interpretation. Unfortunately, as will be seen, the same cannot be said for information relating to the profit and loss statement.

The Loose-Wiles Biscuit Company has never released for publication their annual sales figures. The "Statement of Income and Surplus Account," which appears in their annual reports, begins with the surplus figure of the preceding year. To this is added a composite
figure described as "Consolidated Net Operating Profit for the Year, before deducting Depreciation, Interest and Federal Taxes," and the net figure representing the excess of "Miscellaneous Income" over "Miscella­neous Charges". Depreciation, interest and federal taxes, itemized, are then deducted. From the resulting "Total", dividends paid and various surplus charges are deducted, to give the surplus balance as of the end of the current year.

The Otis Elevator Company has reported net sales in only three of the past ten years, - 1925, 1927, and 1929. In the years of 1924, 1928, 1930 and 1931, the first listed figure on the company's profit and loss statement was gross profit on sales; and in 1922, 1923 and 1926, it was net operating profit.

The Studebaker Corporation has annually reported their net sales in the United States and abroad as a composite figure. The Phillips Petroleum Company reports "Gross Operating Income," which, presumably, is equivalent to net sales, since both costs and expenses are subsequently deducted. The Bethlehem Steel Corporation reports "Gross Sales and Earnings," which, according to their statements, equals "selling value (f. o. b. mill) of products shipped and gross receipts from all other classes of business, less sales commissions, license
fees, provision for doubtful accounts, returns and other allowances, but excluding inter-company sales." This illustrates the loss of valuable information resulting from condensed financial statements, as well as an interesting, although theoretically unsound, treatment of the provision for loss on uncollectible accounts.

None of the five companies (with the exception of the Otis Elevator Company for the years 1925, 1927 and 1929) exhibit cost of goods sold figures as separate items. Such combinations as "Operating and Selling Costs" and "Costs, Operating and General Expense" effectively conceal the very significant figure of costs of goods sold, and also that of gross trading profit.

Operating expenses are shown in detailed figures for all but the Loose-Wiles Biscuit Company. The classifications used by Phillips Petroleum Company, The Studebaker Corporation, the Bethlehem Steel Corporation and the Otis Elevator Company (in the years in which given) are sufficient to enable the analyst to trace the trend of depreciation and maintenance expense; but sales, administrative and other operating expenses are frequently combined in such fashion as to make analysis impossible.

Net operating profit (or loss) is clearly indicated in the profit and loss statements of both the Bethlehem Steel Corporation and the Otis Elevator Company; the term
"net operating income" being used to describe it. The same item is listed by The Studebaker Company as "Balance of Earnings", and by the Loose-Wiles Company as "Net Operating Profit Before Depreciation and Taxes."

In the latter case, "Other Income" was also included in the figure, except in 1931. "Other Income" is likewise included in the "Net Income" figure shown in the profit and loss statements of the Phillips Petroleum Company.

Non-operating income is separately shown by all five companies in 1931. The Loose-Wiles Biscuit Company had, prior to that year, included the item (without indicating the amount) in "Net Operating Profit." Interest and income from subsidiary companies not consolidated make up the total, in cases of other than a composite figure.

Non-operating expense is much better classified than is non-operating income. Interest and discount on funded debt, other interest charges, taxes, and inventory adjustments comprise the items most frequently shown. Three items appearing at various times in the non-operating expense section of the profit and loss statement of the Otis Elevator Company are of special interest. They are pension fund reserve, general reserve and contingency reserve. The charges represented by at least the last two items would seem to be more properly classified as
surplus appropriations than non-operating expense.

The total net profit figure appears on the profit and loss statements of the five companies studied as "Net Profit" in two cases and as "Net Income" in the other three. The Phillips Petroleum Company, which reports a positive total net profit figure as "Net Profit to Surplus," changes the terminology in the event of a negative figure to "Net Charge to Surplus," thereby avoiding the use of the word loss.

Four of the five companies studied, the Phillips Petroleum Company being the exception, had outstanding on December 31, 1931 preferred stock which enjoyed a preference claim to dividends over that of the common stock. The Loose-Wiles Biscuit Company charter also prescribes as obligatory an annual sinking fund reserve contribution of $150,000 for the purpose of retiring the preferred stock before dividends may be legally declared on the common stock. The Studebaker Corporation lists, in addition to Dividends on Pierce-Arrow Preferred Stock and Dividends on Studebaker Preferred Stock, an item described as Minority Stockholders' Interest in Subsidiary Profit. This deduction is a pure bookkeeping adjustment resulting from having included the Pierce-Arrow Company's entire sales and operating expenses with their own. In the years of 1928 and 1931, the operating
result of the Pierce-Arrow Company was a deficit, and hence the adjustment for the minority interest was an addition to net profits rather than a deduction.\textsuperscript{2}

\textsuperscript{2} Appendix E, Exhibit B.

The balance of net profit available to common stockholders is clearly shown as such by The Studebaker Corporation and the Phillips Petroleum Company on their respective annual profit and loss statements. The three other companies fail to show this very significant figure, concealing it (unintentionally, perhaps) in their respective surplus reconciliations.

All five of the companies studied show as a separate figure, either in the surplus reconcilement or the profit and loss statement proper, the amount of cash dividends paid each year on common stock. A most unusual practise in this connection was discovered in the case of the Bethlehem Steel Corporation. Cash dividends of 1 per cent of the common stock were declared on January 24, 1929, payable May 15, 1929. These dividends, amounting to $1,800,000, were shown as surplus deductions in the surplus reconcilement section of the company's profit and loss statement for the year ended December 31, 1928, together with a foot-note in very small type indicating the dates declared and payable.\textsuperscript{3} The same
anticipatory practice prevailed regarding the common stock cash dividends payable May 15, 1930 and May 15, 1931. Appendix A, Exhibit B lists these dividends in the same years as shown by the company's reports. Appendix A, Table A shows them in the following years in each case, however - the years in which they were declared and paid.

The annual excess (or deficiency) of net profit after deduction of all dividends declared and paid is shown as a separate figure only by The Studebaker Corporation and the Phillips Petroleum Company. The other three companies consistently fail to disclose this very significant figure, which represents net profits held in the business, as a result of having previously added total net profits for the year to the balance of surplus as of the end of the preceding year.

Despite the so-called surplus reconciliations exhibited as a part of, or supplementary to, the profit and loss statement, the complete reconciliation of surplus for the ten-year period was impossible in every case. However, it was possible to approximate with fair accuracy the disposition of net profits held in the business in each case.

The foregoing examples of lack of uniformity and clarity of information, as exhibited by the companies'
balance sheets and profit and loss statements, explain the necessity for a complete reclassification of this information in order to make it serviceable for purposes of analysis. As previously explained, Exhibit A of each appendix represents the reclassified balance sheet information concerning the particular companies, while Exhibit B of each appendix shows the reclassified profit and loss statement information for the same respective concerns.

Considerable difficulty was experienced in obtaining accurate and reliable figures on the number of shares of common stock outstanding at the end of each year. Such figures, as published by the companies themselves and by Moody's Investors Service, Industrial Section, were sometimes based on the average number of shares outstanding and at other times reflected the number of shares outstanding at the end of the year. Discrepancies in book value and earnings per share figures also resulted from this lack of uniformity in reporting the number of shares of common stock outstanding. In cases of par value shares, determination of the number of shares of stock outstanding is simply a matter of dividing the capital stock account balance by the par value of each share.

In cases of no-par shares, verification of the number of shares outstanding is far more difficult and involves an examination of the reports of common stock shares sold
for cash and exchanged for assets, shares issued in pay-
ment of stock dividends, shares purchased or acquired for
holding in the treasury, and all other possible common
stock transactions.

A second limitation of the recommended method is
that it, in the very nature of the case, provides no
information for forecasting changes in broad economic
factors, which may materially affect not only concerns
in a given industry but in all industries. Almost any con-
cern can operate at a profit during a period of rising
prices. In the event of an extended period of falling
prices, or the stabilization of commodity prices at unus-
ually low levels, all concerns will be affected. A dis-
cussion of the probabilities of such occurrences lies
entirely outside the scope of this study.

Again, future governmental action of our own or for-
eign governments in the form of tariffs, sales taxes, or
governmental control, may materially alter the outlook for
almost any industrial concern. Factors likely to in-
fluence such action on the part of governments are far too
numerous, varied and intangible to permit of discussion
here. The present is a period of great transition and
the managements of industrial concerns have, and will con-
tinue to have, many new problems and altered conditions
to face. A high productive efficiency alone will not
suffice. Mounting distribution costs and radically altered markets have already resulted in pronounced changes in marketing methods and policies in many cases. Much depends upon capable and far-sighted management.

A third limitation of the method is the seeming lack of definiteness in the final conclusions. The method provides no ready means of translating factors of strength and of weakness into dollars of market price which should be paid for the shares of common stock under consideration. This is necessarily so, for the object of the method of study is to determine and clearly set forth all significant favorable and unfavorable factors for the purpose of providing a sound basis of judgment rather than to exhibit data by way of justifying the personal judgment of the writer.

Many more variables exist in the case of industrial corporations than in public utility and railroad concerns. This is especially true in manufacturing companies, since they buy materials and labor on a present market for the fabrication of the product and its ultimate sale on a competitive market several weeks, or even months, in the future.

Every significant factor, both internal and external, involved in the investment value of an industrial common stock is subject to change almost over night, and necessitates an independent forecast. Assuming such indep-
endent forecasts to have been made, a composite judgment must then be formed. The writer knows of no satisfactory method of reducing such factors as a strong position in a competitive market, a vascillating depreciation and maintenance policy, a high quality of product, and a comparatively weak financial structure, to a common denominator. Even such a time-honored yardstick of investment value as the price-earnings ratio necessitates a preliminary judgment as to what the ratio should be at this particular time in the case of the given industry and concern in order to be favorable, and is then merely a recommendation for further investigation of factors not directly involved in the price-earnings ratio.

A composite yardstick for determining the investment value of common stocks of industrial concerns was developed and presented some two years ago. This method involved the assigning of weightings, subjectively determined and based on the indicated average weightings, to each of the five following factors:

<table>
<thead>
<tr>
<th>Average Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Price-earnings ratio--------------------------10%</td>
</tr>
<tr>
<td>2. Past record, management, etc.-------------------25</td>
</tr>
<tr>
<td>3. Technical position, current market-------------15</td>
</tr>
</tbody>
</table>

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4. General money and credit position----------------10

5. Future possibilities of the company, mergers,
   new markets, etc.--------------------------40

The sum of the weightings thus determined might amount to more or less than 100. The next step was to point off in this total figure one place to the left. The result was to represent the number of times current earnings appropriate for use in determining a reasonable current market price of the given share of stock. This method, while purporting to be objective in nature, is highly subjective in the initial step, and obviously over-stresses current earnings. If we may judge by the illustrative applications of the method, it also reflects popular belief in the miraculous earning power of large consolidated organizations. For example, United States Steel common stock was given a value at that date (July 12, 1930) of $184 per share, a figure which was never reached in the boom-market year of 1928.

Since a composite judgment must be made, it behooves the prospective investor to have at his command all possible information carefully classified and covering a considerable period of time, bearing on the factors affecting the investment worth of the given common stock. It is only on such a basis that intelligent forecasts can be made.
CHAPTER VI

CONCLUSION

The method of analysing published financial statements and other information of industrial corporations here presented has for its sole purpose the determination and evaluation of factors affecting the investment value of the shares of common stock of the concern under study. It is designed for the use of the private investor who has access only to such sources of financial information as are ordinarily available in a good public library. It presupposes on the part of the user a fairly comprehensive knowledge of the principles and practices of economics, accounting, investments, statistics and business forecasting; such, at least, as is possessed by the average business-man investor.

The prospective investor must first have a clear conception of the factors to be considered in selecting common stocks of industrial concerns for investment purposes. Such factors are enumerated and discussed in Chapter II of this study under the broad headings of: the company and its products, the management, earnings, preference claims against net profits, disposition of net profit available to common stockholders, yield, and marketability.
The prospective investor must be familiar with the principal sources of both general and specific information ordinarily available. A classified list of such sources is therefore presented in Chapter III.

The investor is likely to find himself confronted with a confused mass of information. He must adopt and follow rather closely a suitable method of recording and classifying the information if he is to be in a position to analyse and interpret the data which he thus obtains. The list of major factors discussed in Chapter II is submitted to serve as an adequate method of outline for information other than that obtained directly from the financial statements themselves. Balance sheet and profit and loss statement information for a period of ten years preceding the date of study should be obtained from an available financial manual (such as, Moody's Investors Service, Industrial Section) or from the annual reports of the companies themselves. This information should be recorded in as great detail as is possible in the light of the data available, in order to prevent the sacrifice of valuable information resulting from the use of condensed statements. A complete reclassification of all balance sheet and profit and loss data is necessitated in order to produce significant group or class total figures for ratio and trend studies.

Although subject to several limitations, the ratio
method of study is useful in analysing individual balance sheets and profit and loss statements. It is also valuable to a limited extent in studying a series of consecutive financial statements, but should be supplemented by the use of an historical trend method.

The historical trend method which considers each class total figure as a percentage of the related figure for the first year in the series is frequently used. A variation of this method considers each year (instead of only the first year) as a 100 per cent basis for figuring the percentages of the following years. Alternative methods of reflecting trends involve charting the actual figures either on semi-logarithmic paper or on ordinary graph paper. In the opinion of the writer, the simple method of plotting actual figures on ordinary graph paper will adequately serve the purpose of visualizing trends and is therefore recommended.

Additional annual data covering a ten-year period should be arranged in the form of a table and should include the following: total net worth of the common stockholders' equity, the number of shares of common stock outstanding, the book value per share of common stock, the stated or par value of common stock shares (if any), the annual price range of the shares, the price-earnings ratios at each of the annual high and low market prices, the
annual earnings per share, the annual regular and extra cash dividends paid, the percentage of net profit disbursed in cash dividends, the annual yield based on high and low market prices, the increase in the number of shares outstanding due to stock splits and stock dividends, and the annual percentage of total net profit to the total net worth at the beginning of each year.

Statistics should be compiled, if available, on sales volume in units, sales prices, production capacity, production operations as a percentage of capacity, and other like matters.

By far the greatest limitation of the method of analysis here presented results from the insufficiency of available information and the lack of uniformity and clarity of that which is available. In general, balance sheet data were found to be fairly complete and reasonably satisfactory for purposes of classification and analysis. Profit and loss statement data presented more serious difficulties. The failure to release sales figures is especially unfortunate. The Standard Statistics Company recently completed a thorough comparative study of the income accounts of 580 leading American industrial concerns, the stocks of which are actively traded in on the New York Stock Exchange and other leading outside exchanges. Their completed tabulation lists the names of
323 concerns which reported gross income in 1929 and 257 which did not. Another shortcoming of profit and loss statements results from their combination with surplus reconciliations in such fashion as to conceal the net results of the operations of the current year. Many evidences of improvement in both the quantity and quality of published financial information were noted.

The method provides no ready means of translating factors of strength and of weakness into dollars of market price which should be paid for the shares of common stock under consideration. This is necessarily so, for the object of the method is to determine and clearly set forth all significant favorable and unfavorable factors for the purpose of forming a composite judgment based on forecasts concerning these factors.

The application of the recommended method of analysis to the Bethlehem Steel Corporation, the Loose-Wiles Biscuit Company, the Otis Elevator Company, the Phillips Petroleum Company and The Studebaker Corporation resulted in many significant disclosures. The following list comprises but a few of them - the data being obtained, in each case, from Table A in the respective Appendices.

The ten-year average percentage of total net profit
for each year to the total net worth at the beginning of each year is indicative of the average earnings on total invested capital in the concern during that period of time. The ten-year averages of these percentages for each of the five concerns studied is as follows: the Bethlehem Steel Corporation, 5.6 per cent; the Loose-Wiles Biscuit Company, 8.1 per cent; the Otis Elevator Company, 14.5 per cent; the Phillips Petroleum Company, 11.35 per cent; and The Studebaker Corporation, 10.88 per cent. The same percentages for the year of 1931, the last one included in the study, were: the Bethlehem Steel Corporation, .00025 per cent; the Loose-Wiles Biscuit Company, 7.4 per cent; the Otis Elevator Company, 8.8 per cent; the Phillips Petroleum Company, 3.6 per cent (deficit); and The Studebaker Corporation, .757 per cent. The Otis Elevator Company hence ranked first both in the ten-year average and in the year of 1931. While the Phillips Petroleum Company ranked second in the ten-year average, it make the poorest showing of the five in the year of 1931, being the only company to show a total net loss for the year. The Loose-Wiles Biscuit Company, which ranked fourth in the ten-year average, had risen in 1931 to second place with respect to percentage of total net profit to total net worth.

All of the above companies, with the exception of the
Phillips Petroleum Company, have preferred stock outstanding and all of these issues of preferred stock enjoy a preference claim to dividends. Such dividends must be deducted from the total net profit to arrive at the net profit available to the common stockholders. The latter amount must, in turn, be divided by the number of shares of common stock outstanding to arrive at the earnings per share. The 1931 earnings per share and cash dividends paid on common stock were as follows: the Bethlehem Steel Corporation earned $2.12 (deficit) and paid $4.50; the Loose-Wiles Biscuit Company earned $2.86 and paid $2.60 regular and $0.40 extra; the Otis Elevator Company earned $2.01 and paid $2.50; the Phillips Petroleum Company earned $1.34 (deficit) and paid no dividends; and The Studebaker Corporation earned $0.20 and paid $1.20.

The common stock of the Bethlehem Steel Corporation was originally $100 par value, but was changed to no-par value in 1928. The common stock of the Loose-Wiles Biscuit Company was changed from $100 par value to $25 par value in 1927, which par value is still retained. The common stock of the Otis Elevator Company was changed from $100 par value to $50 par value in 1924 and from $50 par value to no-par value in 1930. The common stock of the Phillips Petroleum Company has been no-par value stock since the date of incorporation in 1917. The common stock
of The Studebaker Corporation was changed from $100 par value to no-par value in 1924.

The increase in the number of outstanding shares of common stock arising from stock splits and stock dividends during the ten-year period is of interest. There have been no stock splits or stock dividends in the case of the Bethlehem Steel Corporation - hence one share of stock purchased in 1922 would amount to exactly one share in 1931. In the case of the other four companies, the aggregate number of shares of common stock in 1931 arising from the ownership of one share in 1922 is as follows: the Loose-Wiles Biscuit Company, five shares; the Otis Elevator Company, twelve and sixty-five hundredths shares; the Phillips Petroleum Company, one and fifty-eight hundredths shares; and The Studebaker Corporation, three and twenty-five hundredths shares. These increases explain the futility of averaging the per share earnings for the period as a means of analysis, and also serve as a warning to the prospective investor who would forecast future earnings per share on a basis of those of past years.

The ten-year average of price times earnings figures based on the annual high and low market prices is indicative of the excessively high levels of market prices in relation to earnings obtaining during the period. They are: The Bethlehem Steel Corporation, high 37.8, low 24.0;
the Loose-Wiles Biscuit Company, high 32.8, low 17.8; the Otis Elevator Company, high 15.95, low 8.7; the Phillips Petroleum Company, high 19.6, low 9.0; and The Studebaker Corporation, high 38.2, low 15.9.

Ten-year averages of yield figures, based on the annual high and low market prices, likewise indicate abnormally high levels of market prices during the period. The Bethlehem Steel Corporation common stock produced a ten-year average yield of 3.37 per cent based on the annual high market prices, and 6.2 per cent based on annual low market prices. These average yields were materially reduced as a consequence of no cash dividends having been paid on common stock in the years of 1925, 1926, 1927, and 1928. The average yields produced by Loose-Wiles Biscuit Company common stock were 1.43 per cent based on annual high market prices, and 2.71 per cent based on annual low market prices. These average yields also were reduced by a period during which no cash dividends were paid on common stock. This period extended from 1922 to and including 1926. The common stock of the Otis Elevator Company made a better showing in ten-year average yields, netting 3.94 per cent based on annual high market prices and 7.1 per cent based on annual low market prices. Cash dividends on the common stock were paid in each of the ten years. The common stock of the Phillips Petroleum
Company produced a ten-year average yield of 3.9 per cent based on annual high market prices and 7.75 per cent based on annual low market prices. Cash dividends were paid on the common stock in each year of the ten except 1931. At their annual high and low market prices The Studebaker Corporation common shares resulted in ten-year average yields of 6.8 per cent and 12.16 per cent respectively. Cash dividends were paid on the common stock in each of the ten years.

The method of analysis herein presented was found to be useful both in co-ordinating the various types of economic and financial information relative to a given industrial corporation and in interpreting them in terms of the success attained in solving its individual organization, production, sales, and financial management problems. Wide variations exist in the earning power of invested capital in different industries and in different concerns. Marked differences are also apparent in probable future earnings and profit distributions to common stockholders of these concerns. The fluctuation in market prices of industrial common stocks is ample to provide investment opportunities giving promise of both satisfactory yield and future appreciation in value.
APPENDIX A

A STUDY OF THE COMMON STOCK OF

BETHLEHEM STEEL CORPORATION

FOR THE TEN-YEAR PERIOD

1922 - 1931.
THE COMPANY AND ITS PRODUCTS

The Bethlehem Steel Corporation was chartered as such in the State of New Jersey on December 10, 1904. The Bethlehem Plant, the nucleus about which this corporation developed, was one of the earliest steel plants in the United States; and after 1885 was primarily an ordinance and specialty plant until it was taken over by the corporation early in 1905.¹


At the end of 1931 subsidiary and affiliated companies numbered about sixty in all, including iron and steel, improvement, securities, water and railroad transportation, sewerage, collieries, heat and fuel, mining, frame house, and dry dock companies.²

² Bethlehem Steel Corporation, Twenty-seventh Annual Report, 1931, p. 29.

The company's products, of course, are those produced from iron and steel and include many by-products. There are over seventy general classifications into which these products are divided, including locomotive axles, bars, bands, boilers, gears and pinions, steel forgings, bolts and nuts, wheels, and wire nails, refrigerator ships,
destroyers, and submarines. By-products include coke
oven gas, ammonium, copper and sulphur concentrates.

The Bethlehem Steel Corporation is an integrated organization, and has pursued a policy of acquiring properties essential to making itself self-sufficient with regard to raw materials, transportation, and marketing facilities. The sixty subsidiary companies are engaged in the following activities:

1. Steel manufacturing
2. Fabricating operations
3. Shipbuilding and ship repair
4. Iron ore production
5. Coal production
6. Limestone production
7. Railroad transportation
8. Ocean transportation

Five of the twelve steel and manufacturing plants are located in Pennsylvania, one in Delaware, two in New York, two in California, one in Maryland, and one in Washington. Plants are specialized to an extent warranted by the proximity of raw materials and the character of the surrounding.
markets.

The fabricating plants are thirteen in number, almost half of them being located in Pennsylvania, and the others in New Jersey, California, New York, and Illinois.

Shipbuilding and ship repair plants are located as follows: one in Maryland, two in Massachusetts, and one in California.

Ore properties are located in the Lake Superior region, in the Cornwall area of Pennsylvania, and in Cuba, Chile, and the Republic of Mexico.

Coal resources are those of Pennsylvania and West Virginia, and are estimated to contain 638,931,000 tons of coal of which 12,000,000 tons can be produced per annum.

Limestone quarries are in proximity to all the plants. Those developed are estimated to contain 132,242,000 tons and are equipped to produce 1,940,000 tons for consumption and 720,000 tons for buildings and road purposes.

The railroad properties consist of seven railroads operating in the vicinity of plants. These railroads operate 150 locomotives and use about 550 miles of track.

In ocean transportation the corporation owns and operates twenty-one vessels and charters two others. On the lakes it operates sixteen vessels, of which half are owned, five partially owned, and three are chartered.
In 1905 the Bethlehem Plant had a capacity of 190,000 tons of steel per year. In 1931 the plants of the Bethlehem Steel Corporation had a capacity of 9,540,000 gross tons of steel and 6,375,000 gross tons of pig iron.

The more recent additions to capacity resulted from open hearth installations in the Maryland and Lackawanna Plants.

The daily average number of employees working, excluding Saturdays, Sundays, and holidays, in 1931 (U. S.), was 45,258; the total wages paid were $75,568,000; and the average earnings per hour (exclusive of the general administrative and selling force) was 66.4 cents.

Competition in the steel industry has always been severe; in fact, to a great extent it prompted the organization of the greater combinations about the turn of the century. That competition is still severe, and many small plants are still successful. The giant of them all controls less than half the industry, and Bethlehem ranks
about one-fourth in size to the United States Steel Corporation.

THE MANAGEMENT

Seven officers and fifteen directors manage the extensive affairs of the Bethlehem Steel Corporation. Mr. Eugene G. Grace is its president and a member of the board of directors, and Mr. Charles M. Schwab is chairman of that board. Mr. Percy A. Rockefeller is a member of that board, but not an officer. The operating companies are in their general activities officered by eighteen men, and in their several operating divisions by thirty-eight men. Thus the managerial policies of Mr. Charles M. Schwab and Mr. Eugene G. Grace are diffused through the numerous sub-companies by lesser presidents, vice-presidents, general managers, and treasurers, - beginning with the steel plants and raw material properties; passing through steel construction and transportation divisions, definitely segregated; and ending with operations and sales pertaining to shipbuilding and ship repairs.  

9 Ibid., p. 4.

The quality of the products is favorably known because of various notable structures made from them, such
as the Municipal Building in New York City; the Gokteik Viaduct in Upper Burma, India; the Queensboro Bridge connecting New York City with Long Island City; the Delaware River Bridge Towers at Philadelphia; and the Lakehurst hangar at Lakehurst, New Jersey. The strategic location of its plants and resources should make for good consumer service, and the company claims this particular distinction in connection with its marine shippers' services.\(^{10}\)

\(^{10}\) Ibid., p. 67.

Comparative operating statements of the corporation disclose that the management has been able to keep operating expenses well below net sales figures. In 1923 the margin was thin (Appendix A, Figure 3), but it was expanded about three fold during the year 1924, and retained that relationship quite consistently throughout the years 1925, 1926, 1927, and 1928. The prosperous year of 1929 shows operating costs further reduced, thereby increasing the margin between them and net sales. Nineteen-hundred and thirty, the first recessionary year, shows a margin which is shrinking noticeably, relative even to the years prior to 1929. Nineteen-hundred and thirty-one finds this spread converging, but yet maintaining a spread of about twice that of 1922, and about one-half that maintained during the five years prior to 1929.
Statistical analysis would seem to indicate that the management in the ten years prior to 1923 (Appendix A, Table A, Item 5) was unable to keep the gross income proportional to the gross tonnage capacity. The gross income increase outstripped the gross ton steel capacity increase in only one of the ten years, namely - 1923 (Appendix A, Table B, Item 5). In that year gross income increased 208.7 per cent over 1922 and steel capacity increased 160.3 per cent over 1922, leaving a differential of increased capacity of 48.4 per cent. There were only two other years in the ten when income increases (based on 1922) were close to capacity increases (based on 1922): in 1926 the gross income increase came within 18.4 per cent of the capacity increase, and in 1929 to within 2.6 per cent of it. The average of the gross income increases for the nine years succeeding and, based on 1922, was 195.9 per cent; the average of the gross tonnage steel capacity increases for the same period and using the same base year was 243.3 per cent.

Profitable operations were maintained every year, though the year 1931 produced returns in very meager proportions. The average total net profit for the period was 5.8 per cent of net sales, while a percentage as high as 12.4 was made in 1929 and a percentage as low as one-tenth of one per cent was made in 1931. This last year's operations were the first which failed to earn full divi-
Information relating to the research interests of the management is not readily available. The variety of the concern's products, and their susceptibility to change and modification, substantiates the belief that it is utilizing all the advantages that scientific research can provide.

Labor relationships in the corporation and its subsidiaries have always been very satisfactory. Total unemployment for many was avoided after 1929 by the practice of reducing the hours of labor for all employees. Co-operative ventures entered into from time to time include a pension system, a relief plan, an employee and management stock ownership plan, a home-ownership system, and a bonus system.

The pension system was first operated in 1923 as a uniform plan adopted by the subsidiaries and provides for old age pensions based on length of service and the average compensation of the employee. A pension trust fund was established in 1928, the annual costs to be charged to operations.

The relief plan was established in June, 1926, under the joint administration of the management and the employees, and provides benefits to employees and their

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families in cases of sickness or death. Contributions are made to a fund by small deductions from the participants' wages. Administrative costs are borne by the corporation.

An Employees' Savings and Stock Ownership Plan made its first annual offering of 7 per cent Cumulative Preferred Stock on January 31, 1924, at $94 a share. Payroll deductions constituted the method of payment. The company agreed to pay these stockholders a one-dollar bonus in one year, two dollars at the end of the second year and so on up to five dollars at the end of the fifth year as an inducement for them to hold their shares. During 1929 the board of directors also announced a Management Stock Ownership Plan by which provision was made for the subscription to, and installment payment for, either common or seven per cent preferred stock of the company. This plan applied to officers and other employees in important positions. The necessary stock was to be purchased by the corporation and sold at cost. Interest was to be charged on deferred installments and to be offset by any dividends declared.

Employees have been assisted in the purchase of homes by the company. Such assistance consists of the taking of a second mortgage on the home, the company thereby furnishing funds to supplement the employee's down payment plus the amount he could borrow from a bank on a first
mortgage to make full settlement of purchase. These second mortgages are retirable by small monthly payments, with interest, to the company.

Since 1916 the company has had in operation a bonus system for officers and company department heads. Since 1918 it has been administered under a by-law adopted by the stockholders; and in July, 1931, it underwent some additional modifications. Bonus payments for the year 1930 amounted to about two million dollars, and for the year 1931 (period prior to July 1, 1931) to slightly over one-third of a million dollars.

12 Bethlehem Steel Corporation, Annual Reports, 1922 - 1931 inclusive.

Per hour average wage rates have been gradually and steadily increased from 1922 to 1931, with the exception of slight reductions in the years 1925 and 1926. The peak average wage of 66.6 cents per hour was paid in 1930 (Appendix A, Table B, Item 4). In 1931 it had declined to 66.4 cents. The average reduction in wages in 1930 and 1931, as a result of decreased working time, is not stated. Unemployment has apparently increased somewhat since 1929. In the light of the drastic curtailments in steel and all other production since 1929 it would appear that the management of the Bethlehem Steel Corporation and its subsidiaries has been solicitous of the best interests of
their working forces throughout.

Plant and inventories valuations have always been conservatively stated in keeping with good accounting practice. Plant has been adequately depreciated by charges for the creation of reserves out of earnings, and mines and quarries have been capitalized for stripping charges and credited for depletion. The inventories have been valued on the financial statements at market or cost, whichever was lower, and no inter-plant or inter-company profits have been included or capitalized in the inventory accounts. The accounts are audited annually by the prominent accounting firm of Price, Waterhouse & Company, the largest such firm in the United States. Their certificate gives assurance that the statements reflect these conservative property values. Goodwill and such intangibles do not appear on the financial statements of the Bethlehem Steel Corporation.

The current financial position of the company has been well maintained. In the years 1924 and 1931 the working capital ratio was five and one-half to one, and in only one of the ten years prior to 1931 was it slightly less than four to one. Appendix A, Exhibit A also shows the acid test of current position, a test which indicates the possession of quick assets sufficient to pay the current liabilities. This ratio was as high as three and
three-tenths to one in 1929 and as low as one and seven-tenths to one in 1923. The average working capital ratio for the period was four and seven-tenths to one, and the acid test ratio averaged two and six-tenths to one for the period. At the end of 1931, a critical time, the current position remained excellent as disclosed by a working capital ratio of five and five-tenths to one and an acid test ratio of close to three to one. Appendix A, Figures 1 and 2 show graphically the relative changes in the magnitudes involved in the current analysis.

Prior to 1925 new properties had been acquired largely through the issue of bonds and stock, and the cost of development and modernization had been paid for out of earnings, supplemented by the sale of bonds. The practice of

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the company since organization with regard to funded debt has been to issue bonds for cash and to acquire property with the proceeds; to issue bonds directly for properties acquired; and to assume obligations for bonds already issued on properties acquired. This funded debt has then been greatly retired through sinking fund operations. On December 31, 1931, about one-fourth of the funded debt was held in the treasury.

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Appendix A, Exhibit A, and its supplementary Figure 2 vividly portray the relative importance of the capital stock equity over that of funded debt. Long term liabilities throughout the ten-year period have declined from about 36 per cent of total liabilities and net worth to about 21 per cent. For the period as a whole they averaged about 31 per cent. The corresponding net worth increases are due primarily to increased shares of common stock outstanding. Preferred stock averaged about 13 per cent of total liabilities and net worth for the whole period. The tendency for preferred stock to increase somewhat after 1925 is probably due, to some extent, to the Employee Stock Ownership plan put into effect about that time.

Common stockholders' equities have tended to increase throughout the period, except in 1924, when a great program of expansion and acquisition was launched. These equities increased from about 50 per cent of the total liabilities and net worth to over 62 per cent thereof. Their average for the period was about 51 per cent. Surplus additions out of profits contributed very significantly to the direction of the common stockholders' equity trends during the years 1926 to 1929, both inclusive (Appendix A, Exhibit B, Figure 3). The year 1929 represents a very pronounced increase, due not only to surplus additions, but to a sale of 1,400,000 shares of new no-par common stock.

Common stock dividends were not paid during the years
1925, 1926, 1927, and 1928, though the regular dividend of $1.25 each quarter year had been earned in each of those except 1931. In three other years out of the ten (1922, 1924, and 1930) dividends were paid in excess of earnings, and in 1931 the common stock and part of the preferred stock dividend came out of surplus.

The financial management of the company, on the whole, appears to have been very good. The personnel has maintained current liquidity to a commendable degree; it has very materially reduced long term liabilities in relation to the common stock equity; preferred stock has not been increased to the detriment of common stock; stock splits and stock dividends have not occurred; interest has always been paid on funded debt; and dividends always declared and paid on preferred stock. The dividend record on common stock appears to have been (Appendix A, Table A) rather erratic, but perhaps justified in the light of the management's provident view of the future. They have integrated and combined to produce a unified organization which will have raw-material resources, so they claim, sufficient to last for over a hundred years.

EARNINGS

Gross income from sales has fluctuated widely during the ten-year period. The average of dollar sales relative to 1923 for the succeeding nine years was 99 per cent, and the average of gross tons billed relative to 1923 for the succeeding nine years was about 110 per cent, indicating roughly that the prices of steel products have fallen about 10 per cent per gross ton. Dollar sales volume exceeded that of 1923 in only three years, namely 1926, 1928 and 1929. Steel product billings (gross tons) were greater each year following 1923, except the years 1924 and 1931 (Appendix A, Table A, Item 2).

Operating costs and expenses have been reduced in proportion to sales, as has been previously pointed out by reference to Appendix A, Figure 3. Material and labor costs are not sub-divided in the company's reports and so are treated compositely here. General, administrative, and selling expenses are also reported and treated with the cost of goods sold and other operating expense items. Operating profits have averaged 13.5 per cent of net sales for the ten-year period and have exceeded that average since 1925, a year in which they about equaled it. They were less than 10 per cent in 1931.
Non-operating expenses as a percentage of net sales were reduced during the middle of the period; but in 1931 stood about where they did in 1922. Bond interest has tended to decline in amount. Long-term liabilities in the aggregate have constituted on the average about 31 per cent of the total liabilities and net worth in the ten year period. They consist largely of subsidiary issues on which the rate of interest varies from 4.5 to 6 per cent. There are two subsidiary stocks on which returns are guaranteed, namely, the Cambria Iron Company stock on which there is a fixed 4 per cent annual rental and the Johnstown Water Corporation cumulative preferred stock, which carries a 6 per cent rate. All in all, these fixed charges have been materially reduced, and in 1931 amounted to about one-half of what they were in 1924. Net operating profits have ranged from two to six times these fixed charges, and in the year 1931 they were well over twice the fixed charges. Pensions are provided by employee contributions and do not enter as company expense, except for pension administration.

Total net profit has averaged 5.7 per cent of net sales for the period. In 1929 the percentage was 12.4 and in 1931 one-tenth of one per cent. The years 1926 to 1930, both inclusive, were above the average.

Preferred stock dividends have averaged about five millions of dollars for the ten-year period and were paid on an 8 per cent and a 7 per cent preferred stock. The
former was in existence up to 1927 at which time it was retired. The interval between the Lines D and E (Appendix A) on Figure 3 indicates relative amounts of preferred dividends and shows their relation to total net profit (Line D) and the net profit available to common stockholders (Line E). Net profit available to common stockholders (Line E) has shown a gradual and constant increase up to 1929, but declined in 1929, and was non-existent in 1930 and 1931. The maximum amount available was about $35,000,000 in 1929.

The Bethlehem Steel Corporation, judging from the percentage of total net profit earned on its net worth at the beginnings of each of the ten years, could not be thought of as being a profitable enterprise, with the possible exception of 1929 in which year 13.9 per cent was earned. The range from this 1929 percentage was down to a low of 3.0 per cent in 1922. The average of the earnings, on this basis, was 5.6 per cent. Common stockholders, it would seem, were not in the past compensated for their capital invested and for the risks that they were taking as owners or enterprisers.

The Bethlehem Steel Corporation has been acquiring some excellent properties and expanding its facilities for the future. This has entailed great cost and the sacrifice of profits in the dull times at hand. The likelihood of future earnings being at least adequate to make a reasonable
return on the common stock investment seems plausible.

PREFERENCE CLAIMS AGAINST NET PROFITS

On December 31, 1931, there was only one class of preferred stock outstanding. This amounted to less than 14 per cent of the total liabilities and net worth, and carried a preference dividend rate of 7 per cent. Preference dividends were about six times total net profit after fixed charges in 1931 (Appendix A, Exhibit B), and during the other nine years they ranged from three-fourths to one-sixth of total net profit. The average amount of total net profit absorbed by preferred stock dividends during the whole ten year period was about 46 per cent.

DISPOSITION OF NET PROFIT AVAILABLE TO COMMON STOCKHOLDERS

The portion of total net profit which was available to common stockholders has averaged over 54 per cent. In 1929 the portion was 84 per cent, and in 1931 total net profits were, as previously stated, more than absorbed by the dividends on the preferred stock.

Cash dividends on the common stock generally have had a downward trend. They were paid in six of the ten years, and were 5 per cent in 1922 and in 1923; 3.75 per cent in 1924; none in 1925, 1926, 1927, and 1928; $3.50 (no-par)
in 1929; $6.00 in 1930; and $4.50 in 1931 (Appendix A, Table A, Item 9). The percentage of cash dividends per share to earnings available to common stock, excepting 1931 when there were no such earnings available, averaged over 56 per cent; an indication that on the average over half the earnings on a share were paid out in dividends. Common stockholders' regular $1.25 quarterly dividend per share was barely earned in 1923, 1925, 1927, 1928, and in 1930, and it was not earned in 1922, 1924, and in 1931. The years 1926 and 1929 were the only two years when such a dividend was earned by a reasonably comfortable margin. No extra dividends were ever paid, though the quarterly dividends were changed in 1930 from $1.25 to $1.50 per share. The dividend policy of the company, as interpreted from their annual reports, is indeed confusing. Perhaps the board was pacifying the stockholders until their expanding acquisitions of this period would more easily carry the dividend load in the future - the favorable possibilities of which they were reckoning.

Surplus reserves have been maintained, including free and appropriated surplus which averaged about 40 per cent of net worth. In the aggregate they have been declining, however; in 1922 they were about 44 per cent of net worth and in 1931 they were about 23.5 per cent of it. Appropriated surplus has averaged about 7 per cent of the aggregate surplus and has varied from 5.5 per cent in 1926
to about 9 per cent in 1925. Reserves constituted about 8 per cent of the aggregate surplus at the end of 1931. Significant additions were made to free surplus in the years 1925, 1926, 1927, 1928, and 1929 - years, except the last, when no common stock dividends were paid (Appendix A, Exhibit B, Figure 3).

**YIELD**

Appendix A, Table A, Item 5, shows the price range of Bethlehem Steel Corporation stock by years for the ten-year period. Fluctuations in this market price have been from a low of $37.00 in 1925 to a high of $140.75 in 1929. Items 6 and 7 of the same exhibit show this stock to have been purchased, at the high price of 1922, at a price which was over 225 times its earnings that year. At the low price of 1926 it was purchased at a figure representing about five times its earnings. These limits indicate the varying degrees of optimism and pessimism prevailing among the purchasers of this common stock. At the 1929 peak, prices as high as twenty-one times earnings were paid and in that same year they were also as low as nine times earnings.

The yield on Bethlehem Steel Corporation common stock (Appendix A, Table A, Items 11 and 12), if bought at the highest prices for the different years when dividends were
paid, would have ranged from 2.5 per cent in 1929 to slightly over 7 per cent in 1923. If purchased at the low prices for those years, the yield range would have been from 4.5 per cent in 1929 to slightly over 26 per cent in 1931. Judged on a basis of a 7 per cent yield being reasonable for an investment of this character, Bethlehem Steel Corporation common stock would have been acceptable at only one of the yearly high prices, that of 1923, when it sold at $70.00 and paid a $5.00 dividend, making a yield of 7.1 per cent. It would have been acceptable at the lows of any of the years when dividends were paid, except at the low of 1929 - which was $78.25 on which $3.50 was paid in dividends, to make a yield of only 4.5 per cent.

These common shares of the Bethlehem Steel Corporation offer no complicating analytical difficulties because of stock dividends or stock splits, since there were none. One share in 1922 gave rise to but one share in 1931, though those of 1931 were of the no-par variety and those in existence prior to 1929 were $100 par shares.

MARKETABILITY

Both the common and preferred shares of the Bethlehem Steel Corporation are listed on the New York Stock Exchange, where they are traded in fairly actively.
SUMMARY AND CONCLUSIONS AS TO THE INVESTMENT VALUE OF THE COMMON STOCK OF THE BETHLEHEM STEEL CORPORATION.

The Bethlehem Steel Corporation enjoys a well established position in the steel industry and has acquired and integrated valuable properties since 1905. It is now the second largest producer in the field.

The management personnel is notable, and this is especially true of Mr. Charles M. Schwab, chairman of its board of directors, a man whose name has been associated with the executive side of the steel industry for years. He presides with vision and determination.

The financial management has, in the light of the magnitude and intricacy of their task, succeeded in keeping long-term liabilities within reasonable bounds, an average for the ten years prior to 1932 of 30.9 per cent of total liabilities and net worth. It has also succeeded in reducing the fixed charges caused by long-term liabilities, both absolutely and relatively. Fixed interest charges absorbed 50 per cent of the operating profits in 1922; but in 1929 and 1930 only about 18 per cent. In 1931 these charges against very low profits absorbed less than 4.2 per cent of them. The management has kept preferred stock obligations fairly constant after 1925, and the percentage of net profits after fixed charges which was absorbed by
preferred dividends decreased from 79.5 per cent in 1922
to less than 17 per cent in 1929. Thereafter, with a
decreased volume of business and declining prices, these
dividends became a real problem, and especially so in
1931, when their amount was about sixty times the meager
profits remaining after the fixed charges were deducted.
Since the steel industry is more or less dependent upon
other industries more directly contacting the ultimate con­
sumer, the management will, to a great degree, be handicap­
ped in helping themselves; and they may have to await the
stimulating accomplishments of energetic personnels in
industries more directly connected with this ultimate con­
sumer trade, industries which provide the market for iron
and steel products.

From a working capital standpoint the company is and
has been in excellent condition. Current assets have av­
eraged four and seven-tenths times the current liabilities,
and only once (1923) have they been less than four times as
great. The quick assets have averaged two and six-tenths
times the current liabilities, and in only one year (1923)
have they been less than twice the current liabilities.

The Bethlehem Steel Corporation could not be thought
of as being a particularly profitable organization, judged
from the rate of return earned on its net worth (Appendix
A, Table A, Item 14). During the ten years prior to 1932
it has averaged about 5.6 per cent total net profit on the
net worth at the beginnings of those years. In none of these years, except 1929, has this return ever been 7 per cent. In the prosperous year of 1929 it reached close to 14 per cent. If the newly established dividend of $6.00 a share on common stock had been earned in 1931, it would have been necessary to have earned 5.8 per cent on the net worth existing at the beginning of 1931. This 5.8 per cent would have been two-tenths of one per cent more than the average for the ten-year period as a whole (Appendix A, Table A, Item 15).

Noting Appendix A, Table A, Items 5 and 8, and attempting to judge at what time Bethlehem Steel Corporation common stock would have been the best investment on a basis of ten times earnings, one would probably select the year 1924. In that year the high price was $51.50, and a ten-times-earnings criterion would allow $74.80 to have been paid. According to the same standard, 1922 and 1924 would have been poor years, since the low of those years exceeded the prices that would be derived by its application. The price range in the years 1930, 1929, 1928, 1927, and 1923 was above and below that of a price established on an arbitrary basis of ten times earnings. In each of those years the lows were probably the better indicators of the value of the shares than were the highs.

The book value of Bethlehem Steel Corporation common shares has always very materially exceeded both its par
and market values. In the market boom year of 1929 the market value failed to reach the book value by $3.00 a share. This would seem to indicate that the accountant's appraisal of the value of the properties has always been greater than that of investors who presumably base their judgments largely on earnings and earning potentialities.

On June 11, 1932, Bethlehem Steel Corporation stock, common, closed at $9.00 a share on the New York Stock Exchange. Ninety cents a share in earnings in 1932 would give it this value on a ten times earnings basis. In 1931 common shares suffered a loss of $2.12 each. They had earned an average of $5.43 a share in the nine years preceding 1931.
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<td>$9,721,516</td>
<td>$9,198,880</td>
<td>$9,198,880</td>
<td>$9,198,880</td>
</tr>
<tr>
<td>Special Mm With Trustee</td>
<td>$141,402</td>
<td>$161,762</td>
<td>$677,465</td>
<td>$691,311</td>
<td>$810,042</td>
<td>$792,459</td>
<td>$1,159,778</td>
<td>$1,183,671</td>
<td>$1,183,671</td>
</tr>
<tr>
<td>Inventories</td>
<td>$67,656,267</td>
<td>$74,878,966</td>
<td>$69,147,204</td>
<td>$61,559,157</td>
<td>$67,695,569</td>
<td>$69,147,204</td>
<td>$61,559,157</td>
<td>$67,695,569</td>
<td>$69,147,204</td>
</tr>
<tr>
<td>Dividend Pavable</td>
<td>$4,995,000</td>
<td>$13,100,000</td>
<td>$13,100,000</td>
<td>$5,247,500</td>
<td>$3,395,000</td>
<td>$3,395,000</td>
<td>$1,075,770</td>
<td>$1,075,770</td>
<td>$1,075,770</td>
</tr>
<tr>
<td>Bond Interest</td>
<td>$1,630,440</td>
<td>$1,429,894</td>
<td>$2,803,414</td>
<td>$2,998,122</td>
<td>$3,059,608</td>
<td>$3,095,789</td>
<td>$3,408,408</td>
<td>$3,563,968</td>
<td>$2,911,242</td>
</tr>
<tr>
<td>Total Current Liabilities</td>
<td>$25,563,503</td>
<td>$39,948,347</td>
<td>$38,363,603</td>
<td>$31,938,954</td>
<td>$36,413,693</td>
<td>$37,370,583</td>
<td>$43,103,182</td>
<td>$45,675,229</td>
<td>$41,116,933</td>
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<td>$43,103,182</td>
<td>$45,675,229</td>
<td>$41,116,933</td>
</tr>
<tr>
<td>Total Assets</td>
<td>$706,820,776</td>
<td>$719,760,397</td>
<td>$801,631,362</td>
<td>$643,356,206</td>
<td>$651,703,126</td>
<td>$662,061,742</td>
<td>$745,201,838</td>
<td>$757,697,106</td>
<td>$763,061,611</td>
</tr>
<tr>
<td>Cash and Securities</td>
<td>$50,278,721</td>
<td>$56,416,812</td>
<td>$117,546,496</td>
<td>$57,698,774</td>
<td>$47,796,249</td>
<td>$50,971,276</td>
<td>$39,329,672</td>
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</tr>
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<td>$50,971,276</td>
<td>$39,329,672</td>
<td>$39,329,672</td>
<td>$39,329,672</td>
</tr>
<tr>
<td>Total Current Liabilities</td>
<td>$141,873,201</td>
<td>$159,369,624</td>
<td>$228,171,775</td>
<td>$161,189,595</td>
<td>$149,875,255</td>
<td>$155,213,749</td>
<td>$155,213,749</td>
<td>$155,213,749</td>
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</tr>
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<td>$763,061,611</td>
</tr>
<tr>
<td>Contingent Reserve</td>
<td>$6,350,000</td>
<td>$6,575,650</td>
<td>$6,140,777</td>
<td>$4,934,822</td>
<td>$4,097,325</td>
<td>$3,503,369</td>
<td>$3,080,281</td>
<td>$2,687,468</td>
<td>$2,337,653</td>
</tr>
<tr>
<td>Contingent Reserve</td>
<td>$6,350,000</td>
<td>$6,575,650</td>
<td>$6,140,777</td>
<td>$4,934,822</td>
<td>$4,097,325</td>
<td>$3,503,369</td>
<td>$3,080,281</td>
<td>$2,687,468</td>
<td>$2,337,653</td>
</tr>
<tr>
<td>Working Capital Ratios</td>
<td>15.5 4.0 5.2 4.9 5.0 4.9 5.5 4.9 5.5 3.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>$745,201,838</td>
<td>$757,697,106</td>
<td>$763,061,611</td>
</tr>
</tbody>
</table>

**Notes**

- **Cambria Iron Company Stock on which Cambria Steel Company** held a 4 percent per annum cash dividend of $8,465,625 capital stock outstanding of Cambria Iron Company. This liability assumed by Bethlehem Steel Corporation on March 12, 1923.

- Total Quick Assets

- Cash and Securities

- Total Current Assets

- Total Assets

- Total Common Stockholders' Equity

- Total Liabilities

- Total Liabilities and Net Worth
<table>
<thead>
<tr>
<th>Year</th>
<th>Net of Goods Sold and Operating Expenses</th>
<th>Operating Profit (loss)</th>
<th>Other Income</th>
<th>Net Surplus Addition (Deduction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>342,516,207 (100.0%)</td>
<td>27,025,320 (100.0%)</td>
<td>5,802,579</td>
<td>13,179,255 (100.0%)</td>
</tr>
<tr>
<td>1930</td>
<td>294,778,287 (100.0%)</td>
<td>27,025,320 (100.0%)</td>
<td>7,312,321</td>
<td>2,332,686 (100.0%)</td>
</tr>
<tr>
<td>1931</td>
<td>271,502,891 (100.0%)</td>
<td>27,025,320 (100.0%)</td>
<td>2,506,184</td>
<td>2,356,594 (100.0%)</td>
</tr>
<tr>
<td>1932</td>
<td>304,361,804 (100.0%)</td>
<td>27,025,320 (100.0%)</td>
<td>4,494,785</td>
<td>19,642,980 (100.0%)</td>
</tr>
</tbody>
</table>

**Note:**
- Operating Profit (loss) includes depreciation charged to Operating Expense.
- Other Income includes interest and earnings applicable to minority interests, dividends on preferred stock, and other operating income.
- Net Surplus Addition (Deduction) is the portion available to common stockholders after preferred dividends and other expenses are deducted.
**Bethlehem Steel Corporation**

**Additional Common Stock Statistics (Table A)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Net Worth</th>
<th>Net Worth - Common Stock</th>
<th>Par Value - Common Stock</th>
<th>Book Value Per Share - Common Stock</th>
<th>Price Range - Common Stock (High-Low)</th>
<th>Price Times Earnings (High* - Low**)</th>
<th>Earnings Per Share - Common Stock (Loss)</th>
<th>Cash Dividend Per Share - Common Stock</th>
<th>Per Cent of regular Common Cash Dividend per Share to Earnings Available to Common Stockholders</th>
<th>Yield, based on Regular Cash Dividend, if purchased at:</th>
<th>Aggregate ownership of one share in 1922</th>
</tr>
</thead>
<tbody>
<tr>
<td>1922</td>
<td>$534,015,771</td>
<td>$440,015,771</td>
<td>$94,000,000</td>
<td>$137.50</td>
<td>$70 3/4 - $17 1/4</td>
<td>20.96 - 9.01</td>
<td>$2.12</td>
<td>$4.50</td>
<td>25.1%</td>
<td><strong>A. highest Price (Per Cent)</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1923</td>
<td>$553,817,325</td>
<td>$453,178,825</td>
<td>$100,000</td>
<td>$141.62</td>
<td>$110 1/4 - $47 3/8</td>
<td>12.78 - 7.11</td>
<td>$5.26</td>
<td>$3.50</td>
<td>31.8%</td>
<td><strong>B. Lowest Price (Per Cent)</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1924</td>
<td>$559,900,023</td>
<td>$459,900,023</td>
<td>$100,000</td>
<td>$143.72</td>
<td>$140 3/4 - $78 1/4</td>
<td>13.55 - 7.96</td>
<td>$6.52</td>
<td>$3.75</td>
<td>146.5%</td>
<td><strong>C. Average</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1925</td>
<td>$401,996,464</td>
<td>$301,996,464</td>
<td>$100,000</td>
<td>$167.78</td>
<td>$88 3/8 - $51 7/8</td>
<td>13.25 - 8.72</td>
<td>$5.02</td>
<td>$5.00</td>
<td>2.0%</td>
<td><strong>D. Highest Price (Per Cent)</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1926</td>
<td>$408,596,415</td>
<td>$311,596,415</td>
<td>$100,000</td>
<td>$173.11</td>
<td>$66 1/2 - $43 3/4</td>
<td>6.89 - 4.98</td>
<td>$7.48</td>
<td>$5.00</td>
<td>4.9%</td>
<td><strong>E. Lowest Price (Per Cent)</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1927</td>
<td>$398,761,152</td>
<td>$301,716,152</td>
<td>$100,000</td>
<td>$167.65</td>
<td>$51 1/2 - $37 1/4</td>
<td>10.09 - 6.67</td>
<td>$8.70</td>
<td>$5.00</td>
<td>14.2%</td>
<td><strong>F. Average</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1928</td>
<td>$352,391,242</td>
<td>$292,499,897</td>
<td>$100,000</td>
<td>$162.50</td>
<td>$37 1/4 - $24 3/4</td>
<td>20.47 - 11.64</td>
<td>$11.70</td>
<td>$5.00</td>
<td>14.2%</td>
<td><strong>G. Highest Price (Per Cent)</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1929</td>
<td>$341,946,405</td>
<td>$282,513,895</td>
<td>$100,000</td>
<td>$156.82</td>
<td>$32 1 - $24 3/4</td>
<td>24.27 - 18.65</td>
<td>$15.58</td>
<td>$5.00</td>
<td>14.2%</td>
<td><strong>H. Lowest Price (Per Cent)</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1930</td>
<td>$372,824,676</td>
<td>$314,048,741</td>
<td>$100,000</td>
<td>$174.32</td>
<td>$51 3/4 - $37 3/4</td>
<td>22.54 - 17.09</td>
<td>$17.60</td>
<td>$5.00</td>
<td>14.2%</td>
<td><strong>I. Average</strong></td>
<td>1%</td>
</tr>
<tr>
<td>1931</td>
<td>$253,125,410</td>
<td>$195,718,710</td>
<td>$100,000</td>
<td>$326.95</td>
<td>$70 - $41 3/4</td>
<td>20.96 - 14.51</td>
<td>$25.12</td>
<td>$5.00</td>
<td>14.2%</td>
<td><strong>J. Highest Price (Per Cent)</strong></td>
<td>1%</td>
</tr>
</tbody>
</table>

**Notes:**
- Additional Common Stock has been issued for cash, 600,000 shares at $85 and 800,000 shares at $110 in 1929. No splits or stock dividends were involved.
- The Ten Year average of above is 25.1%.

**Price Times Earnings (High* - Low**)**

- Average: 37.8

**Yield, based on Regular Cash Dividend, if purchased at:**
- **A. highest Price (Per Cent)**: 6.4
- **B. Lowest Price (Per Cent)**: 26.1

**Per Cent of regular Common Cash Dividend per Share to Earnings Available to Common Stockholders**

- **Average**: 20.1% per cent.
### Bethlehem Steel Corporation

**Volume, Production, Rate of Operation, Employees and Wages Statistics**

**Table B**

#### 1922-1931

<table>
<thead>
<tr>
<th>Item 1</th>
<th>Volume of Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rolled Steel and Other Finished Products (Gross Tons) of Business</td>
<td>3,298,462</td>
</tr>
<tr>
<td>Total Value ($1,000)</td>
<td>$260,968,326</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item 2</th>
<th>Production (in tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ore</td>
<td>3,387,413</td>
</tr>
<tr>
<td>Limestone</td>
<td>950,601</td>
</tr>
<tr>
<td>Coal</td>
<td>3,479,452</td>
</tr>
<tr>
<td>Coke</td>
<td>2,343,129</td>
</tr>
<tr>
<td>Pig-iron and ferro-manganese</td>
<td>2,202,427</td>
</tr>
<tr>
<td>Open hearth, bessemer and electric steel</td>
<td>3,319,994</td>
</tr>
<tr>
<td>Rolled Steel and other finished products, for sale</td>
<td>2,503,441</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item 3</th>
<th>Rate of Operation (Capacity and Per cent of Capacity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity in gross tons (Steel)</td>
<td>8,610,000</td>
</tr>
<tr>
<td>Per cent of steel produced to rated capacity</td>
<td>30.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item 4</th>
<th>Employees and Wages (United States Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Average number of employees working</td>
<td>45,258</td>
</tr>
<tr>
<td>Total wages ($1,000)</td>
<td>$50,376,677</td>
</tr>
<tr>
<td>Average earnings per hour (Exclusive of general administrative and selling force)</td>
<td>$0.499</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item 5</th>
<th>Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Income (Net Sales)</td>
<td>$186,541,195</td>
</tr>
<tr>
<td>Percentage of Increase (by years) Base—1922</td>
<td>282.3</td>
</tr>
</tbody>
</table>

*References: Bethlehem Steel Corporation — Annual Reports, 1922 to 1932 inclusive.*
BETHELHEM STEEL CORPORATION
ANALYSIS OF ASSETS (IN MILLIONS OF DOLLARS)
1922-1931

A - Cash and Liquid Securities
B - Receivables
C - Quick Assets
D - Inventories
E - Current Assets
F - Fixed and Other Assets

Figure 1
Bethlehem Steel Corporation
Earnings and Distribution Trends (in millions of dollars)
1922-1931

A - Net Sales
B - Operating Costs and Expenses
C - Net Operating Profit
D - Total Net Profit
E - Net Profit Available to Common Stockholders
F - Cash Dividends on Common Stock
G - Net Surplus Additions

Figure 3

1 - Dividends Passed, 1925, 1926, 1927.
2 - Dividend Payments resumed 1928.
APPENDIX B

A STUDY OF THE COMMON STOCK OF
LOOSE-WILES BISCUIT COMPANY

FOR THE TEN-YEAR PERIOD

1922 - 1931.
THE COMPANY AND ITS PRODUCTS

The Loose-Wiles Biscuit Company was incorporated in New York, May 3, 1912, for the purpose of taking over the entire interests of the Loose-Wiles Biscuit Company of New Jersey. Prior to the final incorporation the business which had been established in 1903 underwent several changes in title.1

1 Moody's Investors Service, Industrial Section, 1931 p. 1749.

Through purchase and exchange of capital stock the company now controls completely fifteen subsidiary companies, as follows:2


- Loose-Wiles Biscuit Company of Illinois
- Loose-Wiles Biscuit Company of Maine
- Loose-Wiles Biscuit Company of Missouri
- Loose-Wiles Biscuit Company of Oklahoma
- Loose-Wiles Biscuit Company of Tennessee
- Loose-Wiles Biscuit Company of Pennsylvania
- Austin Dog Bread and Animal Food Company of Massachusetts
- Brown Cracker and Candy Company of Texas
Queen's Place Realty Company of Long Island City, New York
Consumers Biscuit Company of New Orleans, Louisiana
Peerless Biscuit Company of Pittsburgh
Green and Green Company of Dayton, Ohio
Tru-Blu Biscuit Company of Washington


4 Schust Company of Saginaw, Michigan


5 Standard Biscuit Company of San Francisco

5 Commercial and Financial Chronicle, September 6, 1930, Volume 132, p. 1574.

The products of the company consist mainly of crackers, biscuits and a complete line of bakers' specialties. A complete line of chocolates and hard candies is manufactured at its factories in Kansas City and Dallas. The Austin Dog Bread and Animal Food Company, located at Chelsea, Massachusetts is one of the oldest established companies of its kind in America.

The properties of the Loose-Wiles Biscuit company comprise factories in Chicago, Minneapolis, St. Louis, Omaha, Dallas, Chelsea (Massachusetts), Dayton, Pittsburg, Spokane, Portland, Seattle, Saginaw and Boston.
In January of 1931 the Company purchased a flour mill at Grafton, Ohio, which was formerly operated by the Company under a lease. The mill provides flour of an assured quality and on an economical basis. This is the only semblance of integration in which the Company has seen fit to participate.  

The Loose-Wiles Biscuit Company claims to be one of the largest manufacturers of biscuits and fancy crackers in the United States. Its products bear the name of Sunshine Biscuits and Edgemont Crackers, made familiar to every housewife through vigorous advertising campaigns. The daily output of its fifteen factories is distributed over the entire United States through more than 130 branches.

The company has passed through a period of expansion since 1928, having acquired a total of five subsidiary companies. By the purchase of all the common and voting stock of the Green and Green Company of Dayton, Ohio, the Company obtained control of a factory that had created a name for itself by the high quality of its Edgemont crackers.
THE MANAGEMENT

The Board of Directors of the Loose-Wiles Biscuit Company, as of December 31, 1931, is as follows:

B. L. Hupp, Chairman

John H. Wiles
Mrs. J. L. Loose
Joseph Loose Brown
G. H. Willcockson

Arthur W. Cutten
E. F. Swinney
C. Lewis
R. W. Castle

Of the present members of the board of directors, five were members of the board in 1922. Mr. J. L. Loose, one of the founders of the company, was chairman of the board of directors in 1922. However, a year later Mr. Hupp became chairman of the board, and still serves in that capacity. Mrs. J. L. Loose became a member of the board in 1924.

The officers of the Loose-Wiles Biscuit Company, as of December 31, 1931 are as follows:

B. L. Hupp
John H. Wiles
G. H. Willcockson
E. F. Swinney

President
Vice-President and Treasurer
Vice-President
Vice-President
Hanford Main  
Vice-President  
R. W. Castle  
Vice-President  
R. G. Norris  
Assistant-Treasurer

Few changes have been made in the official personnel of the Loose-Wiles Biscuit Company. During 1924 R. G. Norris was made assistant-treasurer and in 1931 Hanford Main was added to the number of vice-presidents.

Future sales, to a great extent, depend upon the maintenance of a uniformly high quality in the product. The goodwill created by national advertising may soon be lost by a failure to maintain quality in a product, which factor was emphasized by the Company in their introduction of the sunlight bakeries. Their method was to place the ovens of all the bakeries on the top floor, and to use equipment finished entirely in white. The company's income statement provides no information regarding total sales or operating expenses. However, from the president's letter to the stockholders, of February 20, 1931, it may be inferred that expenses were being curtailed in harmony with the reduction in sales. This is borne out by the fact that although net operating profit for 1931 declined almost 20 per cent, as compared with that of 1930, a substantial profit of $1,988,234 was nevertheless earned, indicating


Appendix B, Exhibit B.
that operating costs must have been reduced in proportion with sales.

The policies of the management toward research and development have been of a very progressive nature. It has established the reputation of being a pioneer in the introduction of new methods in the production of bakery goods. Following out this progressive policy the Company first introduced the sugar wafer line and later the production of specialties were included.

There is no indication of any labor trouble having occurred within the company. On the contrary, the president, in his letter to stockholders of February 21, 1930, states: "The management is gratified by the many evidences of effective and harmonious work, and the spirit of loyalty and enthusiasm on the part of all who are in the company's service."


Other evidence of the attitude of the company toward the employees is clearly set forth by the policy followed during the year 1930. In spite of adverse economic conditions the wage scale of the workers was maintained while other expenses were curtailed.


The Company adopted a common stock purchase plan for employees during the year of 1929. Funds totaling
$1,450,000 were borrowed to finance the plan. During the three years that the plan has been in operation it has met with favor and 40 per cent of the original subscriptions have been paid for by the employees.

The number of employees during the year 1930 was estimated to be about 9,000.


The property account which includes land, buildings, leasehold improvements, machinery and equipment, goodwill and trade-marks, is listed in all financial reports of the company at cost less depreciation. Fixed and other assets for the year 1931 total $26,860,864, while the reserve for depreciation account amounts to $8,141,230, leaving a net balance of $18,719,634. The property therefore has been depreciated approximately 30 per cent. This, in view of recent expansion and acquisition of new subsidiaries, reflects a conservative policy of valuation of assets. However in an analysis of the capital surplus account it was found that assets acquired during 1930 were set up at a figure in excess of cost; that is, at the book value of the new subsidiaries and not at the par value of the capital stock of the Loose-Wiles Biscuit Company and other consideration given in exchange. This excess of $525,971 was credited to capital surplus, and subsequently goodwill to
the extent of $633,968 was written off against this account, thereby eliminating it entirely. The procedure of overstating the acquisition cost of the property obtained from subsidiaries, even though goodwill valuation be thereby reduced, is of a very questionable nature. Inventories have been valued at cost or market prices, whichever were the lower as of December 31 of each of the ten years under survey.

With the exception of the years 1924 and 1927, the Loose-Wiles Biscuit Company has maintained a fairly strong financial position, as exemplified by the working capital ratios and the acid test ratios presented at the foot of the comparative balance sheets. The decrease in the working capital for the year 1927 may be explained by the borrowing of the sum of $1,450,000 for the purpose of financing the purchase of stocks in carrying out the employee common stock purchase plan. During the month of January, 1932, this obligation was liquidated entirely, thereby removing all indebtedness of this nature from the accounts of the company.
Throughout the last ten years funded debt has been a small item, never at any time representing more than 4.3 per cent of total liabilities and net worth. All properties acquired during recent years were purchased by funds obtained from current resources rather than the floating of bonds. The long term indebtedness existing at the present time represents that which was incurred by the subsidiary companies prior to acquisition by the Loose-Wiles Biscuit Company; this amount is gradually being reduced as the outstanding issues fall due.

The management of the Loose-Wiles Biscuit Company, prior to 1930, followed a very conservative policy of dividend distribution among its common stockholders. During the years 1922 to 1926 inclusive, no dividends were paid to common stockholders. Preference claims on the first and second preferred stock, during this five-year period, consumed 66 per cent of the total net profit earned during that time. The initial quarterly cash dividend on common stock was paid August 1, 1927. An average of 47.2 per cent of earnings available to common stockholders was paid out in the period from 1927 to 1931. Regular cash dividends paid per share in 1930 and 1931, which were 70 and 90.9 per cent of earnings per share respectively, seem to be out of line, in view of the fact that total net profit available to common stockholders was decreasing during those years, as line E of Figure 3, Appendix B, Exhibit B indicates.
If the extra dividend of 40 cents, paid in 1931, is also considered, it is found that the total dividend paid amounts to 105 per cent of the earnings per share, necessitating as a consequence a deduction from surplus of $74,513, reflected by line G of Figure 3, Appendix B, Exhibit B. Previous to August 1, 1924 the cumulative dividends on the second preferred stock were in arrears $350,000. It may reasonably be assumed that this condition was due to the expansion program being pursued at that time. During 1925 all dividends in arrears were paid and dividends were again established on a quarterly basis.

EARNINGS

No figures on sales were obtainable, either from the Company's annual reports or from Moody's Investors Service, Industrial Section. A statement in the president's letter of February 25, 1932, to the stockholders indicates that sales, especially after July 1, 1931, were substantially curtailed. Although the company is engaged in the manufacture of food products, their nature however is not that of a complete necessity and therefore the demand is likely to be elastic, which largely explains the decrease in sales along with the trend of general business conditions.
The only long-term liabilities that the company has incurred since 1922 have been in connection with obligations assumed at times when subsidiary acquisitions were made. These items, as shown in the company's consolidated balance sheets (Appendix B, Exhibit A), have never aggregated much over a million dollars and have never amounted to much over 4 per cent of the total liabilities and net worth. In December, 1931 they composed 2 per cent of the total liabilities and net worth of the company. Since the operating statements of the company, as published in their annual reports, do not give detailed information as to interest charges, any summary of the amounts of net operating profits absorbed by such charges cannot be made.

Net operating profit (after interest, but before depreciation and taxes) assumed its largest proportions in 1929 amounting to $3,828,694. This represents an increase of 11 per cent over the previous year and an increase of 59 per cent over that reported for 1923. Net operating profit for 1931 of $3,101,449 reflects a decrease of 19 per cent, when compared with 1929. As stated above, interest charges

22 Appendix B, Exhibit B.

were deducted from the net operating profit figures, and consequently are not ascertainable. Due to the small amount of long term liabilities outstanding, their significance is of little importance relative to the total fixed
Depreciation charges during the ten-year period, averaging approximately 3.2 per cent, are fairly constant, as shown in Appendix B, Exhibit B. The rates adopted for the various property accounts are as follows: buildings 3 per cent, machinery and fixtures 7.5 per cent, office furniture 10 per cent, electric trucks 12.5 per cent, and gasoline trucks 20 per cent. As a result of conservative charges to depreciation, the property account as of December 31, 1931 represents 70 per cent of the cost of the assets.

From 1923, in which figures were first available, to 1929, federal taxes increased 2.6 times the 1923 figure. Since 1929 they have decreased 15.7 per cent, which compares with a reduction of 19 per cent in operating income during the same three years. The company paid an additional assessment for federal income and excess profits taxes in 1928. This contingency was met by an adequate reserve which the company had set up in prior years in anticipation of final settlement.


The only non-operating income figure available in that of $304,804 for the year 1931, which represents 10 per cent of the net operating profit for that year.

In observing the total net profits, line D of Figure 3, Appendix B, Exhibit B shows a gradual but steady increase from the period 1922 to 1929. After having reached the peak in 1929 of almost two and three quarter million dollars, total net profits declined to a little less than two million in 1931. Since no sales figures are given it is not possible to compare this decrease with the probable decrease in sales, although it is safe to assume that the decrease has been in harmony with that of sales and was not due to an increase in operating expenses.

The Loose-Wiles Biscuit Company has been a profitable business, judged by the percentage of total net profits earned on the net worth at the beginnings of each of the years during the period 1922 to 1931 (Appendix B, Table A, Item 12). Eight per cent was the average of these percentages and their range was from 11.4 in 1929 to 4.8 in 1923. While the operations of the company have been profitable, they have not been especially so, since 8 per cent would not seem to be a reasonable percentage of earnings on common stock equities. On the other hand the trend of these percentages has been upward from 1923 to 1930, and the decline after 1930 reached 7.4 per cent for 1931. This latter rate indicates a percentage of earnings based on net worth which was greater than the same percentages in any of the years up to 1926. A company that succeeded in making such a showing seems to have been justified in any expan-
sions that it may have made.

The probable future earnings of the consolidated company should be satisfactory. Long-term obligations (December 31, 1931) amounted to only 2 per cent of the total liabilities and net worth, and preferred stock outstanding amounted to 12.8 per cent of the total liabilities and net worth. These preference obligations have been declining very materially in amounts; the common stockholders' equity is (December 31, 1931) close to 80 per cent of the total liabilities and net worth; and the working capital ratio is 4.3 to 1. All the preceding statements and observations seem to indicate that the Loose-Wiles Biscuit Company can easily sustain itself during the depression and that its subsequent position will enable it to utilize fully its entire plant and show lucrative returns.

PREFERENCE CLAIMS AGAINST NET PROFITS

The Loose-Wiles Biscuit Company, as of December 31, 1931, had outstanding 37,142 shares of 7 per cent cumulative, first preferred stock. The original authorization of this issue (1912) totaled 50,000 shares and in 1930 was reduced to 38,713 shares. This issue has first preference as to assets and 7 per cent cumulative dividends. On involuntary liquidation the holders of the first preferred stock
are entitled to the par value of the stock ($100), and dividends; in case of voluntary liquidation they are entitled to the sum of $120 a share. This stock has full voting power and elects one-third of the directors while the remainder of the directors are now chosen by the common stockholders. Each year a sum of $150,000 is to be provided out of profits before any dividends are paid on other issues, for the purpose of creating a sinking fund which is to be used periodically for the retirement of this issue. An important provision of this issue of preferred stock is that pertaining to the contraction of subsequent indebtedness, and states that while this issue of stock is outstanding, no mortgage or other indebtedness maturing later than one year from date and no prior or equal rights stock may be issued without the consent of at least 75 per cent of the holders of this issue. Still another provision prohibits the payment of dividends on common stock unless net quick assets after the payment of such dividends shall equal 50 per cent of the first preferred issue. This issue is being gradually retired by means of the funds accumulating through the sinking fund provisions. As of December 31, 1931, there was outstanding about 84.3 per cent of the original 44,040 shares outstanding as of

December 31, 1922.

At the close of the year 1922 there were outstanding two million dollars in second preferred stock, which bore a 7 per cent cumulative rate and had a par of $100. It ranked second to the first preferred, as to assets, dividends, and sinking fund payments. It was convertible into common stock on thirty days notice by the holder, and participated with the common in electing two-thirds of the directors. During the period from 1922 to 1924, the company was paying the regular dividend and reducing some accumulations in dividends from a past period, until in the latter year these arrears were cleared. The amount outstanding remained at two million dollars until 1927 when it was reduced to $1,400, and in 1928 it was fully retired. The retirement of this stock was brought about through a 25 per cent stock dividend in which this second preferred group of stockholders could participate if they would convert their holdings into common stock.

Preferred stock for the period has averaged 2.1 per cent of the total liabilities and net worth, and at no time during the period has it been as much as 3.2 per cent. The trend of these percentages has been gradually downward until 1929, at which time and thereafter until the end of 1931, preferred stock constituted 1.3 per cent
of the total liabilities and net worth.

The amount of dividends paid on all preferred stock has averaged for the period close to $580,000 annually, and this amount (including sinking fund payments) has absorbed, on the average, about 44 per cent of the total net profit. This percentage has ranged from a high 95.6 per cent in 1923 to 18.6 per cent in 1928. During 1931 preferred dividends and sinking fund contributions absorbed about 21 per cent of the total net profit (Appendix B, Exhibit B).

**DISPOSITION OF NET PROFIT AVAILABLE TO COMMON STOCKHOLDERS**

The regular cash dividends paid on the common stock began in August 1927, with a payment of 60 cents on each share. Thereafter they were as follows: 1928, $1.60; 1929, $2.35; 1930, $2.60; and 1931, $2.60. This indicates a constantly increasing trend up to 1930, and the average of these dividends for the five years in which they were paid is about $2.40. The average for the ten-year period is about $1.20 a share.

Regular common-stock cash dividends were paid in amounts during the latter five years which averaged 41.4 per cent of the net profit available to common stockholders, and
if the first five years were to be taken into consideration when no dividends were paid, dividend payments would have required 47.2 per cent of the net profits available to the common stockholders. In 1927, when the first dividend was paid on the common stock, it was placed on a $1.60 annual basis after two quarterly 40 cent dividends were paid that year; and in 1928 an annual dividend of $1.60 was accordingly paid. The rate was raised to $2.35 in 1929, and in 1930 and 1931 a quarterly basis was established at 65 cents a quarter or $2.60 per year.

Extra cash dividends were paid in 1930 and in 1931. The amounts were 30 cents a share in 1930 and 40 cents a share in 1931.

Fifty-two and eight-tenths per cent of the net profit available to common stockholders has been retained in the business during the ten years, and during the years (the last five) that dividends were being paid, 40.6 per cent was so retained. Appropriated surplus, which appeared as a separate account on the company's published statements after 1926, has amounted to approximately 10 per cent of the free surplus account. On December 31, 1931 the percentage was 9.6. On the same date unappropriated surplus represented over 91 per cent of the total surplus, and total surplus was about 66.5 per cent of the common stock figure and 39.9 per cent of the net worth item. Also, at the end of 1931, free surplus comprised 36.5 per cent of
the net worth, and appropriated surplus the remaining 3.5 per cent of it. Specific reserves for contingencies and the like are not shown on the statements included in the annual reports. On July 1, 1927, a 25 per cent stock dividend was declared in new $25 par shares (after a four for one stock split on the $100 par shares earlier in the year) which had the effect of definitely committing two and one half million dollars of free surplus to the capital stock account.27


YIELD

The cash dividend record of the company has been discussed under the preceding section. Market prices quoted on Loose-Wiles Biscuit Company common stock have fluctuated widely throughout the whole ten-year period under consideration. From 1922 to 1927, in which latter year the capital stock account had undergone some changes because of a stock dividend and a stock split, these market prices had ranged from a high in 1927 of $193 to a low in 1922 of $36. The average for the highs during this interval was $121.97 and for the lows $72.87. For the latter part of the period (after the capital stock changes in 1927) the market prices
for this stock fluctuated from a high of $88.75 in 1928 to a low of $29.87 in 1931. The average for these high prices was $71.80 a share and for the low prices was $37.80 a share. Considering the two sets of quotations in 1927 (before and after capital stock changes) and taking the period as a whole, the average for the highs was $99.16 and for the lows $56.93. If the prices for the shares in 1931 were adjusted to a basis comparable to those of 1927 before the stock dividend and stock split were made, the high of 1931 would be equivalent to $274.37 and would exceed the high quoted in the fore part of 1927 by $81.37. A comparison of the lows in a similar way would show them to be within one point of being the same. Conclusively, the common shares have kept up their market price very well despite the capital changes and the business depression.

The high market prices have exceeded par values since 1924, and the market lows have exceeded par values since 1926. Both the market high and low prices were greater than the par values in the years 1922, 1923, and 1924. The book values have been somewhere between the market high and low quotations in each year since 1926, and throughout the whole period market lows have never equaled book values. Since 1924, book values have been closer to the low market quotations than they were to the high market quotations.

Appendix B, Table A, Item 6 indicates that the high
market prices for the ten-year period have amounted to, on the average, thirty-two and eight-tenths times earnings, and that the average for the low market prices has been seventeen and eight-tenths times earnings. These averages, if interpreted on a ten times earnings basis, or even a fifteen times earnings basis, show that the common shares have been selling at somewhat excessive prices in relation to the earnings on them. They could not have been purchased on a ten times earnings basis at any time during the ten years except at the lows of 1925, 1926, and 1929. The range of the price times earnings ratios based on annual high market prices has been from over 132 in 1923 to about 13 in 1926, and in 1931 it was over 19. The range of the price times earnings ratios at annual low market prices has been from a high of 72.5 in 1923 to 6.5 in 1926, and in 1931 it was 10.4.

Appendix B, Table A, Item 10 shows the yield percentages based on the regular cash dividends at both the high and low market prices for each of the ten years being surveyed. The range of the yields at the high prices has been from 4.7 per cent in 1931 to 1.4 per cent in 1927 - the first year in which dividends were paid. The range based on the low market prices for the last five years has been from a high of 8.7 per cent in 1931 to a low 2.3 per
cent in 1927. The trend of both the high and low price yield percentages has been persistently upward for the whole five year dividend-paying period. The average yield percentage for the five years at the high prices quoted was 2.9 per cent, and for the low prices quoted was 5.4 per cent. The purchasers of the common stock of the Loose-Wiles Biscuit Company have never secured a return, based on regular cash dividends, of 9 per cent on their investment, and only close to that at the low market price of 1931 when the price times earnings ratio was 10.4. On a 10 per cent yield basis, then, the common shares of this company could not have qualified at any time up to, or including, the end of 1931.

On March 14, 1927, the common shares were split four for one, and on July 1, 1927, a stock dividend of 25 per cent was declared, which had the effect of causing to be outstanding in 1931 five shares where in 1922 there was only one share of common stock outstanding (Appendix B, Table A, Item 11).

MARKETABILITY

Loose-Wiles Biscuit Company common and preferred shares are both listed on the New York Stock Exchange. The common shares are traded in with sufficient frequency
SUMMARY AND CONCLUSIONS AS TO THE INVESTMENT VALUE OF THE LOOSE-WILES BISCUIT COMPANY COMMON STOCK

The Loose-Wiles Biscuit Company occupies an important place in the baking industry in the United States. Since its incorporation in the State of New York on May 3, 1912, it has expanded until its producing units well cover the country. It has plants on both coasts, one at New Orleans, and one at Minneapolis.

Crackers, biscuits, bakers' specialties, chocolates, hard candies, and animal food are its chief products. Its brands of Sunshine Biscuits and Edgemont Crackers have been made familiar to the public through extensive advertising, and are distributed through over 130 branches.

Management has been an important factor in the development of the company. It has been alert and progressive, and has introduced some innovations in the baking process. Specialties and new lines have been developed and widely distributed through a well organized sales organization. Cost cutting has been necessary but the wage scale has been retained indicating a favorable attitude toward labor. Expansion has been accomplished through the retention of
over eleven million dollars in earnings and not through the incurrence of long-term liabilities. Preference claims against profits have been reduced. Working capital ratios have averaged over 4.9 to 1, and the acid test ratios averaged over 2.8 to 1. These ratios on December 31, 1931 were, respectively, 4.3 to 1 and 2.7 to 1. Profits for the common stockholders have been earned every year, and in 1931 almost enough was earned to pay the regular $260 dividend and an extra dividend of 40 cents - the largest cash dividend ever paid by the company. This was the only year when past earnings were in any way used to pay dividends. The earnings per share on common stock based on the net worth at the beginning of the respective years have not been what could be considered lucrative, though, on the other hand, in a period of expansion followed by a lengthy depression, an 8 per cent average cannot be considered poor. This is especially true since the trend of these percentages has been generally rising and since the percentage for 1931 was close to that of the average.

The market prices paid for the common shares have fluctuated widely during the ten years. At the end of 1931 both the high and low market prices exceeded the par value; and the book value constituted a mean between these market price limits. This indicates that the book value is quite in line with market value - a condition which
exists with few companies. The price times earnings test indicates that the stock has been selling, on the average for the years, at prices not warranted by their earnings. In only three years could the shares be bought at the lows so as to make the purchase price represent only ten times earnings. From the standpoint of percentage yield the low price in the year 1931 shows the best return (ignoring the extra dividend) of 8.7 per cent. An average yield, at the low prices for the five dividend paying years of 5.4 per cent, seems also to indicate that the common shares have been overpriced relative to their regular cash dividend returns.

The New York Stock Exchange quotation on the Loose-Wiles Biscuit Company common shares when the market closed June 22, 1932, was $21. This price would require earnings of $2.10 a share to warrant it on a ten times earnings basis. Since the earnings on each share for the ten years prior to the end of 1931 averaged $4.76 a share and since they were at the end of that year $2.86 a share, the application of the ten times earnings criterion would indicate this price to be close to sound value.

The financial position of the company, its managerial aggressiveness, its high quality of products, the semi-necessitous nature of its products, its facilities, and its general organization give promise of increased earnings when general business conditions become normal again.
### Balance Sheet Analysis (Exhibit A)

**Loose-Wiles Biscuit Company**

**1922-1931**

<table>
<thead>
<tr>
<th>Year</th>
<th>Marketable Securities</th>
<th>Accounts Receivable (Net)</th>
<th>Cash</th>
<th>Notes Payable (Borrowed to finance employees' stock purchase plan)</th>
<th>Mortgages Payable</th>
<th>Reserve For Taxes</th>
<th>Total Fixed and Other Assets</th>
<th>Total Assets</th>
<th>Total Current Liabilities</th>
<th>Total Liabilities and Stockholders' Equity</th>
<th>Net Worth</th>
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<tbody>
<tr>
<td>1922</td>
<td>$7,850,097</td>
<td>$1,978,309</td>
<td>$1,723,527</td>
<td>$40,000</td>
<td>354,000</td>
<td>271,596</td>
<td>20,989,042</td>
<td>$28,989,120</td>
<td>$1,866,371</td>
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<td>21,471,266</td>
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</table>

**Acid Test Ratios (Quick Assets times Current Liabilities)**

| Year   | 2.7 | 2.6 | 1.9 | 4.7 | 3.0 | 2.8 | 2.4 | 2.8 | 2.8 | 2.8 |

**Total Current Liabilities**

| Year   | $1,866,371 | $2,206,651 | $2,815,289 | $1,071,159 | $1,722,176 | $1,600,051 |

**Total Liabilities and Stockholders' Equity**

| Year   | $30,855,491 | $32,226,934 | $31,008,235 | $27,274,473 | $25,580,863 | $22,186,727 |

**Net Worth**

| Year   | 26,551,749 | 26,883,632 | 25,151,007 | 24,016,655 | 22,186,727 | 14,951,202 |
**PROFIT AND LOSS STATEMENT ANALYSIS (EXHIBIT B)**

<table>
<thead>
<tr>
<th></th>
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<td>335,000</td>
<td>370,000</td>
<td>290,000</td>
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<td>156,086</td>
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<td>147,988</td>
<td>143,959</td>
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<td>1,114,133</td>
<td>1,096,598</td>
<td>1,088,764</td>
<td>1,020,572</td>
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<td>654,577</td>
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<td>654,577</td>
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<td>Total Net Profit (Loss)</td>
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<td>First Preferred Dividends</td>
<td>268,395</td>
<td>271,149</td>
<td>273,214</td>
<td>281,473</td>
<td>283,759</td>
<td>288,519</td>
<td>291,585</td>
<td>304,500</td>
<td>308,630</td>
<td>313,000</td>
<td>317,700</td>
<td>322,500</td>
<td>327,300</td>
</tr>
<tr>
<td>Second Preferred Dividends</td>
<td></td>
<td>35,135</td>
<td>140,000</td>
<td>140,000</td>
<td>420,000</td>
<td>420,000</td>
<td>245,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sinking Fund - First Preferred</td>
<td>150,000</td>
<td>150,000</td>
<td>150,000</td>
<td>150,000</td>
<td>150,000</td>
<td>150,000</td>
<td>150,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>418,395</td>
<td>286,284</td>
<td>611,712</td>
<td>640,444</td>
<td>523,496</td>
<td>371,585</td>
<td>299,835</td>
<td>216,798</td>
<td>208,763</td>
<td>213,000</td>
<td>217,700</td>
<td>222,500</td>
<td>227,300</td>
</tr>
<tr>
<td>Net Profit (Loss) Available to Common Stockholders</td>
<td>1,569,839</td>
<td>1,778,312</td>
<td>2,101,424</td>
<td>1,795,219</td>
<td>1,387,202</td>
<td>1,391,240</td>
<td>1,204,920</td>
<td>897,737</td>
<td>845,814</td>
<td>807,968</td>
<td>803,200</td>
<td>806,000</td>
<td>807,800</td>
</tr>
<tr>
<td>Dividends On Common Stock</td>
<td>1,644,352</td>
<td>1,546,184</td>
<td>1,174,986</td>
<td>960,444</td>
<td>740,496</td>
<td>576,744</td>
<td>490,494</td>
<td>414,737</td>
<td>390,565</td>
<td>367,968</td>
<td>363,200</td>
<td>360,000</td>
<td>356,800</td>
</tr>
<tr>
<td>Net Surplus Additions (Deductions)</td>
<td>$74,513</td>
<td>$1,116,666</td>
<td>$1,087,323</td>
<td>$1,041,990</td>
<td>$1,084,304</td>
<td>$831,511</td>
<td>$314,001</td>
<td>$39,825</td>
<td>$117,338</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*After Interest, but before Depreciation and Taxes
**Figures Not Obtainable
<table>
<thead>
<tr>
<th>Item</th>
<th>1932</th>
<th>1931</th>
<th>1930</th>
<th>1929</th>
<th>1928</th>
<th>1927</th>
<th>1926</th>
<th>1925</th>
<th>1924</th>
<th>1923</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Net Worth</td>
<td>$26,551,749</td>
<td>$26,883,632</td>
<td>$25,151,007</td>
<td>$24,016,655</td>
<td>$22,847,290</td>
<td>$21,591,387</td>
<td>$20,456,309</td>
<td>$19,474,798</td>
<td>$19,086,579</td>
<td>$19,072,970</td>
</tr>
<tr>
<td>Less: First Preferred Stock</td>
<td>3,714,200</td>
<td>3,871,300</td>
<td>3,874,300</td>
<td>4,046,800</td>
<td>4,080,300</td>
<td>4,165,500</td>
<td>4,165,500</td>
<td>4,238,000</td>
<td>4,404,000</td>
<td>4,400,000</td>
</tr>
<tr>
<td>Second Preferred Stock</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Total Preferred Stock</td>
<td>5,714,200</td>
<td>5,871,300</td>
<td>5,874,300</td>
<td>6,046,800</td>
<td>6,080,300</td>
<td>6,165,500</td>
<td>6,165,500</td>
<td>6,238,000</td>
<td>6,404,000</td>
<td>6,400,000</td>
</tr>
<tr>
<td>Net Worth - Common Stock</td>
<td>$22,837,549</td>
<td>$23,012,332</td>
<td>$21,276,707</td>
<td>$20,030,855</td>
<td>$18,801,090</td>
<td>$15,511,087</td>
<td>$14,290,809</td>
<td>$13,309,298</td>
<td>$12,848,579</td>
<td>$12,668,970</td>
</tr>
<tr>
<td>Number of Shares - Common Stock</td>
<td>547,991</td>
<td>548,303</td>
<td>500,000</td>
<td>500,000</td>
<td>499,889</td>
<td>80,000</td>
<td>80,000</td>
<td>80,000</td>
<td>80,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Book Value Per Share - Common Stock</td>
<td>$41.68</td>
<td>$41.97</td>
<td>$42.55</td>
<td>$40.06</td>
<td>$37.61</td>
<td>$19.38</td>
<td>$16.95</td>
<td>$16.63</td>
<td>$16.06</td>
<td>$15.83</td>
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<tr>
<td>Par Value - Common Stock</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$25.00</td>
</tr>
<tr>
<td>Price Range - Common Stock (High-Low)</td>
<td>$54 7/8 - $29 7/8</td>
<td>$70 1/4 - $40 1/4</td>
<td>$87 7/8 - $39 1/8</td>
<td>$88 3/4 - $44 1/4</td>
<td>$57 1/4 - $35 1/2</td>
<td>$177 - $88</td>
<td>$143 3/4 - $77</td>
<td>$84 - $50</td>
<td>$66 1/8 - $36 1/4</td>
<td>$67 7/8 - $36 1/4</td>
</tr>
<tr>
<td>Price Times Earnings (High*-Low**)</td>
<td>19-2 - 10.4</td>
<td>18.9 - 10.8</td>
<td>19.2 - 8.5</td>
<td>23.5 - 11.7</td>
<td>19.9 - 12.3</td>
<td>13.1 - 6.5</td>
<td>13.8 - 7.4</td>
<td>21.4 - 12.7</td>
<td>132.2 - 72.5</td>
<td>46.5 - 24.7</td>
</tr>
<tr>
<td>*Average</td>
<td>32.8</td>
<td>17.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>**Average</td>
<td>17.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earned Per Share - Common Stock</td>
<td>$2.86</td>
<td>$3.71</td>
<td>$4.58</td>
<td>$3.77</td>
<td>$2.88</td>
<td>$13.55</td>
<td>$10.39</td>
<td>$3.93</td>
<td>$0.50</td>
<td>$1.46</td>
</tr>
<tr>
<td>Cash Dividend Per Share - Common Stock: Total</td>
<td>$0.00</td>
<td>$2.60</td>
<td>$2.60</td>
<td>$2.35</td>
<td>$1.60</td>
<td>$0.80</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

1. LOOSE-WILES BISCUIT COMPANY
2. ADDITIONAL COMMON STOCK STATISTICS
3. TABLE A
4. 1922-1931

Ten Year average of above 7-1/4% (Per Share)

4. Dividends paid on Common Stock from August 1, 1927 also 2% per cent stock dividend (in new Common Stock) July 1, 1927.
LOOSE-WILES BISCUIT COMPANY
ANALYSIS OF ASSETS (IN MILLIONS OF DOLLARS)
1922-1931

A - Cash and Marketable Securities
B - Receivables
C - Quick Assets
D - Inventories
E - Current Assets
F - Fixed and Other Assets

Figure 1
LOOSE-WILES BISCUIT COMPANY
ANALYSIS OF LIABILITIES AND NET WORTH (IN MILLIONS OF DOLLARS)
1922-1931

A - Current Liabilities
B - Long Term Liabilities
C - Total Liabilities
D - Net Worth
E - Total Liabilities and Net Worth
(Equal to Total Assets)

Figure 2
LOOSE-WILES BISCUIT COMPANY

EARNINGS AND DISTRIBUTION TRENDS (IN MILLIONS OF DOLLARS)
1922-1931

D = Total Net Profit
E = Net Profit Available To Common Stockholders
F = Cash Dividends On Common Stock
G = Net Surplus Additions
L = Initial Cash Dividend, August 1, 1927

1922 1923 1924 1925 1926 1927 1928 1929 1930 1931

Figure 3
APPENDIX C

A STUDY OF THE COMMON STOCK OF

OTIS ELEVATOR COMPANY

FOR THE TEN-YEAR PERIOD

1922 - 1931.
THE COMPANY AND ITS PRODUCTS

The Otis Elevator Company was founded at Yonkers, New York, in 1852; thus it is by many years the oldest elevator company in existence. E. G. Otis, the founder, and his two sons, N. P. Otis and C. R. Otis, were the inventors of most of the numerous types of elevator machinery which marked the early days of the elevator industry.

The present company was incorporated in New Jersey on November 28, 1898. At that time the plants of the following companies were acquired by issue of the stock of the new company in exchange for the stock of the companies acquired:

1 Commercial & Financial Chronicle, Volume 110, April 24, 1920, p. 1759.

Otis Brothers & Company of New York
McAdams & Cartwright of New York
Sprague Elevator Company of New York
Graves Elevator Company of Rochester, New York
Crane Elevator Company of Chicago
Hale Elevator Company of Chicago
National Elevator Company of Chicago
Standard Elevator Company of Chicago
Smith-Hill Elevator Company of Quincy, Illinois
Morse, Williams & Company of Philadelphia
Stokes and Parrish Elevator Company of Philadelphia
Whittier Machine Company of Boston

This list comprises practically all of the elevator companies of any size operating in this country at that time.

Through normal growth and acquisitions the company has, during the past thirty-three years, attained a commendable position in the manufacture and sale of all types of elevator equipment. Its list of nationally advertised products includes the following: passenger and freight elevators of all kinds for all purposes, escalators, electric dumb-waiters, gravity spiral conveyors, inclined freight elevators, blast furnace hoists, bell hoists, ash hoists, skip hoists, and inclined railways.

The company owns manufacturing plants in Buffalo and Yonkers, New York; Harrison, New Jersey; and Quincy, Illinois. It also owns valuable properties in Chicago, Philadelphia, and New York City. Its seventy-four branches and ninety-six additional sales and service offices located in forty-three States cover most of the important cities in the United States. Twenty-one subsidiary foreign companies, all with a high percentage of stock owned by Otis Elevator Company, and thirty-one foreign
agents cover forty-six foreign countries, the Hawaiian Islands, the Philippine Islands, and Porto Rico.

A constantly expanding volume of business up to 1929 brought the number of employees in this country alone to the figure of 19,496. At December 31, 1931, the total number of employees, including those of foreign subsidiary companies, was 13,105.

That the Otis Elevator Company occupies a strategic position in the elevator industry both at home and abroad is obvious. With regard to its position in the trade in this country, a brief study of its competitors is illuminating. The Manufacturers Index (1931) lists the following elevator companies, in addition to Otis:

A. B. See Elevator Company, Inc., New York (8)
American Elevator & Machine Company, Louisville
Burwak Elevator Company, New York
Elevator Company of America, Chicago
The Capital Lift & Manufacturing Company, Columbus
Kimball Brothers Company, Council Bluffs (9)
Gust. Lagerquist & Sons, Minneapolis
Marshall Brothers, Pittsburgh
Montgomery Elevator Company, Moline (16)
The Shepard Elevator Company, Cincinnati (20)
F. S. Payne Company, Cambridge, Massachusetts
The Warner Elevator Manufacturing Company, Cincinnati
Westinghouse Electric Elevator Company, Chicago
(a proprietary company of Westinghouse Electric and Manufacturing Company)

The figures in parenthesis indicate the number of listed branches, including sales and service offices. It is to be recalled that The Otis Elevator Company has 170 such branches and offices in addition to its manufacturing plants. Moreover, not a single one of the above companies is large enough (presumably) to warrant inclusion in Moody's Investors Service, Industrial Section, 1931. Neither are their securities listed on the exchanges.

Statistics on the volume of business done by Otis' competitors were not available.

While the business of small elevator installations seems to be rather highly competitive, the really large contracts invariably go to the Otis company. The Commercial and Financial Chronicle, issue of February 22, 1930,
comments on the elevator contract for the eighty-five story Empire State Building in New York City. This contract, amounting to $2,900,000 and the largest elevator contract in the history of the building industry, was awarded by Starrett Brothers, Inc. to the Otis Elevator Company. So many new problems were presented that it was necessary to develop an entirely new type of car and machinery. The Otis bid was the only one received.

The extent to which Otis supremacy rests upon the holding of basic patent rights at the present time was not discoverable. Since the company was originally founded on this factor (both E. G. Otis and his sons being inventors), it is likely that substantial control of basic patents is still in its hands.

THE MANAGEMENT

The Board of Directors of the Otis Elevator Company, as of December 31, 1931, is as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jesse H. Van Alstyne</td>
<td>President</td>
</tr>
<tr>
<td>Frederic W. Allen</td>
<td></td>
</tr>
<tr>
<td>Thomas L. Chadbourne</td>
<td></td>
</tr>
<tr>
<td>Winthrop M. Crane, Jr.</td>
<td></td>
</tr>
<tr>
<td>George H. Frazier</td>
<td></td>
</tr>
<tr>
<td>William W. Miller</td>
<td></td>
</tr>
<tr>
<td>Godfrey R. Redmann</td>
<td></td>
</tr>
<tr>
<td>Ferdinand W. Roebling, Jr.</td>
<td></td>
</tr>
<tr>
<td>Edmund A. Russell</td>
<td></td>
</tr>
</tbody>
</table>

5 Ibid.
During the year 1929, Mr. Abraham G. Mills, a director and vice-president of the company since its organization, passed away. In September, 1930, occurred the death of Mr. William D. Baldwin, chairman of the board. Mr. Baldwin had been active in the elevator industry for almost half a century, having been associated with Otis Brothers & Company in 1882 as general manager and treasurer. He was the dominant factor and leader in the organization of the Otis Elevator Company in 1898, and became its first president. In 1918 he was elected chairman of the company and had continued to serve as its chief executive officer. Also in 1930, Mr. Eugene V. R. Thayer, a director for many years, severed his connection with the company, and Mr. Charles Hayden and Mr. Curtis A. Sanford were added to the board membership.

The officers of the Otis Elevator Company, as of December 31, 1931, are as follows:
There has been but one change in the officer personnel during recent years, Mr. Frederick E. Towne, vice-president, replacing Mr. W. T. S. Thackara, of the same rank.

The effectiveness of the general management of Otis Elevator Company, in so far as it may be judged by the reputation and quality of its product, has certainly been commendable. So well known is its principle product that the trade name Otis has become almost synonymous with elevator. Standards of quality throughout the entire
The ten-year period under review has been marked by a rapid and pronounced increase in plant and sales facilities, both at home and abroad, and such expansion is rarely accomplished without distortion of operating expense ratios.

The ability of the management to produce a 14.5 per cent average rate of return on the net worth during the ten-year period is especially worthy of note. Even in 1931, with the entire building trade almost at a stand-
still, the rate of return on net worth was the comparatively satisfactory one of 8.8 per cent.

Experimentation and research, during late years particularly, have produced many improvements and economies in elevator installations.

The Otis Elevator Company has had, so far as can be ascertained, no labor difficulties of any kind. In 1912, a Pension and Relief System was inaugurated, and in the following fifteen years a total of $2,700,000, including interest, was set aside, while disbursements for the same period amounted to approximately $900,000. In 1928, $300,000 was added to the reserve and payments were $103,193.26. In 1929 the sum of $430,680.21 was added, which brought the balance to the sum of $2,500,000. No subsequent contributions have been made. The amount of the reserve on December 31, 1931 was $2,441,504.

The Company also had in operation an Employee Stock Ownership system during the years of 1924, 1925, and 1926, as evidenced by the Employee Stock Subscription item in
their balance sheets for those years. The details of this plan were not released for publication.

The financial management of Otis Elevator Company has, in general, been marked by pronounced conservatism. This is evidenced, first of all, by conservative bases of valuation of assets.

The plant account, representing land, buildings, machinery and equipment at manufacturing plants, service warehouses and sales offices, is shown on the comparative balance sheet (Appendix C, Exhibit A) for 1931 as a net figure of $16,964,756. On the balance sheet in the company's Thirty-third Annual Report (1931) it stands at $27,558,235, less reserve for depreciation $10,593,479. Thus, all plant property is 38.5 per cent depreciated, in spite of the fact that approximately 35 per cent of it has been added during the past ten years, the most of it being new construction.

Patents, patterns, drawings, goodwill, office equipment and motor equipment are valued on the balance sheet, beginning with the first appearance of the item in 1925, at the nominal value of one dollar.


"Investments in Foreign Subsidiaries are valued, (in the balance sheet) in the aggregate at less than book values as shown by the accounts of the respective companies,
after converting current assets at prevailing rates of exchange on December 31, 1931."

Audit certificate of Searle, Miller & Company, Public Accountants.

"Inventory values are on a conservative basis."

15 Ibid.

The financial condition of Otis Elevator Company with regard to working capital has been a very satisfactory one. The working capital ratios and the acid test ratios presented at the bottom of the comparative balance sheets (Appendix C, Exhibit A) testify to the highly liquid position, with correspondingly high credit rating, which the company has always maintained. Figure 1, (Appendix C) reflects the rather unusual circumstance of current assets actually exceeding in amount fixed and all other assets for five of the last six years, falling only slightly below on December 31, 1931. The trends of both current and quick assets bear a most creditable relationship to that of fixed assets for the entire period. It is significant that cash and government securities alone represent 27.5 per cent of total assets on December 31, 1931.


The problem of providing funds for the pronounced expansion of facilities of the Otis Elevator Company during
the last ten years was met without resorting to the all-too-easy expedient of floating bonds. There is not now, nor has there been during the ten-year period, a single dollar of funded debt of any kind. The source of the additional funds is obvious from a glance at the total net worth trend in relation to the total assets trend shown in Figure 2, (Appendix C), net worth representing 86.7 per cent of total capital in 1922 and 95.1 per cent in 1931. The fact that a conservative policy of profits retention in the business has been maintained up to 1930 is also evidenced by the net surplus additions trend in relation to that of total net profit available to common stockholders and cash dividends on common stock in Figure 3, (Appendix C). On an average, but 57.7 per cent of the earnings available to common stockholders has been disbursed in the form of regular cash dividends. The Otis Elevator Company is refreshingly free from the burden of debt and the shadow of bankruptcy.

The financial management policy with respect to dividend distribution has been, in general, reasonably conservative. The percentage of earnings available to common stockholders paid out in total cash dividends (both regular and extra) was less than 50 per cent for each of the five years prior to 1930. The 98 per cent in 1930 and 124.3 per cent in 1931 would seem to be explained either
by a belief that the business recession would be short-lived or by the feeling that the cash could be spared without working a hardship on the company and that the stockholders could use it to greater advantage than could the company. From any other standpoint such distributions, with the trends of all income items definitely turned down, seem to be ill-advised.

The only adverse criticism of the financial management of the company that can be made involves the extraordinary multiplication of shares of common stock outstanding during the ten-year period. The two million shares outstanding on December 31, 1931, (five-hundred thousand more being held in the treasury as unissued capital stock) represent approximately fourteen times the number of shares outstanding at the beginning of the ten-year period. Indeed, one share owned in 1920 would have become eighteen and ninety-seven hundredths shares by 1931, as a consequence of the stock dividends and stock splits enumerated in Appendix C, Table A; or one share owned in 1922 would have become twelve and sixty-five hundredths shares in 1931 without the investment of any additional cash. By far the major portion of this increase was the result of stock dividends and stock splits, rather than of the sale of additional shares. Stock dividends without change in par value of the shares serve primarily to effect a permanent retention of profits in the busi-
ness: but stock splits, the par value of the stock being reduced, have the effect of merely multiplying the shares outstanding. This makes it difficult for the company to maintain anything like the former rate of cash dividends per share and materially lowers both book and market values of the shares. Perhaps the object of the management was to bring the shares down in price per share in order to obtain wider participation in ownership. What was undoubtedly a strategic move as long as the stock market was booming may prove to be embarrassing in case of an extended period of business depression.

At the annual meeting of the stockholders, April 28, 1930, the certificate of incorporation was amended to provide that the 7 per cent preferred capital stock of the company be made cumulative. This action had the effect of strengthening the preferred stock without materially affecting the common, since there are but six thousand five hundred shares of the preferred stock authorized and outstanding.

EARNINGS

With the exception of the years 1925, 1927, and 1929, no figures on sales were available either in the manuals or from the company. The only mention of sales in the annual reports of the company is a brief statement in the
report of 1927 to the effect that the volume of sales in 1927 exceeded that of any previous year in the history of the company. The sales figure of 1927 amounted to a 10.6 per cent increase as compared with that of 1925, while the 1929 sales figure represented a 22.6 per cent increase over that of 1925. Nineteen hundred and twenty-nine was undoubtedly the year of largest sales in the history of the company. If the approximately 30 per cent gross trading profit figure of 1929 may be assumed to have obtained in 1931, the sales figure was probably about $41,863,686 in the latter year. This figure is slightly less than the sales figure of 1925.

Since the sales figure represents the product of volume and price, statistics relative to both would be valuable. Unfortunately both figures are unobtainable.

As previously mentioned, the cost of sales figure is given for but three years - again the years of 1925, 1927, and 1929. Economies effected in manufacturing costs are reflected by the fact that the cost of sales as a percentage of sales declined from 74.4 per cent in 1925 to 71.5 in 1927, and dropped to 69.1 per cent in 1929.

Gross trading profit as a percentage of sales increased from 25.6 per cent in 1925 to 30.9 per cent in 1929. The increase in the \textit{amount} of gross trading profit for the
same period was 48.1 per cent. The margin of sales over cost of sales for the three years given seems to be an entirely satisfactory one.

General and administrative expenses and selling expenses are reported separately in but two of the last five years. The trend of the two items combined is a moderately increasing one, reflecting the sundry and miscellaneous expenses incident to rapid increase in sales facilities both at home and abroad. There is some evidence of a reduced basis of estimating depreciation expense, but not enough to be alarming. The net carrying value of all plant property on December 31, 1931, was but 61.5 per cent of the original cost.

Net operating profit for the ten years as displayed in Appendix C, Exhibit B reached its highest point in 1929. In general it has failed to increase in proportion to the increase in sales during the boom period from 1924 to 1929 and has decreased much more than in proportion to the decrease in gross profit on sales for the years 1930 and 1931 (sales figures for the latter two years not being available).

In connection with non-operating expense it is important to note that three of the four items displayed as charges are in reality appropriations of profit and are intermittent as well as irregular in amounts. No contributions to the pension fund reserve, the general reserve,
or the contingency reserve have been made in 1930 or 1931. This largely accounts for the excess of other income over other expense for the last three years. Federal taxes for 1931 were little more than 30 per cent of those of 1929, reflecting materially reduced profits. The fact that there is no funded debt of any kind explains the absence of interest charges as a non-operating expense. Interest on current borrowings is presumably included in general expense.

Income from foreign affiliated companies showed a constant increase to 1931 and then suffered almost a 45 per cent reduction.

The total net profit, as a percentage of sales, has been as follows for the years in which sales were reported: 1925, 9.4 per cent; 1927, 10.1 per cent; and 1929, 13.5 per cent. The average percentage of total net profit to the total net worth at the beginning of each year has been 14.5 per cent, ranging from a high of 19.0 per cent in 1929 to a low of 8.8 per cent in 1931.18

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18 Appendix C, Table A, Item 12.

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Line D of Figure 3, Appendix C, tells the story of the trend of total net profits of the Otis Elevator Company: a constant and pronounced increase rising from some two and a half millions of dollars in 1922 to over eight millions of dollars in 1929, then dropping back to
a little more than seven millions in 1930 and amounting to less than four and a half millions in 1931.

PREFERENCE CLAIMS AGAINST NET PROFITS

The company has outstanding, as of December 31, 1931, sixty-five thousand shares of 6 per cent preferred stock, par value $100, representing 100 per cent of the amount authorized. This stock has preference as to assets and 6 per cent cumulative dividends. Prior to April 28, 1930, it was non-cumulative. In the event of liquidation or dissolution the preferred stock is entitled to par and accumulated dividends. It is not callable, and there is no sinking fund provision. It has full voting power. Regular dividends have been paid quarterly since the organization of the company.


The comparatively small annual charge of $390,000 has ranged during the past ten years from 4.7 per cent (1929) to 15.2 per cent (1922) of the total net profit for the year. The ten-year average is but 8.46 per cent. Better than 91 per cent of the total net profit has been available to the common stockholders, on an average, during the past ten years.

20 Appendix C, Exhibit B
DISPOSITION OF NET PROFIT AVAILABLE TO COMMON STOCKHOLDERS

Regular cash dividends have been paid on the common stock of Otis Elevator Company without exception since 1903. The amount has fluctuated from an initial annual dividend of $2 per share to the $8 rate of 1921, 1922, and 1923. The rates per year for the past ten years are shown in detail on Table A, Appendix C, the 1931 rate being $2.50. Dividends are payable quarterly on January 15, April 15, July 15, and October 15. The quarterly dividend paid January 15, 1932, was on the $2.50 basis, but that of April 15, 1932, was on the basis of a $2.00 annual rate, while the dividend of July 15, 1932, was based on an annual rate of $1.50 per share. This reduction in rate was inevitable unless the Company wished to continue reducing surplus.

The percentage of total net profit available to common stockholders actually paid out in regular cash dividends is shown in detail in Appendix C, Table A, Item 9. The ten-year arithmetical average is 58.1 per cent, ranging from a low of 37.3 per cent in 1928 to a high of 124.3 per cent in 1931. These percentages would be increased slightly if the extra cash dividends were included in the
four years in which they occurred. An average distribution in cash of about 60 per cent of the total net profit available to common stockholders appears to be entirely reasonable from the standpoints of return to the investor, maintenance of working capital and provision for growth and expansion of the business. It is obvious that line F (Total Cash Dividends on Common Stock) on Figure 3, Appendix C, followed substantially the same trend as line E (Total Net Profit Available To Common Stockholders) from 1922 to 1929, thereafter rising sharply while line E turned down, foretelling the inevitable reduction in the dividend rate. In 1931 cash dividends on common stock represented 124.3 per cent of earnings and caused a net surplus reduction of almost one million dollars. The amount of cash dividends paid on common stock ($4,999,299) exceeded the total net profit ($4,414,963) by $584,336. This is indicated in Figure 3, Appendix C, by the fact that Line F (cash dividends on common stock) is above Line D (total net profit) at December 31, 1931.

The policy of the Otis Elevator Company of holding approximately 40 per cent of net profit in the business for future expansion, is a commendable one. Reference to Figure 3, Appendix C, discloses the fact that line G, reflecting net surplus additions, followed substantially the same trend as line F, cash dividends on common stock,
through 1929. Thereafter it broke sharply and became a net surplus deduction of $974,336 in 1931.

Profits retained in the business may be held as free surplus, appropriated to specific reserves, or may be converted into capital stock through the process of declaration of stock dividends or stock splits, the par remaining unchanged. All three methods have been used by the Otis Elevator Company.

Free surplus grew from $3,246,892, in 1922, to $13,900,873 in 1931, an increase of $10,653,981.21

Preferred stock remained stationary during the period, both as to amount and number of shares. Proprietary interest represented by common stock grew from $14,227,800 in 1922 to $25,000,000 in 1931, an increase of $10,772,200.

Thus the total increase in the proprietary equity for the ten-year period was the sum of the above three types of increases, or $24,325,972. Of this figure, $20,561,458 represents the sum of the net surplus additions shown in Exhibit B, Appendix C, the remaining $3,764,514 representing, presumably, the increase in proprietorship arising
from sales of additional shares of common stock during
the period. It is impossible to reconcile accurately the
surplus account by years from the information available,
but since one share of common stock owned in 1922 would
have become twelve and sixty-five hundredths shares in
1931 through stock dividends and stock splits, and the
total number of shares outstanding increased during the

22 Appendix C, Table A, Item 11.

period slightly over fourteen times, the outside sale or
issuance in exchange for assets of the thus estimated
200,000 shares could easily explain the $3,764,514, other­
wise unaccounted-for increase, in the proprietary equity.

YIELD

The yield on a share of common stock is the percentage
rate of return represented by the cash dividends on the
amount of the investment in the share. Both the amount of
the investment in the share and the cash dividends must
hence be considered.

The price range of Otis common stock for the ten year
period, both high and low, is shown in Appendix C, Table A,
Item 9. The high and low for the stock while it was $100
par value were $168.75 in 1922 and $114.50 in 1923 res-
pectively; at $50 par they were $450 in 1929 and $63.63 in 1924 respectively; and as no-par stock the high was $80.38 in 1930 and the low was $16.13 in 1931. It is important to note that while the stock had a par value it never sold for less than 14 per cent above par, and when reduced to no-par, the equivalent of $12.50 par (since four shares of no-par stock were issued for each $50 par share), it never sold for less than $16.13 prior to December 31, 1931. The book value has never been less than 29 per cent in excess of the par value (or equivalent of $12.50, since the stock was made no-par) and that low point was in 1922. In but four years of the past ten has it been possible to buy Otis common stock for less than its book value per share; in 1922, 1923, 1924, and 1931. Such opportunities were presented only at the "lows" of these years.

The price times earnings ratios are also significant in connection with market price fluctuations. The highest price times earnings ratio was that of 29.1, occurring in 1931 when the high market price was $58.50 per share and the annual earnings $2.01 per share. A close second was that of 28.2, occurring in 1929 when the high market price
was $450 per share and the annual per share earnings $15.96. The lowest price times earnings ratio was 5.4, occurring at the low point of 1924 with a market price of $63.63 and annual per share earnings of $11.70. The average price times earnings ratio for Otis common stock, based on the highest price for each of the ten years was 15.95; based on the lowest price for each of the ten years, it was 8.57. At some point of time during every year except 1929 and 1930, this stock could have been purchased at less than ten time earnings. On the other hand, during 1929, 1930, and 1931 its annual highs represented well over twenty times earnings.

The cash dividends considered for yield determination purposes are usually regular cash dividends, for extras are, as a rule, wholly unpredictable as to declaration and amount. The regular cash dividends on Otis common stock for the ten-year period have already been discussed and are shown in detail in Appendix C, Table A, Item 8.

Item 10, Table A, Appendix C, reflects the yield figures by years at both the highest and lowest prices for each year. The highest yield for the ten-year period was that of 15.5 per cent at the low price of $16.13 in 1931, when the cash dividend was $2.50 per share. During this year, it is to be recalled, approximately 20 per cent of the dividend was paid out of surplus rather than current earnings. The lowest yield for the ten-year period
was that of 1.3 per cent at the high price of $450 in 1929 when the regular cash dividend was $6.00 per share. If approximately 7 per cent yield be assumed as indicative of an investment opportunity for this class of stock, there have been but five such opportunities—at the lows for the years 1922, 1923, 1924, 1930, and 1931. During the past two years, however, the cash dividend rate has been materially reduced and threatened with more serious reductions.

Another aspect of the yield situation is presented by the presence of stock dividends and stock splits. As previously mentioned, one share of Otis common stock owned in 1922 became twelve and sixty-five hundredths shares by December 31, 1931. Cash dividends were, of course, paid on these additional shares. The total amount of cash dividends received each year based on ownership of one share since 1922 may be obtained approximately by multiplying the cash dividend rate by the aggregate shares for that particular year, as shown in Item 11, Table A, Appendix C. Since cash dividends are paid quarterly and the stock dividends and stock splits may occur at any time during the year, the results thus obtained may not be absolutely accurate.

If it is desired, a complete study of this aspect of yield can be made, as illustrated in Table B, Appendix C.
Thus, the investment of $100 in one share of Otis common stock in 1903, the year of the initial dividend, would have produced an average total yield of 11.87 per cent for the twenty-nine year period. In addition, the one share would have grown to 18.975 shares.

Such a holder could see the cash dividend rate on Otis common stock reduced to thirty-seven cents per year without reducing the yield on his original $100 investment below 7 per cent. In like fashion he could witness a market price reduction to $5.28 per share and still be able to liquidate his investment at a profit. Historically, therefore, Otis common stock has been an extremely profitable investment.

MARKETABILITY

Both the common and preferred shares of Otis Elevator Company are listed on the New York Stock Exchange. The common is a reasonably active stock, sufficiently so, at least, to insure daily price quotations.
SUMMARY AND CONCLUSIONS AS TO THE INVESTMENT VALUE OF OTIS ELEVATOR COMPANY COMMON STOCK.

This company occupies a strategic position in the elevator industry both in this country and abroad. In the field of large elevator installations it has virtually no competition. Its products are fairly well diversified, all being of the elevator or hoist type, however.

Its management personnel is experienced, efficient, and far-sighted. The high quality of its products is being constantly improved. Its plants have been expanded and modernized to increase capacity and lower manufacturing costs. Control of general administrative and selling expenses has been a problem during the past ten years because of rapid expansion of sales branches and agencies all over the world. Future years should reap the profits of these endeavors.

The financial management of the company has been superior. Funds have been provided for expansion purposes without the incurrence of a single dollar of funded debt. At the same time a strong financial condition has been maintained and exists at the present time. The proprietary equity in the total assets has been materially increased and stood at 95.1 per cent on December 31, 1931.
The earnings of the company increased rapidly up to 1929, thereafter suffering such a decrease as to reduce them to about 1924 levels. The total net profit has averaged, for the ten years, 14.5 per cent on the total net worth at the beginning of each year and amounted to 8.8 per cent in 1931. The absence of funded debt and the existence of but $6,500,000 of 7 per cent cumulative preferred stock results in an average of better than 90 per cent of the total net profit becoming available to the common stockholder. An average of about 60 per cent of the total net profit available to common stockholders has been paid out in cash dividends, the balance being retained in the business.

The market price of the stock has fluctuated widely, always, however, keeping well above the par value of the stock (or its equivalent). Only at the extreme lows of 1922, 1923, 1924, and 1931 has it been possible to buy the shares on the market for less than their book value. Nevertheless, at some point of time in each year, except 1929 and 1930, opportunity was offered to buy the stock at less than ten times earnings.

The major problem of forecast concerns the ability of the management to produce sales without the aid of a building boom such as existed following the war. Much excess plant capacity undoubtedly exists throughout the entire
field of manufacturing industries. On June 26, 1932, Mr. Murray E. Randell, chairman of the committee on renting of the National Association of Building Owners and Managers, reported the results of a national survey of vacancies in office buildings. The national average at that time was 22.37 per cent, whereas the accepted normal vacancy for office buildings is 10 per cent.

Three principal types of effort are being directed toward sales promotion. The first is based on a recognition of the fact that new construction of plants, office buildings, and apartments in appreciable volume is unlikely at this time. Therefore, reconditioning of existing buildings and equipment, both for better service and better appearance, should be stressed. Improvements have been recently announced in both the elevator and escalator divisions. Escalators in three standard widths are now available, which, it is believed, will facilitate their more general use in department stores and other institutions. A recent national advertising campaign stresses the appearance factor in elevator installations by illustrating a group of passengers attired in the mode of 1890—the year corresponding to the model of the elevator from which they have just stepped.

The second effort is being directed toward expansion
of the elevator market in the single-family dwelling field. Several of the newer type designs for private houses, especially those which are to be produced on a mass production basis, include an elevator as an essential unit. The striking Dymaxion house, designed by Buckminster Fuller, New York architect, is a good example of such a dwelling.

26 Harwood F. Merrill, "Will a Revolution In Methods Save the Building Industry?" Forbes XXIX, No. 14 (1932) pp. 7-8, 16.

The third effort is a continuation of that directed toward improved types of equipment in the new-construction skyscraper field. High speed elevators have been installed by the company in the Empire State Building, the Chrysler Building, and the Bank of Manhattan Building, three of the world's highest structures. The company is perfecting two new inventions in the form of a double deck elevator for servicing two floors simultaneously, and the operation of two separate cars in the same shaft—-one local, servicing lower floors, and other express, serving the upper stories.

27 Magazine of Wall Street, January 24, 1931, p. 441.

The service department bids fair to become an ever increasingly important revenue producer with stabilizing tendencies.

One word of caution should, perhaps, be given to the prospective investor in the common stock of Otis Elevator Company. A cursory examination of earnings per share and
market value per share for the ten-year period will certainly be misleading if he fails to observe the multiplication of shares resulting from stock dividends and especially stock splits arising from reduction of par value. It should be recalled than on December 31, 1931, there were two million shares of common stock outstanding (with another half million unissued shares in the treasury), that these no-par shares are the equivalent of $12.50 par value shares, and that the book value per share at that time was $21.36. Annual total net profit equal to more than 65 per cent of total net worth would be necessary to bring the annual earnings per share on present outstanding shares of common stock to a figure comparable to those obtaining in each of the eight years preceding 1930. It should be recalled that the average percentage of total net profit to total net worth for the ten year period was 14.5 per cent, while that of 1931 was 8.8 per cent.

At the July 1, 1932, approximate market price of ten dollars a share, earnings of but one dollar a share would produce a price times earnings ratio of ten to one. Such earnings would be almost exactly half of those of 1931, which was the poorest year from a standpoint of earnings of any of the past ten.
<table>
<thead>
<tr>
<th>Year</th>
<th>Cash and Cash Equivalents</th>
<th>Notes Receivable</th>
<th>Foreign Fixed Deposits</th>
<th>Cash</th>
<th>Deferred Charges</th>
<th>Inventories</th>
<th>Accounts Receivable (Net)</th>
<th>Employee Stock Subscriptions</th>
<th>Investments</th>
<th>Dividends Payable</th>
<th>Accounts Payable</th>
<th>Inventories (Lower of Cost or Market)</th>
<th>Accrued Taxes</th>
<th>General Reserves</th>
<th>Reserve for Pensions</th>
<th>Common Stock</th>
<th>Total Liabilities</th>
<th>Total Net Worth</th>
<th>Total Assets</th>
<th>Total Liabilities and Net Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>$7,007,660</td>
<td>$468,474</td>
<td>5,833,622</td>
<td>$7,027,663</td>
<td>$210,619</td>
<td>5,389,496</td>
<td>$5,113,214</td>
<td>$162,529</td>
<td>8,967,223</td>
<td>1,347,327</td>
<td>667,464</td>
<td>5,389,496</td>
<td>470,949</td>
<td>613,372</td>
<td>2,441,504</td>
<td>25,000,000</td>
<td>49,229,622</td>
<td>51,758,748</td>
<td>51,758,748</td>
<td>49,229,622</td>
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<tr>
<td>1984</td>
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<td>$468,474</td>
<td>5,833,622</td>
<td>$7,266,731</td>
<td>$225,270</td>
<td>10,400,346</td>
<td>$8,645,665</td>
<td>$162,529</td>
<td>8,876,862</td>
<td>1,347,290</td>
<td>1,199,629</td>
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<td>2,500,000</td>
<td>21,609,200</td>
<td>48,818,441</td>
<td>54,057,207</td>
<td>54,057,207</td>
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<td>$468,474</td>
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<td>8,561,664</td>
<td>$7,906,285</td>
<td>$162,529</td>
<td>7,275,012</td>
<td>1,347,855</td>
<td>1,873,304</td>
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<td>1,800,000</td>
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<td>48,805,713</td>
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<td>54,057,207</td>
<td>48,805,713</td>
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<td>$468,474</td>
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<td>$6,042,069</td>
<td>$252,832</td>
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<td>$162,529</td>
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<td>5,826,400</td>
<td>1,072,813</td>
<td>1,537,399</td>
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<td>48,724,228</td>
<td>54,057,207</td>
<td>54,057,207</td>
<td>48,724,228</td>
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</tbody>
</table>

**Note:** The table above represents financial data for a hypothetical company from 1983 to 1987, excluding headers and subtotals for clarity. The data includes key financial metrics such as current assets, liabilities, net worth, and total assets. Each year's data is presented in a similar format, allowing for comparison over the five years.
### OTIS ELEVATOR COMPANY
### PROFIT AND LOSS STATEMENT ANALYSIS (EXHIBIT B)
### 1922-1931

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Sales</th>
<th>Operating Profit</th>
<th>Operating Loss</th>
<th>Net Sales</th>
<th>Operating Profit</th>
<th>Operating Loss</th>
<th>Net Sales</th>
<th>Operating Profit</th>
<th>Operating Loss</th>
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</thead>
<tbody>
<tr>
<td>1922</td>
<td>61,722,134</td>
<td>12,559,106</td>
<td></td>
<td>55,669,286</td>
<td>12,289,285</td>
<td></td>
<td>50,322,349</td>
<td>12,867,838</td>
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<tr>
<td>1923</td>
<td>59,488,583</td>
<td>11,912,008</td>
<td></td>
<td>49,313,211</td>
<td>11,623,021</td>
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<td>45,083,285</td>
<td>11,800,097</td>
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<td>1925</td>
<td>54,954,285</td>
<td>11,206,273</td>
<td></td>
<td>50,285,000</td>
<td>10,785,179</td>
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<td>45,028,285</td>
<td>10,299,838</td>
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<td>1926</td>
<td>52,742,000</td>
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<td>10,520,021</td>
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<td>1927</td>
<td>50,592,285</td>
<td>10,711,207</td>
<td></td>
<td>42,631,000</td>
<td>10,369,021</td>
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<td>37,342,285</td>
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<tr>
<td>1929</td>
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<td>37,072,266</td>
<td>9,916,020</td>
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<td>32,192,285</td>
<td>9,100,097</td>
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<tr>
<td>1930</td>
<td>44,462,285</td>
<td>9,960,204</td>
<td></td>
<td>34,430,285</td>
<td>9,540,020</td>
<td></td>
<td>29,702,285</td>
<td>8,600,097</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- Net Sales
- Operating Profit
- Operating Loss
- Total Net Profit
- Total Net Profit Available to Common Stockholders
- Net Surplus Addition (Deduction)
- Dividends on Common Stock

**Not Stated**
## OTIS ELEVATOR COMPANY
### ADDITIONAL COMMON STOCK STATISTICS (TABLE A)
#### 1922-31

<table>
<thead>
<tr>
<th>Item</th>
<th>1931</th>
<th>1930</th>
<th>1929</th>
<th>1928</th>
<th>1927</th>
<th>1926</th>
<th>1925</th>
<th>1924</th>
<th>1923</th>
<th>1922</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Net Worth</strong></td>
<td>$49,229,622</td>
<td>$59,282,734</td>
<td>$48,818,441</td>
<td>$44,073,061</td>
<td>$39,730,695</td>
<td>$36,428,529</td>
<td>$33,704,998</td>
<td>$30,439,085</td>
<td>$26,998,104</td>
<td>$24,943,650</td>
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<tr>
<td>Less: Preferred Stock</td>
<td>6,500,000</td>
<td>6,500,000</td>
<td>6,500,000</td>
<td>6,500,000</td>
<td>6,500,000</td>
<td>6,500,000</td>
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<td>6,500,000</td>
<td>6,500,000</td>
<td>6,500,000</td>
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<tr>
<td><strong>Net Worth - Common Stock</strong></td>
<td>$42,729,622</td>
<td>$52,782,734</td>
<td>$42,318,441</td>
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<td>$33,230,695</td>
<td>$29,928,529</td>
<td>$27,204,998</td>
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<td>2,000,000</td>
<td>500,000</td>
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<td>432,185</td>
<td>343,058</td>
<td>340,257</td>
<td>322,376</td>
<td>142,278</td>
<td>142,278</td>
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<tr>
<td><strong>Book Value Per Share - Common</strong></td>
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<td>$21.89</td>
<td>$84.63</td>
<td>$86.94</td>
<td>$76.89</td>
<td>$87.24</td>
<td>$79.41</td>
<td>$74.26</td>
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<tr>
<td><strong>Par Value - Common</strong></td>
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<td>$50,00</td>
<td>$50,00</td>
<td>$50.00</td>
<td>$50,00</td>
<td>$50,00</td>
<td>$100.00</td>
<td>$100.00</td>
<td>$100.00</td>
<td>$100.00</td>
</tr>
<tr>
<td><strong>Price Times Earnings - (High-Low)</strong></td>
<td>29.1 - 8.0</td>
<td>23.4 - 14.0</td>
<td>28.2 - 12.2</td>
<td>17.7 - 9.1</td>
<td>12.8 - 8.5</td>
<td>10.0 - 7.8</td>
<td>11.0 - 6.8</td>
<td>7.9 - 5.4</td>
<td>8.4 - 6.3</td>
<td></td>
</tr>
<tr>
<td><strong>Average 15.9</strong></td>
<td><strong>Average 8.7</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Earnings Per Share - Common</strong></td>
<td>$2.01</td>
<td>$3.44</td>
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<td>$16.09</td>
<td>$12.17</td>
<td>$13.59</td>
<td>$12.81</td>
<td>$11.70</td>
<td>$18.23</td>
<td>$15.29</td>
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<tr>
<td><strong>Cash Dividend Per Share - Common:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>$6.00</td>
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<td>$5.50</td>
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<td>Extra</td>
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<tr>
<td><strong>Total</strong></td>
<td>$2,50</td>
<td>$3.37</td>
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<td>$5.50</td>
<td>$6.00</td>
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<td>$8.00</td>
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**Per Cent of regular Common Cash Dividend per Share to Earnings Available to Common Stockholders per Share (Average is 8.1 per cent):**

- **A. Highest Price (Per Cent):** 16.2 - 19.8
- **B. Lowest Price (Per Cent):** 1.3 - 2.1

**Per Cent of Total Net Profit for each year to the Total Net Worth at the beginning of each year:**

- **1922-25:** 12.65, 12.65, 3.1625, 2.75, 2.75, 2.2, 2.2, 2.2, 1.0
- **10 Year Average:** 14.5 (Per Cent)

**Ten Year Average of above is 14.5 (Per Cent):** 15.0

**Yield, based on Regular Cash Dividend, if purchased at:**

- **A. Highest Price:** 4.3, 4.2, 1.3, 2.1, 3.8, 4.4, 3.9, 5.5
- **B. Lowest Price:** 15.5, 7.0, 3.1, 4.1, 5.8, 5.7, 6.3

**Aggregate shares from ownership of one share in 1922:** 12.65

**Per Cent of Total Net Profit for each year to the Total Net Worth at the beginning of each year:**

- **1922-25:** 1.0, 1.0, 1.0, 1.0, 1.0

**Per Cent of Total Net Profit for each year to the Total Net Worth at the beginning of each year:**

- **1922-25:** 1, 1, 1, 1, 1

**Regular Cash Dividend paid on common stock without exception since 1903.

---

**Ten Year Average of above is 14.5 (Per Cent):**

**Yield, based on Regular Cash Dividend, if purchased at:**

- **A. Highest Price:** 4.3, 4.2, 1.3, 2.1, 3.8, 4.4, 3.9, 5.5
- **B. Lowest Price:** 15.5, 7.0, 3.1, 4.1, 5.8, 5.7, 6.3

**Aggregate shares from ownership of one share in 1922:** 12.65

**Per Cent of Total Net Profit for each year to the Total Net Worth at the beginning of each year:**

- **1922-25:** 1.0, 1.0, 1.0, 1.0, 1.0

**Per Cent of Total Net Profit for each year to the Total Net Worth at the beginning of each year:**

- **1922-25:** 1, 1, 1, 1, 1

**Regular Cash Dividend paid on common stock without exception since 1903.
<table>
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<tr>
<th>Year</th>
<th>Par value of shares</th>
<th>Number of accumulated shares</th>
<th>Regular annual cash dividend rate per share</th>
<th>Regular cash dividends received on accumulated shares</th>
<th>Extra cash dividends per share on accumulated shares</th>
<th>Total cash dividends received on accumulated shares</th>
<th>Stock dividends</th>
<th>Stock splits</th>
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<td>1898</td>
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</tbody>
</table>

*Note: Also shows total cash income received by years arising from ownership of one share of common stock and its accretions through stock dividends and stock splits.*
OTIS ELEVATOR COMPANY
ANALYSIS OF ASSETS (IN MILLIONS OF DOLLARS)
1922-1931

A - Cash and Government Securities
B - Receivables
C - Quick Assets
D - Inventories
E - Current Assets
F - Fixed and Other Assets

Figure 1
OTIS ELEVATOR COMPANY

ANALYSIS OF LIABILITIES AND NET WORTH (IN MILLIONS OF DOLLARS)
1922-1931

<table>
<thead>
<tr>
<th>Year</th>
<th>A - Current Liabilities</th>
<th>B - Long Term Liabilities</th>
<th>C - Total Liabilities</th>
<th>D - Net Worth</th>
<th>E - Total Liabilities and Net Worth</th>
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<tr>
<td>1922</td>
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<td>1931</td>
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Figure 2
OTIS ELEVATOR COMPANY

EARNINGS AND DISTRIBUTION TRENDS (IN MILLIONS OF DOLLARS)
1922-1931

D - Total Net Profit
E - Net Profit Available to Common Stockholders
F - Cash Dividends on Common Stock
G - Net Surplus Additions

Figure 3
OTIS ELEVATOR COMPANY
ANALYSIS OF ASSETS
TREND PERCENTAGES BASED ON 1922 FIGURES
1922-1931

A - Cash and Government Securities
B - Receivables
C - Quick Assets
D - Inventories
E - Current Assets
F - Fixed and Other Assets
OTIS ELEVATOR COMPANY
ANALYSIS OF LIABILITIES AND NET WORTH
TREND PERCENTAGES BASED ON 1922 FIGURES
1922-1931

A - Current Liabilities
B - Long Term Liabilities
C - Total Liabilities
D - Net Worth
E - Total Liabilities and Net Worth
   (Equal to Total Assets)

Figure 2a
OTIS ELEVATOR COMPANY
ANALYSIS OF EARNINGS AND DISTRIBUTIONS
TREND PERCENTAGES BASED ON 1922 FIGURES
1922-1931

D = Total Net Profit
E = Net Profit Available To Common Stockholders
F = Cash Dividends On Common Stock
G = Net Surplus Additions

1922 1923 1924 1925 1926 1927 1928 1929 1930 1931

Figure 3a
OTIS ELEVATOR COMPANY

ANALYSIS OF LIABILITIES AND NET WORTH (IN MILLIONS OF DOLLARS)

1922-1931

*Scale for lines A, B and C
**Scale for lines D and E

1922 1923 1924 1925 1926 1927 1928 1929 1930 1931

A - Current Liabilities
B - Long Term Liabilities
C - Total Liabilities
D - Net Worth
E - Total Liabilities and Net Worth (Equal to Total Assets)

I - Long Term Liabilities, 1931, $43,386

Figure 2 b
OTIS ELEVATOR COMPANY
EARNINGS AND DISTRIBUTION TRENDS
(IN MILLIONS OF DOLLARS)
1922-1931

D - Total Net Profit
E - Net Profit Available To Common Stockholders
F - Cash Dividends On Common Stock
G - Net Surplus Additions
I - Net Deduction from Surplus 1931, $974,336

Figure 3b
APPENDIX D

A STUDY OF THE COMMON STOCK OF

PHILLIPS PETROLEUM COMPANY

FOR THE TEN-YEAR PERIOD

1922 - 1931.
THE COMPANY AND ITS PRODUCTS

The Phillips Petroleum Company of Bartlesville, Oklahoma, was incorporated June 13, 1917, in Delaware and took over the oil interests in the Mid-Continent field of Frank Phillips and L. E. Phillips. The Phillips brothers had prior to this time operated the business as a partnership. The property consisted of valuable leases and drilling rights in the states of Kansas, Oklahoma, Texas, and Kentucky, producing equipment, a small pipe line, and two small gasoline plants.¹ The purpose of the incorporation was to raise additional capital through the sale of common stock, preferred stock, and a small issue of bonds, in order to make possible a wider extension and better correlation of the properties. The original stock consisted of four hundred thousand shares of no-par value. Frank Phillips became president of the company and L. E. Phillips vice-president, positions which they still hold.

The company is a holding company and owns, as of December 31, 1931, the entire capital stock of the following subsidiary companies:²

¹ Moody's Investors Service, Industrial Section, 1920, p. 1105.
Bartex Pipe Line Company
Independent Oil and Gas Company
Independent Natural Gas Company
Independent Pipe Line Company of Oklahoma
Independent Pipe Line Company of Kansas
Philgas Company
Philtex Oil Company
Standish Oil Company

The company also owns substantial interests in the following affiliated companies:

3 Ibid., p. 24.

Great Lakes Pipeline Company
Phillips Natural Gas Company
Phillips Pipe Line Company
Philokla Gas Company
Philmore Gasoline Corporation
Texas Elf Carbon Company

In its early years the company was a producer only of crude oil, natural gas, and gasoline. Recent years showed that it would be to the best interests of the company to refine, transport and distribute a large part of these products as finished ones to the ultimate consumer. Consequently the company is now engaged in all branches of the oil business: the production of crude oil, natural gas, and casinghead gas; the transportation to refineries and
compressor stations; the refining of oils and gasoline products; the distribution of finished products by pipe lines, tank cars, and steamers; and the sale of finished products through company owned stations and at wholesale.

The company's principal production of crude oil comes from 3,700 wells on over one hundred thousand acres of producing reserves, supplemented by "several hundred thousand acres of carefully selected properties located in Texas, Oklahoma, New Mexico, Kansas, Louisiana, Arkansas and Kentucky." 4

4 Ibid., p. 11.

In 1930 the company became one of the large holders of acreage in the new Wilcox sand area of the Oklahoma City field in Oklahoma. This position was further strengthened in 1931. The company's properties assure it of ample reserves of raw products for many years in the future.

Crude oil gathering lines lead from the various oil fields to the company's three oil refineries at Borger, Texas; Okmulgee, Oklahoma; and Kansas City, Kansas. Forty-two natural gasoline refining plants take advantage of the natural distillation of gasoline vapors in the oil sand and separate, condense, and refine the gasoline found in the vapors produced by practically all oil wells. These refined products are among the highest quality gasolines manufactured today.

Phillips Pipe Line Company was organized to transport
gasoline from the Borger and Okmulgee refineries to East St. Louis, Illinois, and various points in Kansas and Missouri. The Phillips Natural Gas Company has an interest in the Great Lakes Pipe Line Company which runs lines from Okmulgee, Oklahoma, through Des Moines, Iowa to Minneapolis, Minnesota; with branches to Omaha, Nebraska, and Chicago, Illinois.

5 Ibid., p. 20.

In addition to the stations constructed by the company, it has acquired thirty-eight marketing companies by purchase. Its products are now marketed through 5,380 stations owned and controlled by the company and 5,274 dealer outlets. Phillips products, together with batteries, tires and other accessories, are now sold in Texas, New Mexico, Oklahoma, Kansas, Colorado, Nebraska, South Dakota, North Dakota, Minnesota, Michigan, Wisconsin, Iowa, Illinois, Indiana, Ohio, Kentucky, Tennessee, Missouri, and Arkansas. The company owns 2,543 tank cars which, augmented by a large fleet of motor tank trucks, make possible delivery of the finished product to the ultimate consumer entirely through the company's transportation facilities.

The Phillips Petroleum Company has grown in the last ten years from a small producing concern to a completely
integrated, independent company.

The production phase of the oil industry is today, as it has been since the beginning of the industry, a highly competitive and highly speculative business. The tremendous demand for petroleum products, the need for capital, the rapid and frequent changes in production areas, the possibility of acquiring small leases, the chances of rich rewards, and the gambling instinct have all been instrumental in encouraging the participation of independent companies. While undoubtedly there are many economies to be gained from large scale production, most of them hinge upon the substitution of the oil pool for the small tract lease as the producing unit. This may be accomplished in either or both of two ways: first, by purchase of contiguous leases from competitors in already developed areas, and, second, by the wholesale leasing of vast tracts of undeveloped oil lands, particularly for future needs. The former method is comparatively rare, for the reason of the obvious opportunities of holding strategically located properties for exorbitant prices. However, in 1925 the Phillips Petroleum Company acquired 1,860 acres of oil and gas lands in the Ibex pool in Texas, and thereby secured ownership of the entire Ibex field.

An example of the latter method is reported in the Commercial and Financial Chronicle of December 3, 1927, (page 3074) when the same company announced that it had obtained a contract from the Peruvian Government granting a drilling concession, on a royalty basis, on between one and one and a half million acres of land on the Peruvian coast. Wells were already producing in that region, sufficiently at least to "prove" the acreage.

Crude-oil-gathering lines for the purpose of transporting the crude petroleum from the wells to the refineries are a highly essential unit for complete integration of an oil company. The Phillips Petroleum Company is well equipped in this respect. 8

The Company's three refineries and forty-two natural gasoline refining plants benefit from low cost gathering of crude oil from the wells to the plants, and from cheap fuel gas and water from the company's own facilities. The company is the largest manufacturer of natural gasoline in the world. 9

The marketing of refined petroleum products is a highly competitive business. The importance of control of the markets for refined products was recognized by the Standard Oil Trust years before the dissolution decree in 1911, and
it was in this branch of the industry that the Standard Oil Trust gained the most complete monopoly.

While kerosene, fuel oil, and lubricants are, for the most part, marketed through middlemen, it has become customary practise for gasoline to be marketed directly to the consumer or retailer without the intervention of middlemen. Within the last ten years most of the independent gasoline marketing organizations have been absorbed as units of completely integrated systems, leaving no recourse to the smaller companies and independent refiners but to establish marketing organizations of their own. While no reliable figures are available, it is certain that retail filling stations have multiplied at a tremendous rate. Strangely enough, the resulting intense competition in retailing has been marked by few price-cutting wars, and then only on a local basis. Phillips products, marketed through the firm's own stations, have met with much public favor, as is evidenced by the extensive growth of its marketing department during the last three years. Especially popular are Phillips "66" Gasoline and Phillips "77" Aviation Gasoline, and a number of special gasolines used for other purposes, including special United States Army Aviation Gasoline and several forms of liquified petroleum gas marketed by the Philgas Company.
THE MANAGEMENT

The directors and principal officers of the Phillips Petroleum Company, as of December 31, 1931, are as follows:

*Frank Phillips, President
New York

*L. E. Phillips, Chairman Executive Committee
Bartlesville, Oklahoma

*Clyde Alexander, Vice-President and General Manager
Bartlesville, Oklahoma

*John H. Kane, Executive Vice-President
Bartlesville, Oklahoma

*William N. Davis, Vice-President
President, Mid-Continent Oil & Gas Association
Bartlesville, Oklahoma

*Amos L. Beatty
President, American Petroleum Institute
New York

H. E. Koopman, Vice-President
Bartlesville, Oklahoma

R. H. Hudson, General Attorney
Bartlesville, Oklahoma
O. K. Wing, Secretary-Treasurer
Bartlesville, Oklahoma

H. M. Addinsell
President, Chase, Harris, Forbes Corporation
New York

Eugene E. DuPont
Director, E. I. DuPont de Nemours & Company
Wilmington, Delaware

E. P. Earle
President, Nipissing Mining Company
New York

H. W. Farnum
Farnum, Winter & Company
Chicago, Illinois

R. H. Higgins
New York

J. L. Johnson
President, The Lambert Company
New York

Charles A. Lemp
Director, First National Bank
St. Louis, Missouri

E. E. Loomis
President, Lehigh Valley Railroad Company
New York
John Markle  
New York  
Samuel McRoberts  
New York  
W. C. Smoot  
President, First National Bank  
Bartlesville, Oklahoma  
*Member of Executive Committee  

R. P. Brewer, W. N. Davis and F. L. Dunn, directors for many years, withdrew in 1929. They were replaced by H. W. Farnum and Charles A. Lemp. Samuel McRoberts and H. M. Addinsell were added to the Board in 1930 and Amos. L. Beatty in 1931. Otherwise, the management has remained the same during the last ten years.

The effectiveness of the general management, in so far as it can be judged by the quality of the company's products, has been entirely satisfactory. As a consequence of experimentation and research, methods of production have been improved and standards of quality raised.

The most difficult management problem has been the complete integration of the business, from the producing of the crude petroleum to the marketing of the finished products. This has been a tremendous task, involving the concentration and consolidation of producing areas owned and leased, the purchase or construction of gathering lines,
the consolidation and improvement of refining plants, economica
nomical utilization or disposal of by-products, and the complete development of an independent marketing system. While this program has not been entirely completed, the description of properties owned by the company is indicative of great accomplishment in this respect. Such a program is bound to result in high costs during the period of transition, but should produce economies in the future.

The problem of expansion of facilities has likewise been difficult. Because of the recent drastic declines in prices of both crude and refined oil products, — declines accentuated by over-production throughout the entire industry, and by the intense competition for markets — the expansion of gross income has been far more difficult than that of physical volume of sales. In connection with the latter, it is important to note that the company operates in one of the very few basic industries in which domestic consumption of its principal product has remained during this depression at or near all-time peak figures. While volume of sales has much more than kept pace with the expansion of facilities, gross income has fallen somewhat short of the mark.

The management has taken full advantage of improved methods and processes developed by its research department. Particularly have improvements been made in the refining of natural gasoline products, which are much in demand be-
cause of high volatility and no knock or high octave number.

Many of the plans and programs of the management reflect unusual foresight and managerial skill. The profitable disposition of large quantities of natural gas, a concomitant to the production of crude oil, had long been a problem prior to 1926. In May of that year the company purchased, almost in its entirety, the common stock of the Oklahoma Natural Gas Company, a large natural gas distribution concern. In October, 1927, it sold the stock at a very considerable profit to a group of New York bankers. During the period of ownership of the stock, Phillips Petroleum Company had obtained a long-term contract granting the preferential right to supply the Oklahoma Natural Gas Company with gas for their system as it might be needed in the future.


Another evidence of alertness on the part of the management is indicated by the appearance on the balance sheet of December 31, 1927 of a call loan item of $9,950,000. The company had that year floated a forty million dollar issue of 5 ¼ per cent debenture bonds for development of properties and to increase working capital. The portion of these funds not immediately needed was promptly placed on the New York call money market, thus yielding a very con-
siderable rate of return. Call loans on December 31, 1928, stood at $7,400,000 and had disappeared entirely by December 31, 1929.

No labor troubles of any kind have been reported during the ten-year period. In November 1927, an employees' stock purchase plan was put into operation. No information relative to the plan was published. It seems to have been practically terminated by December 31, 1931, since the employees' stock purchase contracts figure at that time amounted to but $326,489. The annual report of the company for 1931 (p.4) indicates that the employees accepted in that year a reduction in salaries, as did all company officials.

Four different firms of certified public accountants have served the Phillips Petroleum Company during the last ten years. The statements presented in the annual reports of 1922 and 1923 were signed by Crockett, Couchman & Crawford; those of 1924, 1925, and 1926 were not certified; those of 1927 were signed by Lybrand, Ross Bros. & Montgomery; those of 1928 and 1929 by Mattison, Davey and Winters, and the 1930 and 1931 statements were signed by Barrow, Wade, Guthrie & Company.

Balance sheet valuations of assets seem to be on a conservative basis in 1931. Marketable securities are valued at market price; accounts receivable at a net figure after deduction of reserve for bad debts of an unstated
amount; crude and refined products inventory is valued at market price; materials and supplies inventory is valued "at cost or less"; and properties, plant, and equipment are valued at cost, less reserve for depletion and depreciation amounting to 37.5 per cent of that cost.


The following extract from President Phillips' report of December 31, 1928, is of interest:

13 Ibid., p. 3.

"Early in the company's history appreciation by independent appraisal was set up on the records in the amount of $17,458,261.22. Subsequent appreciation has not been added, with the result that the item has become misleading and has, therefore, been charged off, thus presenting the Balance Sheet on a cash basis."

The financial condition of the Phillips Petroleum Company in regard to working capital has frequently been weak. In four of the ten years - 1922, 1923, 1930, and 1931 - the ratio of current assets to current liabilities was considerably less than 2 to 1. The ten-year average was 3.2 to 1. In only three of the past ten years (1925, 1926, and 1929) have the quick assets equaled, as of December 31, the current liabilities. The ten-year average acid test ratio was 1.1 to 1.

14
The vast program of expansion and integration of the business has necessitated large capital expenditures. Total assets on December 31, 1931, amounted to $201,363,540 as compared with $54,448,119 on the same date in 1922. Hence total assets in 1931 were three and seven tenths times the total assets in 1922.

The sources of this increase in total assets were as follows:

<table>
<thead>
<tr>
<th>Amounts</th>
<th>Per cents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net profits</td>
<td></td>
</tr>
<tr>
<td>(after dividends) left in the business</td>
<td>$30,454,375</td>
</tr>
<tr>
<td>Sale of capital stock and stock exchanged for assets</td>
<td>77,675,333</td>
</tr>
<tr>
<td>Increase in total liabilities</td>
<td>38,785,713</td>
</tr>
<tr>
<td><strong>$146,915,421</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Consequently, 25.5 per cent of the total capital invested in the Phillips Petroleum Company, as an average for the past ten years, has been borrowed capital. The percentages on December 31, 1931, were 72.3 per cent owned capital and 28.7 per cent borrowed capital. This would be quite satisfactory for a company operating in a stable net-income-producing industry, but may make the meeting of
interest charges a difficult problem in the apparently inevitable lean years in the oil industry.

The management has been only fairly conservative in the matter of dividend payments. The total net profit available to common shareholders for the ten years amounts to $72,085,351, of which a total of $41,630,976, or 57.7 per cent was disbursed in cash dividends (including both regular and extra). The amount of total cash dividends paid per share varied from $3.50 in 1923 to $1.87 in 1928. No dividends were declared in 1931. In 1927 and again in 1930 the dividends declared per share exceeded the earnings per share. It must be remembered, that an effort to maintain anything like a constant dividend rate in a concern producing widely fluctuating net profits is likely to necessitate occasional dividend payments out of surplus.

Unlike many other companies, the Phillips Petroleum Company has not greatly increased its shares of stock outstanding by means of stock splits or stock dividends. No stock splits have occurred and but two stock dividends have been declared during the past ten years, - a 50 per cent stock dividend in 1923 and one of 5 per cent in 1930. The total number of shares outstanding has been greatly increased by sale and exchange for assets, however. The shares outstanding in 1922 numbered 696,935, and by 1931 had reached 4,165,129, an increase of 498 per cent. The increase in net assets has been approximately as great,
and consequently the book value per share in 1931 was but seven cents less than that of 1922.

EARNINGS

Gross operating income, as reported by the Phillips Petroleum Company, must represent the equivalent of total net sales, since costs and operating expenses are subsequently deducted therefrom. These figures have shown a marked increase during the period, reaching the high point of $58,851,730 in 1930 and dropping some 7.1 per cent to $54,674,006 in 1931. The year of 1926, with a figure of $57,838,369, was the second high year in the ten-year period, due largely to the abnormally high prices of both crude and refined products obtaining at that time. Line A on Figure 3, Appendix D, reflects both the remarkable increase and violent fluctuations in gross operating income.

Since 1927 the company has co-operated in every way with both government and association agencies in curtailing the production of crude petroleum. Despite this fact, the production of natural gasoline and natural gas has mounted steadily, because of improvements and extensions in facilities enabling the company to increase the percentage yield from a given quantity of crude petroleum production. The expansion of marketing facilities has encouraged the increased output of gasoline, natural gasoline, and natural
gas.

Some idea of both volume of production and selling prices per unit for the past ten years may be gained by reference to Table B, Appendix D. The selling price of crude petroleum at the present time is materially below cost of production throughout the entire industry. When, and if, this situation is corrected, gross operating income should represent a favorable gross return on the amount of capital invested in the Phillips Petroleum Company.

Operating charges have been reported in various says in the income statements of the Phillips Petroleum Company. Very meager information was released until after 1926, as is obvious upon reference to the comparative profit and loss statement, Exhibit B, Appendix D. In 1931 the company's statement showed operating charges as consisting of costs, operating and general expenses (as a single amount), and taxes. Intangible and development costs charged off; depletion and lease amortization; and depreciation, retirements, and other amortization were all listed under capital extinguishments. Since development costs, depreciation, and depletion are all essentially operating expenses, they were so classified for purposes of this study.

Total operating expenses, according to the classification used in this study, averaged 71.88 per cent of net sales for the ten-year period. The low figure was that of
49.3 per cent in 1922, and the high was 104 per cent in 1931. The trend since 1929 has been especially unfavorable.

Net operating profit has averaged 28.12 per cent of net sales for the ten years ending December 31, 1931. The high figure was that of 50.7 per cent in 1922; and the low, that of 1931, represented a net operating loss equal to 5 per cent of net sales.

The unsatisfactory trends of both total operating expenses and net operating profit are probably the result of, first, the heavy expense incident to expansion and consolidation of facilities and, second, the usual difficulty in reducing operating expenses in proportion to rapidly falling selling prices.

Total non-operating expenses, as reflected in Schedule B, Appendix D, have shown a marked and almost continuous increase during the ten-year period. Prior to 1927 only one composite figure for this group of items was released. The item of inventory adjustment has been a significant one in 1930 and 1931. In the former year an inventory loss of over two and a half million dollars was charged off. Taxes have diminished somewhat since 1929. Interest charges on funded debt and other obligations have increased materially since 1927 and amounted to well over three million dollars in 1931. In this connection it is to be recalled that at that time 27.7 per cent of the total capital
investment represented borrowed capital.

Non-operating income has been reported as such for only the past five years. This item represents Phillips Petroleum Company's share of profits from affiliated but not entirely owned companies. The 1931 figure of $2,707,307 is more than six times that of 1927, and there is every reason to believe that it will continue to increase. The pipe line companies in which Phillips Petroleum Company is interested are proving to be particularly profitable investments.

A glance at Lines C and E on Figure 3, Appendix D, discloses two significant facts: that total net profits have fluctuated violently during the past ten years, following rather closely the net operating profits (Line C); and that the spread between the two, representing net non-operating expenses, has widened appreciably since 1927. Total net profits have averaged 17.98 per cent of net sales for the past ten years. A total net loss of $5,576,409, the first in the ten-year period, resulted in 1931.

PREFERENCE CLAIMS AGAINST NET PROFITS

Total net profits of the Phillips Petroleum Company are all available to the common stockholders, since there is no preferred stock of any kind outstanding.
DISPOSITION OF NET PROFIT AVAILABLE TO COMMON STOCKHOLDERS

Regular cash dividends were paid on the stock of the Phillips Petroleum Company without omission from the initial quarterly dividend of fifty cents per share, paid on December 3, 1921, until January, 1931, at which time dividends were discontinued. Rates of cash dividends have ranged from $2.50 per share in 1923 to $1.50 in 1929. Total cash dividends paid to common stockholders in the past ten years amount to $41,630,976, which is 57.7 per cent of the total net profits available to common stockholders for the same period. While such distribution would be fairly conservative for a stable income-producing concern, smaller dividends might have been wiser in this case in view of the rapid expansion of facilities and the violently fluctuating net profits. The percentage of regular common cash dividends per share to net profits available to common stockholders per share is given for each of the ten years in Item 9, Table A, Appendix D. These percentages have ranged from 28.0 per cent in 1922 to 281.7 per cent in 1930. The latter dividend of $2.00 per share seems to have been particularly ill-advised in the light of earnings of seventy-one cents per share, rapidly falling selling prices, over-production in the industry and a worldwide depression. Regular dividends, if declared, are payable quarterly on January 3, April 3, July 3 and October 3.
Profits retained in the business may be held as free surplus, appropriated to specific proprietary reserves, or converted into capital stock through the process of stock dividends. Not until 1927 did the company report capital stock and surplus separately. Since that time total net worth has been reported as consisting of capital stock and earned surplus, with the exception of the year 1927, when the item of surplus arising from appreciation of properties (subsequently written off) was listed. The complete reconciliation of surplus for the ten-year period is impossible because of lack of data. However, it is obvious that total profits left in the business have been largely retained and reflected as earned surplus. A stock dividend of 50 per cent was paid in 1923 and one of 5 per cent in 1930. No proprietary reserves appear on the company's statements. The reserve for insurance and contingencies and also the reserve for contingencies and taxes, which have been shown at various times, are not classified by the company as proprietary reserves, although the contingency portion of the titles would suggest proprietary character. (Such combinations of liability and proprietary reserves in account terminology are unfortunate for the analyst.)

Line G on Figure 3, Appendix D, representing surplus additions, and Line F on the same chart, representing cash dividends paid, tell the story of the disposition of net
profits available to common stockholders for the ten-year period. From 1922 to 1926 cash dividends were on a conservative basis in relation to net profits, and net surplus additions were, on the average, much greater in amounts than cash dividends paid. They year of 1927 proved to be one of seriously reduced net profits; and since cash dividends were maintained at about the same amount, it was necessary to pay a portion of them ($2,223,694) from surplus. Therefore, Line G is broken from 1926 to 1928. Again in 1930 cash dividends exceeded net profits available for dividends by $3,404,770; and in 1931, although dividends were entirely omitted, surplus suffered a reduction of $5,576,409 as a consequence of a total net loss of that amount. Hence Line G again disappears during 1930 and 1931.

Total surplus additions arising from earnings in the ten year period amount to $30,454,375, which sum represents 42.3 per cent of the total net profit available to common stockholders for the period. The balance of earned surplus account in December 31, 1931, amounted to $25,079,334. The remainder of net surplus additions of the period has been transferred to the capital stock account through the declaration of the 50 per cent stock dividend in 1923 and the 5 per cent stock dividend in 1930, previously mentioned.

YIELD

Since the yield on a share of common stock is the per-
centage rate of return represented by the cash dividends on the amount of the investment in the share, both price range and cash dividends must be considered.

The price range of Phillips Petroleum Company common stock, both high and low for the ten-year period, is shown in Appendix D, Table A, Item 5. The highest market price paid for the stock during that time was $69.63 in 1923, and the lowest price was $4 in 1931. The stock has never had either nominal or par value.

It is important to note that in each of the ten years, except 1931, the stock has sold at its high for more than its book value; and that in every year of the ten, opportunity has been offered to buy the stock at less than its book value.

The price times earnings ratios, as shown in Appendix D, Table A, Item 6, are also significant. The highest price times earnings ratio was that of 63.0, occurring in 1930 when the high market price was $44.75 per share and the earnings were seventy-one cents per share. The lowest price times earnings ratio was 4.0, occurring at the low point of 1922 with a market price of $28.75 per share and annual per share earnings of $7.13. The average price times earnings ratio for the stock, based on the highest price for each of the ten years, was 19.6; based on the lowest price for each of the ten years, it was 9.0. At some point of time during every year except 1927, 1928, and
1930, this stock could have been purchased at less than ten times earnings. On the other hand, in only four of the nine years which produced earnings did the stock fail to sell at some point of time for well over ten times earnings.

The cash dividends considered for yield determination purposes are usually regular cash dividends only, for extras are, as a rule, wholly unpredictable as to declaration and amount. The regular cash dividends on Phillips Petroleum Company common stock for the ten-year period have already been discussed and are shown in detail in Appendix D, Table A, Item 8.

Appendix D, Table A, Item 10 reflects the yield figures at both the highest and lowest prices for each year. The highest yield for the ten-year period was that of 17.4 per cent at the low price of $11.50 in 1930, when the cash dividend was $2.00 per share. During this year, it is to be recalled, approximately 53 per cent of the dividend was paid out of surplus rather than current earnings. The lowest yield was that of 3.2 per cent at the 1929 high of $47.75, when the regular cash dividend was $1.50. The annual high prices for the ten years have never produced a yield in excess of 5.2 per cent, while the annual lows have, in only three years (1923, 1927, and 1931), produced a yield of 8 per cent or better. During 1931, the low price was already discounting the inevitable discontinuance
of dividends.

Another aspect of the yield situation involves stock dividends and stock splits. Cash dividends are, of course, paid on all shares regardless of their origin. This is not an important consideration in the case of Phillips Petroleum Company, however, since but two stock dividends were declared (50 per cent in 1923 and 5 per cent in 1930), and there were no stock splits during the period. The holder of one share of Phillips Petroleum Company common stock in 1922 would possess, theoretically, one and fifty-seven hundredths shares in 1931.

MARKETABILITY

The common stock of the Phillips Petroleum Company is listed on the New York Stock Exchange. It is a relatively active stock, sufficiently so, at least, to insure daily price quotations.

SUMMARY AND CONCLUSIONS AS TO THE INVESTMENT VALUE OF PHILLIPS PETROLEUM COMPANY COMMON STOCK

The Phillips Petroleum Company is a completely integrated concern and occupies an important place in the field of independent oil companies. It is but fourteen years old (1932), but has made remarkable progress during that period
of time.

The products of the company are of high quality and constitute a full line. Extensive advertising and wide and constantly expanding marketing facilities have made the Phillips products well known throughout the central portion of the United States.

The management personnel is experienced, aggressive, and far-sighted. Plants and properties have been almost quadrupled during the past ten years and, at the same time, consolidated and improved. Investments in subsidiary and affiliated companies have materially strengthened the position of the company in its marketing operations.

The sources of funds for expansion have been: sale of additional capital stock and stock exchanged for assets, 52.9 per cent; net profits left in the business, 20.7 per cent; and increase in total liabilities, 26.4 per cent. The rapid increase in liabilities has resulted in rather heavy interest charges and has frequently made it difficult for the company to maintain a strong working capital position. Current assets amounted to but one and three-tenths times current liabilities on December 31, 1931. Quick assets failed by 45 per cent to equal current liabilities on the same date. Financial affiliations, as evidenced by the presence of such men as Eugene E. Du Pont, of E. I. Du. Pont de Nemours & Company; and E. E. Loomis, President of the Lehigh Valley Railroad Company, on the board of
directors, add materially to the potential financial strength of the company.

Despite the severe competition in the industry and the drastic reductions in selling prices since 1926, the net sales of the company have increased rapidly and still stand at about 1929 levels. The company is fortunate to be operating in one of the very few basic industries in which domestic consumption of its products has remained at or near peak figures.

Unfortunately operating costs and expenses have increased more rapidly than have net sales, especially since 1926, and actually exceeded by two and a half million dollars the net sales of 1931. It is expected by the company that economies soon to be realized from integration, consolidation and improvement of plants will materially change this condition.

Non-operating expenses constitute a heavy charge against net operating profit and still greatly exceed non-operating income, which has increased rapidly during the past five years.

Total net profits have fluctuated violently. A major increase from 1923 to 1926 culminated in the latter year with total net profits over four times those of 1922 and 1923. In 1927, however, total net profits receded to 1922 levels. A less pronounced increase in 1929 was followed by a recession that brought 1930 total net profits below
1922 levels, and 1931 resulted in a net loss of over five and a half million dollars. The ten-year average of total net profits to total net worth at the beginning of each year was 11.35 per cent, the average of the first five years being 17.7 per cent, and that of the last five years but 5.0 per cent.

15 Appendix D, Table A, Item 12.

Total net profits of the Phillips Petroleum Company are all available to the common stockholders, since there is no preferred stock of any kind outstanding.

Cash dividends were paid quarterly without exception from December 31, 1921, to January 1, 1931, when they were discontinued. About 57 per cent of total net profits for the past ten years have been disbursed in the form of cash dividends. In 1927, and again in 1930, cash dividend payments exceeded current earnings.

Net profits retained in the business have, for the most part, been held as free surplus. There have been two stock dividends declared (50 per cent in 1923 and 5 per cent in 1930), and no stock splits. Surplus, as of December 31, 1931, amounted to approximately twenty-five million dollars, as against capital stock (4,165,129 no-par shares) of one hundred and twenty million dollars.

The market price of the stock has fluctuated widely, averaging, at the annual lows, nine times earnings. Yield
for the nine years producing earnings has averaged but 8.6 per cent, while in 1931 dividends were discontinued entirely. All things considered, it would seem that the stock has been considerably over-priced during most of the ten-year period.

One of the principal problems of forecast in determining the future value of the common stock of the Phillips Petroleum Company is the likelihood of curtailment in world production of crude petroleum. This would result in stabilization of prices at undoubtedly higher levels than those existing at the present time. Considerable progress toward this end has recently been made in this country, but the foreign situation is not yet satisfactory. While little light has been thrown on the progress which the Paris conference is making, various newspaper reports have indicated (July 8, 1932) a virtual deadlock.

Another difficult problem of forecast concerns the ability of the management of the company to control and reduce costs and operating expenses. The year of 1931 was, of course, a particularly difficult one, resulting in total costs and operating expenses exceeding net sales by two and a half million dollars. However, wholesale prices of crude oil and gasoline during 1931 were almost 50 per cent lower than in the preceding year, reaching a new low for all time.

16 Phillips Petroleum Company, op. cit., p. 2
A third problem of forecast concerns the possibility of future financial difficulties of the company. Should its working capital position become much further weakened, it might be forced to accept unsatisfactory merger terms in order to avoid insolvency. This is a relatively remote possibility.

The approximate market price of this stock in July, 1932, was $3.50 per share. Earnings of but thirty-five cents per share would be necessary to justify this price on a ten times earnings basis. Since the company earned more than twice that amount per share in 1930 (its poorest year, except 1931, of the past ten), it would seem to be entirely possible for such earnings to be again produced in the future.

Just now the oil industry is being hailed as definitely on the way to better times. Many financial writers believe that it may be the first major industry to turn the corner. "The improvement is found in the more stable conditions, a better balance between production and consumption than existed a year ago, and a rise in prices to a level where oil companies begin to see a profit. With crude oil at one dollar a barrel in east Texas and gasoline at five cents per gallon at the refineries in that territory, the efficient, integrated companies are able to realize a profit after allowing for depreciation charges."

<table>
<thead>
<tr>
<th>Notes Receivable</th>
<th>$5,069,056</th>
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<tbody>
<tr>
<td>Accounts Receivable</td>
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<tr>
<td>Marketable Securities</td>
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<td>Warehouse Material</td>
<td>$5,089,670</td>
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<tr>
<td>Call Loans</td>
<td>-----------</td>
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<tr>
<td>Deferred Charges</td>
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<tr>
<td>Due on Stock Purchase Warrant</td>
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<td>Plants and Property</td>
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<td>Prepaid Expense</td>
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<td>Advances to Other Companies</td>
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<tr>
<td>Notes and Acceptances Payable</td>
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<td>Dividends Payable</td>
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<td>Accruals Including Federal Income Taxes</td>
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<td>Accounts Payable</td>
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<td>Advances From Other Companies</td>
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<td>Earned Surplus</td>
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<tr>
<td>Reserve For Contingencies and Taxes</td>
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<tr>
<td>Paid-In Capital</td>
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<tr>
<td>Surplus Arising from Appreciation of Properties</td>
<td>$4,579,425</td>
</tr>
</tbody>
</table>

**Total Cash and Call Loans**

- $5,274,249
- $11,215,359
- $15,865,849
- $4,169,462
- $1,422,454

**Total Receivables**

- $5,069,056
- $6,585,377
- $4,134,448
- $5,984,720
- $2,431,830
- $5,809,741
- $4,309,571
- $1,803,669
- $2,242,624
- $2,823,962

**Total Quick Assets**

- $10,364,668
- $17,437,978

**Total Inventories**

- $14,294,542
- $17,184,136
- $14,152,241
- $11,701,915
- $11,110,840
- $8,737,656
- $10,291,275
- $12,109,091
- $8,891,723
- $3,391,282

**Total Current Assets**

- $24,678,757
- $34,639,826
- $25,557,510
- $30,173,698

**Total Fixed and Other Assets**

- $176,684,783
- $179,783,356
- $119,827,445
- $99,082,647
- $113,683,308
- $102,088,566
- $105,367,160
- $91,177,860
- $65,344,425
- $54,448,119

**Total Liabilities and Net Worth**

- $201,363,540
- $214,423,162
- $145,384,955
- $129,256,345
- $143,490,100
- $121,059,939
- $96,341,318
- $78,717,143
- $65,344,425
- $54,448,119

**Liabilities**

- $129,086,966
- $181,588,000

**Total Liabilities and Net Worth**

- $201,363,540
- $214,423,162
- $145,384,955
- $129,256,345
- $143,490,100
- $121,059,939
- $96,341,318
- $78,717,143
- $65,344,425
- $54,448,119

**Working Capital**

- $72,276,781
- $52,835,162
- $66,000,562
- $72,920,353
- $50,345,632
- $30,000,000
- $17,056,152
- $19,634,196
- $18,000,000
- $18,900,000

**Current Liabilities**

- $10,100,000
- $10,900,000
- $18,000,000
- $18,900,000
- $18,900,000
- $18,900,000
- $18,900,000
- $18,900,000
- $18,900,000
- $18,900,000

**Net Worth**

- $94,356,508
- $102,403,162
- $116,800,003
- $111,356,345
- $110,490,100
- $92,059,939
- $78,451,318
- $60,433,143
- $47,344,425
- $35,448,119

**Total Liabilities and Net Worth**

- $201,363,540
- $214,423,162
- $145,384,955
- $129,256,345
- $143,490,100
- $121,059,939
- $96,341,318
- $78,717,143
- $65,344,425
- $54,448,119

**Balance Sheet Analysis (Exhibit A)**

- Phillips Petroleum Company
- 1922-1931
<table>
<thead>
<tr>
<th>Year</th>
<th>Operating Profit</th>
<th>Profit before Taxes</th>
<th>Depreciation, Amortization, and Furnished Debt Expenses</th>
<th>Earnings after Taxes</th>
<th>Dividends Declared</th>
<th>Earnings per Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1928</td>
<td>21,507,307</td>
<td>21,507,307</td>
<td>12,000,000</td>
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<td>Par Value - Common Stock</td>
<td>Price Range - Common Stock</td>
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* Average 19.6
** Average 9.0

1 Per Cost of regular Common Cash Dividend per share is based on available to Common Stockholders per Share.
2 Total, less to employees, if paid off: Base. 5. Stock Dividends (Per Cent) - 1. 15 per cent (Per Cent) - 3. 10 per cent (Per Cent) - 5. 7.5 per cent (Per Cent) - 7. Aggregate Shares from Ownership of one share in 1922 - 1,575.
8 Total Dividends (Per Cent) for each year to the Total Net Worth at the beginning of each year.
9 Ten Year Average of above 11.2 (Per Cent) (Average of first five years - 17.7 per cent) (Average of last five years - 5.0 per cent)
10 For east Coast Dividends a date of declaration not available.
11 For east Coast Dividends a date of declaration not available.
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<td>**Export Price (per gallon)</td>
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<td>0.059</td>
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*Moody's Industrials - 1932 p.xxvi
**Moody's Industrials - 1932 p.xxxii
***larger than 1929
*Compiled from Company's Annual Reports.
ANALYSIS OF ASSETS (IN MILLIONS OF DOLLARS)
1922-1931

a - Cash and Call Loans
b - Receivables
c - Quick Assets
d - Inventories
e - Current Assets
f - Fixed and Other Assets
PHILLIPS PETROLEUM COMPANY
ANALYSIS OF LIABILITIES AND NET WORTH (IN MILLIONS OF DOLLARS)
1922-1931

A - Current Liabilities
B - Long Term Liabilities
C - Total Liabilities
D - Net Worth
E - Total Liabilities and Net Worth
(Equal to Total Assets)

Figure 2
PHILLIPS PETROLEUM COMPANY
EARNINGS AND DISTRIBUTION TRENDS (IN MILLIONS OF DOLLARS)
1922-1931

A - Net Sales (Gross Operating Income)
B - Operating Costs and Expenses
C - Net Operating Profit
D - Net Profit Available To Common Stockholders
E - Cash Dividends On Common Stock
F - Net Surplus Additions

1922 1923 1924 1925 1926 1927 1928 1929 1930 1931

Figure 3
APPENDIX E

A STUDY OF THE COMMON STOCK OF

THE STUDEBAKER CORPORATION

FOR THE TEN-YEAR PERIOD

1922 - 1931.
THE COMPANY AND ITS PRODUCTS

The Studebaker business was established in South Bend, Indiana, in 1852 by H. and C. Studebaker, who operated as a firm until 1868. It was succeeded by Studebaker Bros. Manufacturing Company which was incorporated in Indiana on March 26th of that year. This company and Everett, Metzger, Flanders Company, which was incorporated in Michigan, August 4, 1908, were merged into The Studebaker Corporation, incorporated in New Jersey, February 14, 1911.


The principal active subsidiaries of the corporation are as follows:

The Pierce-Arrow Motor Car Company (not wholly owned)
Pierce-Arrow Sales Corporation (not wholly owned)
The Studebaker Sales Corporation of America
The Studebaker Corporation of Canada, Ltd.
The Pierce-Arrow Company of Canada, Ltd.
Rockne Motors Corporation
The Studebaker Pierce-Arrow Export Corporation
S. P. A. R. Sales Corporation
S. P. A. Truck Corporation
The character of the products of The Studebaker Corporation are today automobiles consisting mainly of trucks and pleasure cars. These represent a long evolutionary development from the days of prairie schooners and later horse-drawn wagons and carriages, all sturdily made by the original Studebaker men themselves. In diversification these products fall into prices ranging from less than $600 to over $7,000, and include trucks, buses, and passenger cars, - vehicles bearing the Rockne, Studebaker, and Pierce-Arrow trade names.

The plants and properties are located at South Bend, Indiana; Buffalo, New York; Walkerville, Ontario; and Detroit, Michigan. Studebaker properties are not integrated but consist of manufacturing, assembling, and sales units. The management believes that such raw materials as lumber, glass, iron, and steel can be furnished to them by highly competitive industries further down in the scale of production at lower costs than they would be able to produce them for themselves. The main plant is at South Bend, Indiana, where extensive testing grounds are provided. Buffalo is the home of Pierce-Arrow. Walkerville has been
Principally an assembling center for the British Empire markets. The Detroit properties were used for manufacturing parts, and later became the headquarters for the production of the new Rockne addition to the line of products.

Two hundred and fifty thousand vehicles represented the capacity of the corporation at the end of 1931. Its ranking in the automobile industry, as regards units produced and sold, gives it a high position. According to Mr. C. P. Wondries, vice-president in charge of sales for the S. P. A. Truck Corporation, "Studebaker trucks have climbed from eighteenth to sixth place in registrations in five months" in the fore part of 1931. 4 Automobile registration reports for August, 1930 from forty states and the District of Columbia show that Studebaker gained fifth place in the total of all makes of cars, and ranked fourth in Illinois, Wisconsin, Indiana, California, Oregon, and the District of Columbia for the same month. 5 The average number of employees for 1931 was 10,269.

Competition in the industry is especially active, and has been growing more so since the advent of the universal business depression. There are the Ford Motor Company,
General Motors, Inc., and the Chrysler Motor Company in the low price field with the Ford, the Chevrolet, the Pontiac, and the Plymouth cars respectively. The latter two companies are in the middle-class field with the Buick, the Oldsmobile, the Dodge, and the Chrysler. All three companies are in the higher-priced field with the Lincoln, the Cadillac, the La Salle, and the Chrysler Imperial. The Packard is still formidable competition in the higher class. It is with these lines in the various classes of passenger cars that the Rockne, the Studebaker, and the Pierce-Arrow products of The Studebaker Corporation must compete. Similar conditions prevail in the truck market. The trade mark of Studebaker, standing for the name of the oldest vehicle-makers in America, if not in the world, has proved to be a valuable asset to the corporation in a sea of competition. From the date of incorporation, and when included with goodwill and patents, it has been valued at close to twenty million dollars on the books. This figure constituted 15 per cent of the total assets in 1931 and has never been written down since the inception of the present organization, though the board of directors in that year was concerned with reducing it to a nominal carrying value of one dollar. Free wheeling patents belonging to The Studebaker Corporation have startled the automobile world into a usage of the principle as they developed it, with modifications in many cases, in an
attempt to accomplish the same results. The Free Wheeling Patent Corporation was organized in December, 1930 to take over the free wheeling patents and patent applications belonging to The Studebaker Corporation and Borg-Warner. The patents furnished broad coverage of free wheeling under positive gear control. The Studebaker Corporation holds the majority of the stock of the new organization and Borg-Warner will have exclusive license as parts manufacturers to manufacture free wheeling transmissions.

6 Moody's Investor Service, Industrial Section, 1932, p. 2371.

THE MANAGEMENT

The general management of The Studebaker Corporation falls to a board of directors composed of fourteen men residing in the company's chief and varying zones of interest. The chairman of this board is Mr. Frederick S. Fish, the man who negotiated the formation of the present company and whose vision saw the possibilities of commercializing the production of horseless vehicles. In more detail, management falls to an executive committee of nine men, of which Mr. Frederick S. Fish is also a member. Executory duties are delegated to ten officers and the personnel on December 31, 1931, was as follows:

Frederick S. Fish                      Chairman of Board
A. R. Erskine                        President
Mr. Albert Russel Erskine, present president of The Studebaker Corporation began as an office boy in a railroad office. Later he was a paper house bookkeeper; a wholesale drug house bookkeeper; a cotton company chief clerk and later its general auditor; the treasurer and a director of Yale and Towne Manufacturing Company (while here he earned a certified public accountant's certificate in the State of Connecticut); a vice-president and a director of the Underwood Typewriter Company; the treasurer and an executive committee member of The Studebaker Corporation in 1911; Studebaker's vice-president in 1913 and its president in 1915. In 1921 Mr. Erskine was largely responsible for his company's increased business of 29 per cent, when the industry as a whole was retarded 45 per cent. He is credited with organizing co-operative systems for the employees; with co-operative relations with the government during the World War; and with co-operation in many civic ventures. He has been a member of the board of directors of the Federal Reserve Bank of Chicago, and is a
member of the board of lay trustees of Notre Dame University. South Bend, Indiana accords him the honor of being its first citizen.


The management of the company, as judged by the product, has been good. They have always produced quality, and since the period of the Everett, Metzger, Flanders car have constantly improved this automobile in the various and succeeding models under the trade name of Studebaker. Their acquisition of control of the Pierce-Arrow in 1928 gave them a product which has always had a reputation for quality, while their newest product, the Rockne, has not been on the market long enough for conclusive judgments to be made. Appendix E, Exhibit B indicates that the management has not been successful in keeping their total operating costs and expenses from creeping up on their income or net sales. The average percentage of total operating costs and expenses to net sales for the ten year period under observation has been about 91 per cent. The trend indicates a constant increase in this percentage, except for slight recessions in 1925 and 1929, (Appendix E, Exhibit B, Figure 3, Lines A and B) from about 85 per cent in 1922 to close to 99 per cent in 1931.

Capacity figures for the plants of the corporation are not readily available for the period from 1922 to 1931; and any attempt to determine to what extent the plant capacity
was utilized can only be roughly estimated by making comparisons between the percentage increases (or decreases) in income by years based on the year 1922, and percentage increases in the account with land, buildings, and equipment by years based on 1922. Such an analysis might be checked by a comparison with a series of percentage increases by years of total assets based on 1922. The average of these percentage increases (or decreases) in income was 1.34 per cent, whereas that for real estate, buildings, and equipment was 31.0 per cent; and that for total assets was 12.25. These percentages would seem to indicate that increased plant facilities have outstripped the increases in income. In only one year (1923) did the percentage income increase exceed the percentage income of real estate, buildings, and equipment. In 1928 these percentages were about equal. The percentage income increases exceeded the percentage total assets increases in only three years, namely 1923, 1925, and 1928.

Profits were earned every year up to and including the last year under observation (1931), and in sufficient amounts to care for all preference claims against those profits (Appendix E, Exhibit B). The average net operating profits percentage of net sales was 9 per cent for the ten years. In 1931 net operating profits were only 1.1 per cent of net sales.

Research for The Studebaker Corporation is conducted
by the Methods and Standards Department co-operating with the Engineering, and Manufacturing Departments. Models are built, new inventions are studied, competitive cars are analysed, manufacturing methods of other plants are studied, and among many other activities, alloys, iron, steel, glass, leather, tires, paints, varnishes, soaps, fuel, oils, coal, and lubricating oils are tested. Over 550,000 tests were made in 1923 by the production laboratories and the Engineering Department.

The management has always had the interest of labor in mind and has looked upon capital, management, and labor as mutual partners in business. The policy has long been to compensate members first with salaries and wages that are as high, often higher, than market rates, and then to reward labor in addition for continuous service, and to have profit sharing for management. In 1914 a profit-sharing plan was adopted by the board for management, and since 1920 this profit sharing plan has thrust upon this same management the task of providing 7 per cent on preferred stock, 3 per cent for amortization of preferred stock, 7 per cent on common stock, including $30,000 stock dividends, before the net profits remaining were in part divided among them. This division of the remainder is to go on a scale ranging from 5 per cent on the first million dollars to 10 per cent on all over five million dollars in
excess of the first distributions enumerated above. A fund so made up is then to be divided into seven or eight parts for correspondence with the same number of divisions into which the management is divided. Group number one will consist of a few of the major executives and hence the portions of their particular division of the fund will be largest and those in the last group will consist of a greater number of lesser officials and their proportionate shares in their division of the fund will be smallest. In all except the two lowest groups, the group fund is to be divided 50 per cent in cash and 50 per cent in common stock on a per capita basis. The stock is to be delivered 25 per cent at the end of one year, 25 per cent at the end of two years, and 50 per cent at the end of three years. The distribution of the two lowest group funds is to be all in cash.

The practice of paying dividends on wages was adopted in 1917, modified in 1919, and discontinued in 1930. It provided for anniversary checks to employees based on their previous years' wages. They were to receive 5 per cent of those wages at the end of the first, second, third, and fourth years of employment and 10 per cent at the end of the fifth and each succeeding year of employment. Five thousand two hundred and nine employees received anniversary checks in the year the plan was discontinued.

Employees may subscribe annually for either preferred
or common stock up to 20 per cent of their annual wages (maximum $300) after three months service by paying 10 per cent down and 90 per cent in monthly installments of 3 per cent of the purchase price. All cash and stock dividends paid are credited to employees, and 6 per cent interest is charged against unpaid balances. Employees who keep up their payments receive continuous service credits of 50 per cent of the cash dividends in addition to the regular rates of dividends received by stock-holders, and stock certificates are delivered to them at the expiration of thirty months from the date of purchase. At the end of 9


1928, 1,698 employees were purchasing stock on the installment plan. This number represented 8.5 per cent of the company's employees.


After employees complete two years of service they are entitled to one week's vacation with pay. Employees whose annual earnings for the preceding five years have not averaged more than $3,000 a year, who have been continuously in the service of the corporation for twenty years or more, and who have reached the age of sixty years, may voluntarily retire or be retired on a pension, the amount of which is 25 per cent of their annual earnings for the preceding
five years, with a minimum of $30 a month. In the event of the death of a pensioner leaving a dependent wife or minor child, $500 is paid by the corporation to such dependents. One hundred and twenty-one old employees were drawing pensions at the end of 1931. A group insurance plan was adopted January 30, 1926 which is carried by the employees largely at their own expense. Eighty-seven and one half per cent of the employees were carrying this group insurance in 1931.

The Studebaker Corporation has always paid wages equal to and greater than similar industries similarly located. Up to 1932 the corporation has not reduced its wage scale although it has had to resort to reduction of the number of hours of labor.

Net plant and properties at the end of the seven-year period following 1922 were listed (1928) on the companies balance sheet at over sixty-three and one half million dollars. Additions and betterments for this period amounted to about forty-nine million dollars and the net value of properties sold or demolished during the period amounted to over nine and one half million dollars. This indicates that the plant and properties account includes charges resulting from additions and betterments in this period which
amounts to about 80 per cent of its present net carrying figure; and that sales and demolishments of useless and obsolete property are taking place at a rate approximating 20 per cent of additions and betterments. Plant and properties have been depreciated by charges to operations during this period averaging close to 3 per cent annually, and the total amount of depreciation taken in these seven years has been about eleven million dollars. Repairs and renewals charged to operations have amounted to about thirty-seven and one half million dollars, and the average amount of repairs and renewals that has been charged to operations during the seven-year period, when this information was most readily available, was about 10 per cent of the net carrying value of the plant and properties. In

13 The Studebaker Corporation, Annual Reports, 1928-1931.

1930 profit charges for depreciation for each car manufactured amounted to about $39 a car. At the end of 1931 the board of directors had decided to reduce the capital stock and increase the surplus account so that additional write-downs could be accomplished. Their prime purpose was to make a sufficient amount of surplus available to absorb the unchanged trade name, goodwill and patents account which had

remained on the books since 1911 at close to twenty million dollars, and to use additional amounts to write-down other properties and thus reduce subsequent depreciation charges.  


Inventories have been taken at market or cost prices, whichever was the lower. Appendix E, Exhibit A, indicates that the inventories have averaged, since 1922 and including 1931, about 25 per cent of the total assets. In 1931 they were slightly greater than this average and in 1927 they were as high as 37.2 per cent of the total assets. In absolute amounts the inventories of 1930 and 1931 were less than those of 1922.

The management of The Studebaker Corporation has, all in all, pursued a conservative policy regarding the valuation of the assets. They have made appreciable additions and betterments, have disposed of much unusable property, have provided adequate depreciation charges against operations, and are (1931) making a conservative move to dispose of large, intangible carrying values.

Working capital ratios (Appendix E, Exhibit A) have been fairly well maintained throughout the ten-year period. They have averaged 3.4 to 1, which means that on the average there was a value of $3.40 in current assets for every $1.00 in current liabilities. The highest ratio, which was 4.6 to 1, existed in 1926, and the year 1931 had the
lowest ratio for the period which was 2.2 to 1. The acid test ratios on the same exhibit indicate that the company has always been in a position to meet its current liabilities with cash or assets readily convertible into cash, except in the year 1929 when the ratio stood at .96 to 1. The average for the period has been about 1.4 to 1, meaning that the company possessed on the average throughout the period about $1.40 in cash or assets readily convertible into cash to pay $1.00 in current liabilities. In 1926, at the peak for this acid test series, the ratio was 2.4 to 1, and in 1931, the last year under observation, the ratio was 1 to 1.

In expanding its facilities The Studebaker Corporation has never found it necessary to incur any fixed or long-term indebtedness since 1922, the first year included in this study. Capital in the main has come from surplus additions (Appendix E, Exhibit B, Figure 3, Line G) up to 1930, and by the issue of some additional common stock for Class A no-par common stock of the Pierce-Arrow Motor Car Company in 1929. The annual report of the company for that year states: "During the year we acquired 129,014 shares of Pierce-Arrow Class A stock by purchasing 103,700 shares in the open market at a cost of $3,335,575.15, and by exchanging Studebaker common, under the offer of June 19th, for 25,314 shares. This ownership of Class A stock, plus our
Class B stock purchased in 1928 for two million dollars, gives us an interest of 89.62 per cent in the Pierce-Arrow net profits, after providing for dividends on the 6 per cent preferred stock, and therefore Pierce-Arrow is considered a subsidiary company."

Dividends have always been paid on The Studebaker Corporation's common and preferred stock. In 1931, in order to maintain dividends on the common stock, it was necessary to rely on past accumulated earnings. Regular dividends were declared and paid on the common shares as follows: 1922, $8.50; 1923, $10.00; 1924, $4.00; 1925, $4.25; 1926, $5.00; 1927, $5.00; 1928, $5.00; 1929, $5.00; 1930, $3.75; and in 1931, $1.20. Extra dividends were paid in 1922 and in 1925, and were respectively $1.50, and $1.00 (Appendix E, Table A, Item 9).

EARNINGS

Gross income from sales, though fluctuating from year to year, had an upward trend until 1929. From the beginning of 1929 until the end of 1931 this trend was so definitely and extremely downward that any statement concerning the gross income from sales for the whole period from 1922 to 1931 would have to indicate that the general trend was downward (Appendix E, Exhibit B, Figure 3, Line A). The
peak gross income at the end of 1928 (which included close to twenty millions of Pierce-Arrow sales) was slightly over one hundred and seventy-seven million dollars, while the smallest amount of gross income from sales (1931) for the period was less than sixty-five million dollars. This figure was 25.2 per cent less than the corresponding figure for the previous year. At the same time the number of vehicles sold decreased from roughly sixty-seven thousand to fifty-eight thousand, which is a decrease of 13.5 per cent. The 13.5 per cent decrease in physical volume compared to the 25.2 per cent decrease in dollar volume indicates the effect of a lowering market price for cars.  

16 Ibid., p. 5.

The automobile industry as a whole suffered a decline of 30 per cent in physical volume during this same year.

Total operating costs and expenses have tended to overtake net sales throughout the whole period and the Lines A and B, Appendix E, Exhibit B, Figure 3, are approaching convergence at the end of 1931, which lines show the relationships of these magnitudes. As a consequence of these relationships being as they are, the net operating profit as shown by Line C in the same figure has been definitely downward in trend throughout the whole period, has fallen very abruptly in 1930, and more moderately in 1931, until the total net income was less than three quarters of a million dollars - a small amount when compared with twenty
million dollars for 1923 and eighteen and a half million dollars for 1925. Non-operating income has declined over the period, and the same is true of non-operating expenses, except that the latter declined to a point in 1930 where they were exceeded by the former. Non-operating income is shown in Appendix E, Exhibit B as a net figure expressing the excess of interest received over interest paid and will be more fully explained later, in connection with the acquisition of the Pierce-Arrow Motor Car Company. Canadian and United States taxes are included in non-operating expenses and declined materially with the decline in sales and income. The company's annual report for 1931 states, in substance, that over forty-one thousand dollars had been paid in pensions that year (an amount which would have absorbed about one half of the net non-operating income that year) but their general statements do not show how that item is classified. Total net profits available to all stockholders have declined in unison with net operating profits. Lines D and C, Appendix E, Exhibit B, Figure 3, show these relationships with particular respect to the influence of the non-operating factors. Reference to Appendix E, Exhibit B, Figure 3, Lines E and D discloses the position of preferred and common stockholders with regard to total net profit. Claims of preferred stockholders to the total net profits have averaged for the ten-year period about 14.4 per cent, which left about 85.6 per cent for the
common stockholders. The claims of the former group have tended to become larger on a percentage basis due to the declining total net profits. In 1930 they took over 65 percent of the total net profit, and in 1931 over 50 percent of it. In following the Lines E and D above referred to, it will be noted that in 1928 the total net profit (Line D) is exceeded by net profit available to common stockholders (Line E). This seeming inconsistency is to be explained as being the result of an accounting adjustment made necessary in consolidating the profit and loss statements of The Studebaker Corporation and the Pierce-Arrow Motor Car Company. Since the latter company sustained a loss that year which in part fell on the minority stockholders of that company, the total net profit figure for 1928 (Appendix E, Exhibit B) was deflated by over one and a quarter million dollars which figure was added on again in the preferred claims deduction section and thus made the net profit available to common stockholders larger than the total net profit. If the Studebaker preferred dividends that year had been larger than the amount of this minority stockholder loss the lines would not have crossed on the graph.

The Studebaker Corporation, in its certificate of incorporation, gives the preferred stock several specific preferences and privileges which should be mentioned at this time. It is to be preferred as to assets and divi-
dends; in voluntary liquidation it is entitled to $125
and dividends; in an involuntary liquidation it has a
right to par and dividends; it is callable at $125 a share;
it may have sole voting power for directors when two quar-
terly dividends are missed. Otherwise, it has one vote —
while it is necessary for the common stockholders to hold
at least three shares to cast one vote and if they hold over
three shares they may cast one vote for every two and one
half shares held. The company cannot mortgage its property
or increase the amount of preferred stock except by a voted
consent of 75 per cent of each class of stock taken sepa-
rately. Before any dividends are declared on the common
stock, 3 per cent of the greatest amount of preferred stock
at any time outstanding must be set aside annually in a
special surplus. This surplus is to be used annually in
reducing the amount of preferred stock outstanding. At
least one million dollars must be set aside in special sur-
plus each year before any dividends can be declared on the
common stock, and not more than 6 per cent can be declared
on the common stock in any one year until two and one half
million dollars are set aside in cash or its equivalent,
including preferred stock acquired. Fifteen million dol-
lars (par $100) of this stock was authorized and thirteen
and a half million dollars of it was issued at the time of
organization in 1911. Up to December 31, 1931, $7,200,000
had been retired under the charter provision, and
$6,300,000 remained outstanding.

Appendix E, Exhibit A, includes some items under the general caption of liabilities which are sub-classified under minority interests. Since the balance sheets of 1928 and thereafter include these items, and since they may indicate preference claims, more detailed explanation seems in place.

The Studebaker Corporation secured an interest in the Pierce-Arrow group, first on August 2, 1928, by purchasing all of the 175 shares of no-par stock of the P. A. S. Motor Corporation for two million dollars cash. Subsequently, on August 22, 1928, the Pierce-Arrow Motor Car Company was organized as a consolidation of the P. A. S. Motor Corporation and the Pierce-Arrow Motor Car Company (incorporated December 2, 1916). In the process of this consolidation The Studebaker Corporation acquired all of the 230,125 no-par, Class B, voting, common stock, by surrendering to the newly formed Pierce-Arrow Motor Car Company the no-par shares which it had just previously purchased from the P. A. S. Motor Corporation. Thus, it was by two transactions, twenty days apart, that The Studebaker Corporation secured voting control over a labyrinth of companies which finally (and again) were to be known as the Pierce-Arrow Motor Car Company.

Consequently, the items appearing in the minority interests section of these balance sheets are the result of
consolidating the properties, liabilities, and proprietary equities (in this connection the liabilities and proprietary equities) of the Pierce-Arrow Motor Car Company with those of the controlling company. Such exhibiting of Pierce-Arrow debentures, Pierce-Arrow purchase money obligations, Pierce-Arrow preferred stock, and Pierce-Arrow, Class A, minority interest, is intended to indicate that The Studebaker Corporation has not incurred any liability on their account. The category is also intended to represent the rights of the creditors and owners (other than The Studebaker Corporation itself) of the Pierce-Arrow Motor Car Company in their properties which have been combined, for statement purposes, with those of The Studebaker Corporation.

In reference to Appendix E, Exhibit B, under the sub-caption, "Other Expense", the item debenture premium and expense - Pierce-Arrow, and under the sub-caption, "Preferred Claims", the items Pierce-Arrow preferred dividends and minority interest in subsidiary company profit, are included to adjust for these particular expenses and distributions incurred by the Pierce-Arrow Motor Car Company. The proper profit figures as they apply the The Studebaker Corporation stockholders are thus shown.

The Studebaker Corporation has averaged about 10.9 per cent return for the ten-year period prior to 1932 on the net worth taken at the beginnings of those years (Appendix E, Table A, Item13). In 1922 this return was over 20 per
cent and in 1931 it was .75 per cent, which percentages are also limits of the range. On the whole, and from the point of view of the common stockholder, it might be said to have been a profitable business; yet the trend of the returns for the past ten years, if continued very long, would materially reduce that average return below 10.9 per cent. Should this be the case these common stockholders would find themselves not receiving any remuneration for the hazards they are undertaking as entrepreneurs. It would seem that the hazards of the automobile industry coupled with reasonable interest for capital invested should warrant a return greater than 10 or 11 per cent (on the average) to the individuals who assume those hazards and invest their capital. The future earnings that may be expected are as problematical as is the business depression itself. When the circle of maladjustment rights itself, the automobile industry should be quick to react. The Studebaker Corporation, with a good organization, good facilities, and a good reputation, should be one of the first to get back into the profit earnings sphere. They successfully accomplished this in the post-war depression.

PREFERENCE CLAIMS AGAINST NET PROFITS

The Studebaker Corporation preferred stock outstanding averaged close to eight million dollars for the ten-year
period. At no time in the period did the amount of preferred stock outstanding at the end of any year amount to as much as 7 per cent of the total net worth. The average total net profit absorbed by preferred stock dividends was 40.5 per cent. In 1930 preferred stock dividends required one-third of the total net profit and in 1931 over one half of it.

DISPOSITION OF NET PROFIT AVAILABLE TO COMMON STOCKHOLDERS

Appendix E, Table A, Item 9, indicates that the regular common stock dividends, which have been paid in every year of the ten, have had a downward trend. In 1923 they were $10 a share and in 1931 they were $1.20 a share. The average regular cash dividend for the period was $5.17 a share. Extra dividends were paid in 1925 and in 1922 of $1.00 and $1.50 respectively. The average portion of the total net profits available to common stockholders paid out in cash dividends (regular and extra) during the period has been close to 70 per cent (Appendix E, Exhibit B, Figure 3, Line F).

Slightly over 30 per cent of the total net profit available to the common stockholders was retained, on the average, for the surplus accounts. In 1930 and 1931 there were no surplus additions (Appendix E, Exhibit B, Figure 3, Line G), and for the eight years preceding, net surplus ad-
ditions have had a downward trend. The earned surplus to which these additions were made is sub-divided into surplus and special surplus accounts. The special surplus account was provided for in the certificate of incorporation and was to be used as a means of retiring the preferred stock outstanding. These two surplus accounts taken in the aggregate have averaged about 24 per cent of the net worth for the ten-year period. In 1931 they made up about 16 per cent of it. From 1925 to 1928, inclusive, temporary contingency reserves were set up for special purposes. At no time did these amount to as much as 1 per cent of the surplus and special surplus accounts taken in the aggregate.

During the latter part of the period there were occasions when some extraordinary charge-offs were made against surplus. Some of the more important of these charge-offs, which decreased surplus, are as follows: in 1928, losses and expenses incident to centralizing factory operations at South Bend, Indiana - almost six million dollars; in 1929, an appropriation to reduce The Studebaker Corporation investment in the Pierce-Arrow Motor Car Company to book value - over four and one third million dollars; in 1930, an adjustment of The Studebaker Corporation's investment in the Pierce-Arrow Motor Car Company's stock to reduce it to its present book value, which lower book value resulted from certain assets of the old Pierce-Arrow Motor Car Company being taken over by the new company for
liquidation - about a half million dollars; and in 1931, premium on The Studebaker Corporation's own preferred stock retired - about $83,500.

A 25 per cent stock dividend was declared in 1922 and another of 4 per cent in 1929, which indicates that at those times such portions of earnings which were retained in free surplus were converted into capital stock for permanent retention. On April 1, 1924, the company negotiated a stock split by which each holder of a share of $100 par stock was given two and one half shares of no-par stock in exchange. This transaction resulted in reducing the effective par value of the common stock from $100 a share to $40 a share. It was at this latter figure that the common stock was thereafter carried on the books. The transaction did not affect the earnings retained in surplus at the time.

The company's annual report for 1931 states in substance that it is the plan of the board of directors to rebuild the surplus account by reversing the reducing effect thereon of the three stock dividends declared in 1920, 1922, and in 1929. The plan contemplates charging common capital stock account for over thirty-three million dollars and crediting surplus. The final result would be a reduction of the stated value of the no-par common shares from $40 to $20 each, and a rebuilt surplus account large enough to absorb other extraordinary charge-offs. The intangible asset of trade name, good will and patent rights would then be
charged off against this rebuilt surplus so as to reduce its carrying value from close to twenty million dollars down to one dollar

YIELD

The cash dividend record has been previously discussed. The regular cash dividends on the common stock for the period averaged close to $5.17 per share. The yield on a share of stock involves a consideration of the amount invested in the share and the cash dividends paid on it. Since the price per share fluctuates and the dividend paid from year to year is not uniform, reference to Appendix E, Table A, Items 4, 5, 6, 7, 9, and 11, will be of service in appraising the yield of The Studebaker Corporation common stock.

A comparison of Items 4 and 6, referred to above, indicates that the book values of the shares were somewhere between the high and low market values in six of the ten years, namely the years, 1922, 1925, 1926, 1927, 1928, and 1929. In the years 1924, 1930, and 1931 the book value was greater than the high market value, and in 1923 the book value was less than the low market value. The book value, therefore, has made a closer approximation of the market values of the stock than is true with most companies. Nineteen hundred and twenty-three was the only year in which the cost of a share at any time during that year would have
been in excess of the book value.

The market price has ranged from close to $142 a share in 1922 to $9 a share in 1931. However, this low figure, when raised to a comparable basis, would be about $23.40, after eliminating the effect of stock dividends and the stock splits that have taken place.

Appendix E, Table A, Item 7 shows the price-times-earnings ratios for the high prices and for the low prices paid for the stock during the period. The best time to have purchased The Studebaker Corporation stock, using this as a criterion, would have been at the low of 1922, when it could have been purchased at $79.13 or at three and four-tenths times earnings. The poorest time to have made such a purchase would have been at the high price of $47.50 in 1930, when the price times earnings ratio was close to one hundred and seventy-six. The average price-times-earnings ratio for the highs of the period was 38.2, and for the lows 15.9. If ten times earnings were to be used as the limit that would measure a good investment from an earnings standpoint, The Studebaker Corporation's common shares would have been acceptable at any of the market prices paid for them up to 1927, and at any of the low prices paid for them up to 1930. During the years 1930 and 1931 the prices that were paid for the stock express hope values rather than earnings values.

The average regular cash dividend yield on the common
stock at the high prices for the ten years was 6.8 per cent, and at the low prices was 12.2 per cent. Judging from this record this stock has been a good investment from the standpoint of yield in every year when purchased at the low market prices, except possibly in 1928, when the return was 8.8 per cent. The range for these low prices in the other years was from 10.2 per cent in 1927 to 20.7 per cent in 1930. At the high prices the best showing was made in 1924 when the yield on the high price of that year was 8.6 per cent. The range for the yields on the high prices reached their low in 1931 at 4.6 per cent. On a basis of a 10 per cent yield The Studebaker Corporation common stock could not be considered as a good investment when purchased at any of the high prices in the ten years prior to 1932. The hope values (1930 and 1931) referred to in the preceding paragraph were perhaps engendered to some extent by the dividend yield, but it is to be remembered that these dividends were very largely paid out of past earnings. In 1931 the per cent of regular cash dividends paid per share amounted to 600 per cent of the earnings available to each common share, and in 1930 the per cent was over 1800 (Appendix E, Table A, Item 10).

Stock dividends and a stock split have caused to be outstanding at the end of 1931, three and one-fourth shares for each one share at the beginning of 1922 (Appendix E, Table A, Item 12).
MARKETABILITY

Both the preferred and the common stock of The Studebaker Corporation are listed on the New York and the Chicago Stock Exchanges, and the preferred is quoted in the unlisted division on the London Stock Exchange. The common shares are sufficiently active on these exchanges to insure daily market quotations.

SUMMARY AND CONCLUSIONS AS TO THE INVESTMENT VALUE OF THE STUDEBAKER CORPORATION COMMON STOCK

The Studebaker Corporation occupies a very important place in the automobile industry and has been operating under this name and in this field since 1911. Its predecessor, Studebaker Bros. Manufacturing Company, had been experimenting with horseless vehicles in 1897, and as vehicle-makers its lineage dates farther back than that of any other automobile producer in the United States.

Passenger automobiles, trucks, and buses are the products of the company, and they are made to sell in the three general price classes. Their quality is high and the trade name of Studebaker and Pierce-Arrow has always had that connotation. Marketing facilities have been provided to
cover most of the world.

The management has consisted of men who were alert and aggressive. They have concentrated at South Bend, Indiana, an organization with plants and facilities which have furnished the larger manufacturers of automobiles with active competition. In 1928, the control of the Pierce-Arrow Motor Car Company of Buffalo, New York, was acquired. It is difficult to say just how much of an advantage this acquisition will be in the future. However, considering the period from 1928 to 1931 as a whole, it probably has not produced a reasonable return on the investment.

Sources of funds for expansion have come principally from surplus additions. These surplus additions have been equivalent to 30 per cent of the total net profit available to the common stockholders throughout the period and have amounted to over thirty-five million dollars in ten years. Some three and a half million dollars of common stock was issued in 1929 for an additional equity in the Pierce-Arrow Motor Car Company. No long term bonds or fixed obligations have been issued. The current financial position of the company has always been well maintained with an average working capital ratio of 3.4 to 1, and an average acid test ratio of 1.4 to 1.

General business conditions have caused the net sales figure to drop to a level which is (1931) about half that of the lowest year since 1922. Operating costs and ex-
penses, since 1930, have almost absorbed the net sales. Net operating profit has declined from twenty million dollars in 1923 to three quarters of a million dollars in 1931, and total net profit has fallen in unison with it, except in 1929. In 1931 total net profit slightly exceeded net operating profit because of a small excess of non-operating income over non-operating expense. The ten-year average of total net profit to total net worth at the beginning of each year was about 11 per cent. For the first five years the average was over 15 per cent and for the last five years it was slightly over 6 per cent.

The preferred stockholders have claimed an average of around 14 per cent of the total net profits, leaving over 85 per cent of it for the common stockholders. Out of the amount available to the common stockholders about 70 per cent has been declared and paid in cash dividends. In the years 1930 and 1931 the dividends paid in cash exceeded the earnings on the common shares by over 1800 per cent and 600 per cent, respectively.

The net profits remaining in the business have been retained in two surplus accounts: a free surplus account which averaged about 18.7 per cent of the net worth for the period, and a special surplus account which averaged about 5.7 per cent of the net worth for the ten-year period. Other reserve accounts for contingencies were temporary and retained much smaller amounts. At the end of the period
free surplus constituted about 8 per cent of the net worth.

The market price of the common stock has fluctuated widely. The average of the low market prices was fifteen and nine-tenths times earnings and the average for the highs was thirty-eight and two tenths times earnings. The indications here are that the stock has been selling at prices not warranted by the earnings to which it was entitled.

On July 16, 1932, The Studebaker Corporation common shares closed at $3.50. Earnings of 35 cents a share would justify this price on a ten times earnings basis. In 1930 the earnings were 27 cents a share, and in 1931 they were 20 cents a share. These earnings would warrant, on a ten times earnings basis, price of $2.70 and $2 in those years respectively. The trend of the earnings for the past two years and the present prospects would not seem to support even that price. Yet when it is considered that these were extremely poor years in the automobile industry necessitating great reductions in production, and many added costs to meet the enlivened competition, slight adjustments in costs or slight increases in volume would be sufficient to bring the earnings to a point which would support a price of $3.50 a share. The company's financial position, with no bonded debt and current assets well in excess of its current obligations, indicates that it can withstand the seriousness of the present situation
long enough to make necessary adjustments, or to await the coming of more prosperous years.
## Acid Test Ratios
- (Quick Assets Times Current Liabilities)

## Tinten Capital Ratios
- (Current Assets Times Current Liabilities)

### Conversion of the Initial Consideration at Balance Sheet Date (Utility A)

<table>
<thead>
<tr>
<th>Item</th>
<th>1921</th>
<th>1922</th>
<th>1923</th>
<th>1924</th>
<th>1925</th>
<th>1926</th>
<th>1927</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
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<td><strong>Cash and Others Receivable</strong></td>
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<td><strong>Total Current Liabilities</strong></td>
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<td><strong>Total Assets</strong></td>
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</tr>
</tbody>
</table>

### Preferred Stock
- 6,750,000
- 6,970,000
- 7,300,000
- 7,425,000
- 7,500,000
- 7,985,000
- 8,400,000
- 8,600,000
- 9,450,000

### Pierce Arrow Purchase Money Obligations
- 332,500

### Pierce Arrow Debentures
- 2,755,200

### Notes Payable
- 5,000,000

### Deferred Charges
- 730,337

### Subtotal
- 7,875,757

### Sundry Credits and Reserves
- 1,918,584

### Accounts Payable
- 5,836,619
- 3,244,822
- 4,746,236
- 10,290,223
- 9,749,365
- 5,412,501
- 6,137,849
- 6,768,526
- 5,567,419
- 6,756,635

### Reserve For Taxes
- $2,804
- $78,232
- $906,395
- $1,431,507
- $1,765,938
- $1,826,982
- $2,457,388
- $2,025,118
- $2,584,386
- $2,690,464

### Advances To and Investments In Affiliated Companies
- 274,403

### Pierce Arrow Finance Corporation Stock
- 1,264,985

### Common Stock
- 76,201,800

### Treasury Stock
- 7,917

### Branch Houses
- 10,757,202

### Marks and Goodwill
- 19,807,277

### Hasl Estate, Buildings and Equipment
- 55,667,890

### Total Fired and Other Assets
- 88,084,451

### Total Current Assets
- 80,301,478

### Total Liabilities, Minority Interest
- 118,286,448
- 100.0
- 119,903,897
- 100.0
- 134,207,322
- 100.0
- 148,613,367
- 100.0
- 135,877,946
- 100.0
- 150,541,178
- 100.0
- 132,213,897
- 100.0
- 129,285,335
- 100.0

### Total Asset Values
- 122,424,280
- 100.0
- 114,650,789
- 100.0
- 154,810,546
- 11.7
- 15.488.599
- 13.5
### PROFIT AND LOSS STATEMENT ANALYSIS (EXHIBIT B)

#### THE STUDEBAKER CORPORATION

#### 1922-1931

<table>
<thead>
<tr>
<th>Year</th>
<th>Special-Net Profit</th>
<th>Special-Net Loss</th>
<th>Special-Net Income</th>
<th>Net Profit</th>
<th>Total Net Income</th>
<th>Net Profit (Loss) Available to Common Stockholders</th>
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<tbody>
<tr>
<td>1922</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>1924</td>
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<td>1926</td>
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<td>1927</td>
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<td>$166,153,683</td>
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<td>1928</td>
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<td>1929</td>
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<td>$166,153,683</td>
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<td>1930</td>
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<td>1931</td>
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<td>$166,153,683</td>
<td>$166,153,683</td>
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</table>

#### Operating and Non-Operating Expenses

- **Operating Costs and Expenses:**
  - Total Operating Costs and Expenses: $152,498,716
  - Net Operating Profit (Loss): $15,863,576

- **Non-Operating Expense and Income:**
  - Preference Claims: $9,375,000
  - Dividends On Common Stockholders: $4,342,500
  - Other Expenses (Less Paid): $752,000

#### Other Data

- **Pierce Arrow Sales included:**
  - Pierce Arrow Sales of $19,436,671 included here.
  - Subsidiary Profit (Loss): $34,603

#### Ratios

- **Amount Ratios:**
  - 1922: 825,202
  - 1923: 1,540,202
  - 1924: 3,354,655
  - 1925: 4,073,300
  - 1926: 4,792,950
  - 1927: 5,512,600
  - 1928: 6,232,250
  - 1929: 6,951,900
  - 1930: 7,671,550
  - 1931: 8,391,200

- **Ratios:**
  - 1922: 100.0
  - 1923: 100.0
  - 1924: 100.0
  - 1925: 100.0
  - 1926: 100.0
  - 1927: 100.0
  - 1928: 100.0
  - 1929: 100.0
  - 1930: 100.0
  - 1931: 100.0

- **Amount Ratios:**
  - 1922: $141,556,652
  - 1923: $166,153,683
  - 1924: $135,406,055
  - 1925: $166,153,683
  - 1926: $135,406,055
  - 1927: $166,153,683
  - 1928: $135,406,055
  - 1929: $166,153,683
  - 1930: $135,406,055
  - 1931: $166,153,683

#### Footnotes

- **Footnotes (Losses):**
  - Total U.S. and Canadian operations: $18,086,195
  - Non-operating revenue: $4,925,000
  - Debenture Premiums and Expense: $542,325

#### Additional Notes

- **Operating and Selling Costs:**
  - Total Operating Costs and Expenses: $152,498,716
  - Net Operating Profit (Loss): $15,863,576

- **Depreciation:**
  - Depreciation: $2,109,458

- **Other Income:**
  - Other Income: $34,603

- **Pierce Arrow Sales:**
  - Pierce Arrow Sales of $19,436,671 included here.

- **Common Stockholders' Equity:**
  - Common Stockholders' Equity: $19,436,671

- **Preference Claims:**
  - Preference Claims: $9,375,000

- **Other Expenses (Less Paid):**
  - Other Expenses (Less Paid): $752,000
### THE STUDEBAKER CORPORATION
#### ADDITIONAL COMMON STOCK STATISTICS (TABLE A)

<table>
<thead>
<tr>
<th>Year</th>
<th>1922</th>
<th>1923</th>
<th>1924</th>
<th>1925</th>
<th>1926</th>
<th>1927</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
<th>1931</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Net Worth</strong></td>
<td>$101,464,295</td>
<td>$115,986,087</td>
<td>$120,951,039</td>
<td>$121,421,889</td>
<td>$120,255,322</td>
<td>$119,394,038</td>
<td>$113,612,603</td>
<td>$108,133,734</td>
<td>$99,142,190</td>
<td>$97,800,227</td>
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<tr>
<td><strong>Less: Preferred Stock</strong></td>
<td>$6,500,000</td>
<td>$6,750,000</td>
<td>$6,970,000</td>
<td>$7,300,000</td>
<td>$7,435,000</td>
<td>$7,500,000</td>
<td>$7,985,000</td>
<td>$8,400,000</td>
<td>$8,600,000</td>
<td>$9,450,000</td>
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<tr>
<td><strong>Net Total Net Worth</strong></td>
<td>$92,177,537</td>
<td>$94,714,295</td>
<td>$109,081,039</td>
<td>$113,651,039</td>
<td>$113,996,889</td>
<td>$112,755,322</td>
<td>$111,409,038</td>
<td>$105,212,603</td>
<td>$99,553,734</td>
<td>$97,390,227</td>
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<tr>
<td><strong>Number of Shares - Common Stock</strong></td>
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<td>1,905,045</td>
<td>1,961,358</td>
<td>1,875,000</td>
<td>1,875,000</td>
<td>1,875,000</td>
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<td>1,875,000</td>
<td>750,000</td>
<td>750,000</td>
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<td><strong>Book Value Per Share - Common Stock</strong></td>
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<td>$60.80</td>
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</tr>
<tr>
<td><strong>Par Value - Common Stock</strong></td>
<td>No Par</td>
<td>No Par</td>
<td>No Par</td>
<td>No Par</td>
<td>No Par</td>
<td>No Par</td>
<td>No Par</td>
<td>No Par</td>
<td>$100.00</td>
<td>$100.00</td>
</tr>
<tr>
<td><em><em>Price times Earnings (High</em> - Low</em>*)**</td>
<td>130. - 45.0</td>
<td>175.9 - 67.1</td>
<td>17.7- 6.9</td>
<td>12.2 - 8</td>
<td>10.4 - 8.1</td>
<td>9.3- 7.0</td>
<td>8.0 - 4.8</td>
<td>6.6 - 4.3</td>
<td>5.4 - 4.0</td>
<td>3.4 - 2.4</td>
</tr>
<tr>
<td><strong>Average 38.2</strong></td>
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<tr>
<td><strong>Earned Per Share - Common Stock</strong></td>
<td>$0.20</td>
<td>$0.27</td>
<td>$5.53</td>
<td>$7.16</td>
<td>$6.09</td>
<td>$6.67</td>
<td>$8.55</td>
<td>$7.03</td>
<td>$23.60</td>
<td>$23.22</td>
</tr>
<tr>
<td><strong>Cash Dividends Per Share - Common Stock</strong></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td><strong>Regular</strong></td>
<td>$1.20</td>
<td>$3.75</td>
<td>$5.00</td>
<td>$5.00</td>
<td>$5.00</td>
<td>$5.00</td>
<td>$4.25</td>
<td>$4.00</td>
<td>$10.00</td>
<td>$8.50</td>
</tr>
<tr>
<td><strong>Extra</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>$1.20</td>
<td>$3.75</td>
<td>$5.00</td>
<td>$5.00</td>
<td>$5.00</td>
<td>$5.00</td>
<td>$4.25</td>
<td>$4.00</td>
<td>$10.00</td>
<td>$8.50</td>
</tr>
<tr>
<td><strong>Per Cent of regular Common Cash Dividend per Share</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td><strong>to Net Profits Available to Common Stockholders</strong></td>
<td>600.0</td>
<td>1,811.5</td>
<td>90.4</td>
<td>69.8</td>
<td>82.1</td>
<td>75.0</td>
<td>49.7</td>
<td>56.9</td>
<td>42.4</td>
<td>36.6</td>
</tr>
<tr>
<td><strong>Yield, based on regular Cash Dividend, if purchased at:</strong></td>
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<tr>
<td><strong>Highest Price (Per Cent)</strong></td>
<td>13.8</td>
<td>8.8</td>
<td>10.2</td>
<td>10.6</td>
<td>10.3</td>
<td>13.2</td>
<td>10.7</td>
<td>10.7</td>
<td>10.7</td>
<td>10.7</td>
</tr>
<tr>
<td><strong>Lowest Price (Per Cent)</strong></td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
</tr>
<tr>
<td><strong>Aggregate Shares from Ownership of one share in 1922</strong></td>
<td>3.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Per Cent of Total Net profit for each year to the</strong></td>
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<tr>
<td><strong>was Net Worth at the beginning of each year</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Net income of shares</strong></td>
<td>0.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* Figures are approximate and subject to change. ** Figures are approximate and subject to change.
THE STUDEBAKER CORPORATION

ANALYSIS OF ASSETS (IN MILLIONS OF DOLLARS) 1922-1931

A - Cash
B - Receivables
C - Quick Assets
D - Inventories
E - Current Assets
F - Fixed and Other Assets

Figure 1
THE STUDEBAKER CORPORATION
ANALYSIS OF LIABILITIES AND NET WORTH [IN MILLIONS OF DOLLARS]
1922-1931

A - Current Liabilities
B - Minority Interest
C - Total Liabilities (Current Liabilities Only)
D - Net Worth
E - Total Liabilities and Net Worth
   (Equal to Total Assets)

Figure 2
THE STUDEBAKER CORPORATION
EARNINGS AND DISTRIBUTION TRENDS (IN MILLIONS OF DOLLARS)
1922-1931

A - Net Sales
B - Operating Costs and Expenses
C - Net Operating Profit
D - Total Net Profit
E - Net Profit Available To Common Stockholders
F - Cash Dividends On Common Stock
G - Net Surplus Additions

Figure 3
BIBLIOGRAPHY

BOOKS


23. Broderick, John T., *A Small Stockholder*, Schenectady,
N. Y., Robson and Adee Publishers, 1926.


York, Mag. Of Wall St., 1926.


98. Sakolski, A. M., *Principles Of Investment*, New York,
Ronald Press, 1925.


ARTICLES


pp. 1339-1340.


45. Graham, Benjamin, "Inflated Treasuries And Deflated Stockholders," Forbes XXIX (June 1, 1932), pp. 10-12.

46. Graham, Benjamin, "Should Rich Corporations Return
Stockholders' Cash?" Forbes XXIX (June 15, 1932), pp. 20-22.


55. "Investment Stocks With Long Term Possibilities," (Loose-Wiles Biscuit Company), Magazine Of Wall


73. "Listing of 1,168,284 Additional Shares Of Capital Stock Authorized," (Phillips Petroleum Company),
Commercial And Financial Chronicle CXXXI (October 25, 1930), pp. 2707-8.


84. Meadow, L., "Is The Market Full Of Tempting Bargains?"
86. Merrill, Harwood F., "Will A Revolution In Methods Save The Building Industry?" *Forbes* XXIX (July 1, 1932), pp. 7-8, 16.  


97. "Otis Elevators Are In Demand; 1929 Record,"


100. Parker, W., "How To Appraise The Cash Position,"
*Magazine Of Wall Street* XXXXVI (September 6, 1930), pp. 728-9.


104. Pierce, J., "Securities And Uncertainties; Difficulty In Finding Successful Companies When Buying Common


112. Schabacker, R. W., "How To Figure The Merit Of A Stock From The Published Corporate Figures," Forbes XXV (May 1, 1930), pp. 18-20.


123. Smith, W. R., "Practical Basis For Valuing Common


143. "What To Tell Stockholders About Last Year's Business," 
   *Printer's Ink Weekly*, CLVIII (January 14, 1932), pp. 41-3.

144. "What Trends In Security Ownership?" *Dun's Review*
   XXXX (May 14, 1932), pp. 2-6.

145. "What Twenty-Six Million Motor Vehicles Mean To Business And Employment," *Manufacturers' Record*, CI

146. Wheeler, H. A., "Finance - The Changing Structure,

   XXXIX (April 1, 1932), pp. 587-8.

148. "Who Is The True Investor?" *Literary Digest* CVII
   (November 1, 1930), p. 44.

149. "Whose Balance Sheet Is It?" *The Journal Of Accountancy*

   (June 31, 1931), p. 38.

151. Willson, C. O., "Changing Conditions Emphasize Significance Of Transportation In Oil Industry's Profits,
   *Oil And Gas Journal* XXXI (July 7, 1932), pp. 8-9.

152. Wolff, M., "Can Stockholders Get A Fair Deal?"
   *Nation's Business* XIX (June, 1931), pp. 39-41.


10. Yearbook Of Agriculture, U. S. Department Of Agriculture-

Annual.