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A DISSERTATION

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By

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A FINANCIAL ANALYSIS INTO THE NATURE

OF CORPORATE GIVING

A DISSERTATION

APPROVED FOR THE DIVISION OF FINANCE

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A FINANCIAL ANALYSIS INTO THE NATURE

OF CORPORATE GIVING

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This dissertation discusses the possible motives for corporate giving and the consequences of each to various government and business policies. Four major motives for giving are presented: the profit motive, the social responsibility motive, the through-the-firm consumption motive, and the pluralistic motive. A review of the literature is provided and includes the development of the theories of giving as influenced by tax laws and court decisions.

The analysis of giving is based on the reaction of giving to the following financial variables: the cost of giving, liquidity, financial leverage, advertising, unemployment level, return on equity, dividend payout, and officer compensation. The data used in the analysis was collected from <u>Statistics of Income</u>, <u>Corporation Income Tax Returns</u>, published for the years 1936 through 1973. The eight major industries and the aggregate of these industries were used in a multiple regression analysis of corporate giving. The statistical problems encountered by the use of this data, and the methods used to eliminate problems associated with multicollinearity, heteroscedasticity and autocorrelation are discussed.

The results of the regression analysis and the implications are presented. The interpretations of the regression analysis, supporting the profit motive and rejecting the through-the-firm consumption motive are included. This dissertation points out the improbability that giving will increase in response to the decrease in government expenditures, as anticipated by the present government administration.

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CHAPTER I

INTRODUCTION

General

The Reagan administration is in the process of decreasing the role of the Federal government in social programs. Conservatives believe that the government is providing services that instead should be provided by the private sector. Furthermore, the administration is convinced that individual and corporate donors will fill the void created by reduced government support of social services. However, the leaders of many philanthropic organizations are not at all certain that the private sector, especially corporations, is either willing or able to increase its assistance to offset the decrease in government support.[1]

From 1940 to 1975, corporate giving increased at an annual compound rate of 10.5 percent, from \$38 million to \$1202 million as shown in Table I, page 2. Over the same period, corporate profits increased at an annual rate of 7

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[1]Cynthia Saltzman, "Companies Doubt Their Arts Giving Would Rise to Offset Reagan's Cuts," Wall Street Journal 61, No. 89 (February 26, 1981): pp. 25, 31.

TABLE I

EXPENDITURES AND GROWTH RATES OF CORPORATE GIVING, CORPORATE PROFITS, GOVERNMENT EXPENDITURES AND NATIONAL INCOME From 1940 through 1975

EXPENDITURES IN CURRENT DOLLARS (In Billions of Dollars)

YEAR	CORPORATE GIVING	CORPORATE PROFITS	GOVERNMENT EXPENDITURES	NATIONAL INCOME
1940	.038	8.7	14.2	79.7
1950	.252	33.7	38.5	236.2
1960	.482	46.6	100.3	412.0
1970	.797	67.9	218.9	798.4
1975	1.202	95.5	338.4	1215.0
		COMPOUND GROWTH RATES (In Percents)		
1940-75	10.5	7.0	9.0	8.0
1950-75	6.5	4.0	9.0	6.5
1960-75	6.5	5.0	8.5	7.5
1970-75	9.0	7.0	9.0	8.5

SOURCES: U. S. Department of the Treasury, Bureau of Internal Revenue, Statistics of Income, 1936-1975, and Lewis C. Solomon, Economics, 3rd ed, (Reading, Mass.: Addison-Wesley Publishing Company, 1980): p. 1.

percent, from $8.7 billion to $95.5 billion, and national income increased at an 8 percent rate, from $79.7 billion to $1215 billion. However, government expenditures for goods and services increased at a 9 percent rate, from $14.2 billion to $338.4 billion. From 1970 to 1975, corporate giving increased at a 9.0 percent rate while corporate profits increased at a 7.0 percent rate. Government expenditures increased at a 9.0 percent rate and national income increased at an 8.5 percent rate. Corporate giving has grown at a faster rate than corporate profits and government expenditures have grown at a faster rate than national income. The accelerated growth in corporate giving and government expenditures cannot continue indefinitely. The Reagan administration is deliberately trying to cut government expenditures expecting the private sector to pick-up the slack. In light of previous increased costs for social programs, the giving growth rate will have to increase even faster than before to fill the gap left by recent legislation to decrease government spending. To help compensate for some of its other actions and encourage an increase in the giving growth rate, in 1981 the Congress raised the allowable deduction for corporate gifts and contributions from 5 percent to 10 percent of pretaxable income.[2] Even with this incentive, the extent to which corporate giving will actually increase is debatable.

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[2]Lindley H. Clark, Jr., "The Business of Business Isn't Charity," Wall Street Journal 62, No. 77 (February 2 1982): p.25.

An important factor in predicting the likelihood of such an increase is the motive for corporate giving, a subject which engenders significant controversy. The controversy centers on whether such giving is an expenditure to increase profits or rather a form of philanthropy. If giving is profit-oriented, corporations cannot be expected to increase their giving in response to reductions in Federal expenditures. If, on the other hand, giving is philanthropic in nature, then corporate giving might increase in response to the increased need for funds by charitable organizations. While this controversy remains unresolved, the purpose of this research is to trace the development of the present theories of corporate giving as well as to test empirically the appropriate variables which may reveal whether corporate giving is profit-motivated and or philanthropic in nature.

Nature of the Problem

Classical economists regarded both private and corporate giving as irrational and disruptive to economic motivation.[3] Recently, though, the increasing importance of giving as a form of resource allocation has initiated an effort to understand, rather than to ignore, these transactions.[4] Research into

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[3]Orace Johnson, "Business Corporations and Philanthropy: A Study of Why Corporations Give," Ph.D. Dissertation, Chicago University, 1966, p. 6.

[4]Robert A. Schwartz, "Corporate Philanthropic Contributions," Journal of Finance 23, No. 3 (June 1968): p. 481.

the behavior of giving has been more extensive in the area of individual, in contrast to corporate, giving. The concept of the utility function provided a satisfactory and fruitful method for analyzing individual giving. The corporation, however, is an artificial being existing only in the contemplation of the law, a legal entity separate and distinct from the corporate owners.[5] "Since the theory of the firm does not hypothesize that corporations have utility functions . . .,"[6] this principle has not been applied to the analysis of corporate giving.

Marginal benefit is a more pragmatic limitation to the study of corporate giving. Either the required data is unavailable, or perhaps researchers are unable to recognize the usefulness of the data that is available. This limitation, in fact, is inherent in the nature of corporate giving. If it is truly altruistic, then there is no reciprocal benefit to be measured. Even if expenditures are made in anticipation of benefits intended to maximize wealth, the benefits derived are indirect and difficult to measure.

Attitudes Towards Giving

Emerson Andrews, in his studies and interviews concerning the motives for giving, found three basic attitudes

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[5]William W. Pyle, John Arch White and Kermit D. Larson, Fundamental Accounting Principles, 8th ed, (Homewood, Ill.: Richard D. Irwin, 1978): p. 493.

[6]Schwartz, "Corporate Philanthropic Contributions."

existing among corporate executives.[7] The first attitude is that corporations do not have the right to give. From this perspective, corporate giving represents the manipulation of owners' profits, employees' wages, or costs to consumers. However, these owners, employees, and or consumers may not wish for the corporation to act as their intermediary for giving.

The second attitude is that corporate giving is a necessary business expenditure with positive returns. Expenditures may take the form of providing employee benefits, improving conditions in areas where the product or service is sold, or promoting the product and or goodwill of the corporation through a form of advertising.[8]

The third attitude is the pluralistic view. According to the pluralists, corporate giving is necessary to limit the expansion of government programs into fields which are the primary responsibility of private charity. The Reagan administration would seem to agree with this view.

The polarization of these three general attitudes and their many variations has hindered understanding the nature of corporate giving. The opposing views of the first and

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[7]Emerson F. Andrews, Corporate Giving (New York: Russell Sage Foundation, 1952): p. 22.

[8]Kenneth N. Dayton, "The Case for Corporate Philanthropy," Vital Speeches 56, No. 20 (August 1, 1980): pp. 619-22 and "An Optimist's Challenge to the Independent Sector," Trusts and Estates 119, No. 12 (December 1980): pp. 19-21.

second attitudes, in particular, are embodied in most of the current literature on the theory of corporate giving. Each writer defends or rejects these two perspectives depending upon his or her own interpretations of the corporation's role in social responsibility and profit maximization.[9] An additional problem in the literature is that of reconciling the different interpretations of profit maximization because writers have not clearly distinguished between short-run and long-run profit maximization.[10]

The Data

As Marion R. Freemont-Smith notes, "Attempts to study corporation philanthropy inevitably prove frustrating, for it is a subject surrounded by rhetoric, almost entirely devoid of hard facts."[11] This lack of hard facts, though, is the

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[9]For further discussion of the debate between social responsibility and the profit motive see: Phillip I. Blumberg, "Corporate Responsibility and the Social Crisis," Boston University Law Review 50 (1970): pp. 157-210; Keith Davis, "The Case For and Against Business Assumptions of Social Responsibilities," Academy of Management Journal 16, No. 2 (June 1973): pp. 312-22; Douglas Dillon, "The Role of Private Philanthropy in Modern American Society," Tax Policy 39, No. 1 (January 1972): pp. 3-8; Richard Eells, "A Philosophy for Corporate Giving," The Conference Board Record 5, No. 1 (January 1968): pp. 14-18; and Paul F. Haas, "The Conflict Between Private and Social Responsibility," Akron Business and Economic Review 10, No. 2 (Summer 1979): pp. 33-36.

[10]Archie B. Carroll, "A Three-Dimensional Conceptual Model of Corporate Performance," Academy of Management Review 4, No. 4 (October 1979): p. 497.

[11]Marion R. Freemont-Smith, Philanthropy and the Business Corporation (New York: Russell Sage Foundation, 1972): p. 1.

result of almost no empirical research using the available data. Admittedly, per firm data is limited because businessmen have been reluctant to publish information on corporate giving in their financial statements.[12] However, since 1936, corporate giving has been reported as a special category--"Gifts and Contributions"--on corporate tax returns. The Internal Revenue Service collects and summarizes the data by industry using the Standard Enterprise Classification (SEC), which is very similar to the Standard Industrial Classification (SIC). This information is published in Statistics of Income, Corporate Income Tax Returns or in the unpublished Corporate Source Book of Statistics of Income.

In addition to figures for corporate giving, other financial statement items are included in the Statistics of Income data. This study, therefore, will analyze corporate giving in conjunction with various other financial statement items. Comparative analysis of cost of giving, liquidity,

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[12]In recent years there has been a trend towards social responsiblity accounting. Several articles discussing this topic are: Klaus Brockholl, "A Note on External Social Reporting by German Companies: A Survey of 1973 Company Reports," Accounting, Organizations and Society 4, No. 1/2: pp. 77-85; Meinolf Dierkes, "Corporate Social Reporting in Germany: Conceptual Developments and Practical Experience," Accounting, Organizations and Society 4, No. 1/2 (1979): pp. 87-107; Denys McDonald and Anthony Puxty, "An Inducement-Contribution Approach to Corporate Financial Reporting," Accounting, Organizations and Society 4, No. 1/2 (1979): pp. 53-65; and Hein Schreuder, "Corporate Social Reporting in the Federal Republic of Germany: An Overview," Accounting, Organizations and Society 5, No. 1/2 (1979): pp. 30-35.

leverage, advertising, employment level, officers' compensation and profitability is expected to reveal the significance of the profit and or philanthropic motives for corporate giving. Understanding the giving motive is essential to anticipating the consequences of both the government and the corporate policies affecting the future funding of charitable organizations.

Significance of This Study

As Emerson F. Andrews has stated, "If the purpose of business is to earn profits, then why do they give away a billion dollars a year?"[13] To some people, the concept of corporate giving seems an unusual transaction in an exchange economy in which a good or service is expected in return for a price. At first glance, giving appears to be a one-sided transaction where the giver receives no product or service in exchange for the donation,[14] and this seems an exception to rational economic behavior.

Ironically, while individual giving has attracted more research attention, a clear understanding of corporate giving seems critical to the nation's economic and social future. Although the individual donates his own assets from his income or wealth, the manager of the corporation donates assets that

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[13] Andrews, Corporate Giving.

[14] Schwartz, "Corporate Philanthropic," p. 480.

belong to someone else: owners, employees, even customers. Furthermore, the Reagan administration implicitly assumes that both individual and corporate giving are philanthropic in nature, while there may indeed be more dominant--and even contrary--motives. Therefore, national policy is based on an assumption that is as yet unproved--and possibly false.

Donation of corporate assets by management has at least three interested parties: the recipient, the corporate owners, and the managers. Each of these parties could benefit from a clearer understanding of the variables and principles involved in corporate giving. The organizations that receive corporate donations need to plan for future operations, and this planning process would improve if corporate giving policies could be stated in terms of balance sheet and income statement items or other economic variables.[15] Shareholders of the corporation, too, would be better prepared to evaluate and compare giving policies that were expressed in the same variables used in the investment decision process.[16] In addition, because management's function is to use scarce resources in a manner consistent with the doctrine of profit maximization, management would benefit from a clear statement of

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[15] Thomas Reuschling, "Corporate Philanthropy: An Unwanted Stepchild," Industry Week 171, No. 8 (November 22, 1971): p. 41.

[16] Ibid.

giving policies expressed in terms of financial statement variables.[17] A quantifiable decision rule would also allow for the delegation of the giving function to lower or middle management. Established procedures based on quantifiable variables would thus aid management, owners, and recipients in resolving possible communication gaps inherent in the present subjective approach to corporate giving. Finally, Federal budget decisions could be made with more accurate knowledge of the probable consequences to society.

Summary

The nature of corporate giving is not clearly understood, but the Federal government is presently implementing policies that implicitly assume corporate giving to be philanthropic. If, on the other hand, corporate giving is actually primarily profit-oriented, the consequences of such government actions are likely to be very different from those anticipated by the Reagan administration. Corporate management, shareholders and charitable organizations, as well as government officials, then are expected to gain considerable insight and strategies from a clarification of the motives for corporate giving.

The issue is difficult to resolve because corporate giving appears to be analogous to individual giving, and the

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[17]Richard Mayer, "Managements Social Responsibility: Profit Maximization," S.A.M. Advanced Management Journal 35, No. 1 (January 1970): p. 55.

analysis of individual giving is intuitively appealing as an explanation for corporate giving. But individuals have utility functions; corporations do not. Any utility derived from corporate giving must go indirectly to the individuals involved in the corporate business. In addition, data to measure effectively the benefits received from corporate giving are insufficient. The proposed alternative, then, is to examine financial statement variables. Through such comparative analysis, giving is expected to exhibit predictable relationships with certain financial statement variables, relationships indicating the motive as philanthropic and or profit-oriented.

Chapter II features a review of the literature on corporate giving. This review will help trace the development of corporate giving theories as well as predict the relationships between giving and the other financial variables. Chapter III provides an explanation of the model used to determine the nature of corporate giving as well as an explanation of the rationale for giving, relative to the financial position and operation of the firm. The data to be used and the method of analysis are also included in Chapter III. The results of the empirical analysis of the data comprise Chapter IV, and Chapter V presents the conclusions of this research into the nature and motives of corporate giving.

CHAPTER II

CORPORATE GIVING--AN OVERVIEW

The Development of Corporate Giving

The eighteenth and nineteenth centuries saw little need for corporate giving. The citizens of the community were counted on to provide the necessary aid.[1] Business owners contributed as citizens to the needs of the community. As corporations grew, two notable changes in this system drew attention to the need for corporate aid in the solution of problems in the local communities in which they operated.[2]

The first change was related to the growth in the community's population. Increased business activity necessitated a larger labor force. The growth in population in turn required additional facilities for education, medical services, recreational and other community services. The second change was caused by the increase in absentee owners who no longer contributed to the solution of local community problems.

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[1]Emerson F. Andrews, Corporate Giving, (New York: Russell Sage Foundation, 1952): p. 22.

[2]Ibid., p. 23.

Growth in Corporate Giving

Corporate giving began in the last quarter of the nineteenth century.[3] Railroad companies needed to provide housing for workers who had to spend time at distant locations while waiting for new assignments or return train assignments. The Young Men's Christian Association (YMCA), originated in North America in 1851, served the railroad's purpose.[4] YMCA buildings were established at locations favorable to railroad companies' objectives, and the railroad companies paid over half the cost.[5] The YMCA expanded its solicitation efforts after 1900 and was successful in gaining the support of other corporations.[6]

A substantial increase in corporate giving occurred during World War I. Emerson Andrews asserts that 1917 was the beginning of corporate giving as a significant factor in American philanthropy.[7] The next surge in corporate giving occurred during World War II. Giving in 1939 was thirty-one million dollars, but by 1945, had jumped to two hundred and

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[3]Ibid.

[4]Marion R. Freemont-Smith, Philanthropy and the Business Corporation, (New York: Russell Sage Foundation, 1972): pp. 6-7.

[5]Ralph L. Nelson, Economic Factors in the Growth of Corporation Giving, Occasional Paper 111, National Bureau of Economic Research, (New York: Russell Sage Foundation, 1970): p. 18.

[6]Fremont-Smith, Philanthropy, p. 7. [7]Ibid., p. 8.

thirty-six million dollars. Since World War II, corporate giving has increased steadily. By 1970-75, corporate giving surpassed the billion dollar level annually.[8]

Philosophy of Corporate Giving

Social responsibility of the corporation is suggested to be the use of corporate capital "to generate and activate the basic conditions of health, education and the quality of life which together constitute the central goals of a free and open society."[9] The manner in which corporate management fulfills that social responsibility is constantly being scrutinized by the family, church, state, and the economy. These groups have various, sometimes mutually exclusive, interests.[10] Stockholders are interested in dividends and profits, employees wages and other benefits, government taxes and consumer protection, customers quality goods and services, suppliers purchase of their materials and equipment, and not-for-direct profit organizations contributions of money and services.[11] Corporate management must balance out all these claims.[12]

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[8]U. S. Treasury Department, Bureau of Internal Revenue, Statistics of Income, Corporate Income Tax Returns, 1970-75.

[9]Homer W. Turner, "The Societal Role of the Corporation," The Conference Board Record 5, No. 1 (January 1968): p. 11.

[10]Raymond Mayer, "Managements Social Responsibility: Profit Maximization," S.A.M. Advanced Management Journal 35, No. 1 (January 1970): p. 53.

[11]Turner, "The Societal Role," p. 13. [12]Ibid.

The economics of the firm in a free enterprise system suggests that this balancing of claims is to be decided in the competitive market. Maximizing profits has evolved as the goal of corporate managers.[13] In his role of maximization, the manager also will have effectively balanced the claims against the corporation.[14]

The Economic System

A major premise for the discussion of the corporate manager's role in the United States is the free enterprise economy. The economic units in our society are for the most part competitive. To better understand and clarify the role of management in the corporate unit, certain features of the competitive economic market must be reviewed.

In a purely competitive market system, each economic unit strives to maximize its own self-interest. Each unit's effort to maximize competitively forces all units toward a position of maximization of the wealth of the total economy as determined by the players. The players are those who have economic resources to sell. The inner workings of such a complex system of seemingly unconnected events are amazing to the observer. But in spite of the awe in the efficiency of the system in maximizing the allocation of resources,

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[13]David Novick, "Cost-Benefit Analysis and Social Responsibility," Business Horizons 16, No. 5 (October 1973): p. 63.

[14]Ibid., p. 64.

there are some major criticisms about how this position of maximization is reached.[15]

One major criticism is that the resulting income distribution is not satisfactory.[16] There are wide income gaps between the very rich and the very poor. Those without resources to sell cannot be players in the system.

Another criticism of the competitive free enterprise system is that it sometimes causes instability as the market attempts to adjust to new equilibrium positions.[17] These adjustments often result in one economic unit getting more while another is getting less. The movement also requires time, and the time can be a long painful period as resources are forced from one use to another. This time period can be especially prolonged in the case of human resources. The unemployed are reluctant to move because of qualitative factors such as family, friends and or climate which may have to be sacrificed in a job relocation.

A third major criticism of the free enterprise system is that the resources of the society are being used by individuals to increase their own position.[18] This may result in

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[15]Milton Friedman, Price Theory, A Provisional Text, Rev. Ed., (Chicago: Aldine Publishing Company, 1962): pp. 6-11.

[16]Ibid.

[17]Campbell R. McConnell, Economics, 8th Ed., (New York: McGraw-Hill Book Company, 1981): p. 84.

[18]Ibid., p. 83.

an inefficient and inequitable distribution. The sellers of society's resources may not be demanding the fair remuneration that would be required if the real owners (society) were taking part in the bargaining process. Perhaps the ownership of natural resources should be extended to include future generations, which might increase present costs.

The last major criticism is that the free enterprise system presumes that the "code of ethics" will be enforced by perfect knowledge in the market. To the extent that knowledge is not perfect, self-enforcement is relied on.[19]

These criticisms have been noted by society and various groups have formed together to counteract, or to have government enact rules and regulations to prevent the "undesirable" effects of the free enterprise system from occurring.[20] Many feel that these rules and regulations at times create more problems than they solve.[21] Such rules and regulations may be responsible for moving the economy from a maximum position on the production function to some point inside the production function.[22]

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[19]Ibid., p. 85.

[20]Ibid.

[21]Keith Davis, "The Case For and Against Business Assumptions of Social Responsibilities," Academy of Management Journal 16, No. 2 (June 1973): p. 312.

[22]Friedman, Price Theory, pp. 61-65.

The corporate executive is expected to utilize scarce resources in order to satisfy the unlimited wants of all the various groups in society.[23] The wants of these different groups, as previously noted, are often mutually exclusive and unlimited. It is not possible to satisfy everyone.[24] Corporate executives are often critized for not achieving the impossible.[25] Some critics have suggested that if management rejected the profit maximization goal and accepted the doctrine of social responsibility, the impossible would become reality.[26]

Main stream philosophies regarding the appropriate level of corporate giving disagree primarily because of differing interpretations of profit maximization versus social responsibility.[27] A critical analysis of the expressed views of corporate giving reveals the inconsistencies in interpretation. One major difference appears to be a lack of agreement as to what costs a manager should absorb in his attempt to maximize profits.

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[23]Mayer, "Managements Social Responsibility," p. 55.

[24]Ibid., p. 53.

[25]Ibid.

[26]Ibid., p. 54.

[27]Archie B. Carroll, "A Three-Dimensional Conceptual Model of Corporate Performance," Academy of Management Review 4, No. 4 (October 1979): p. 497.

Profit Maximization

In an effort to explain the merits of corporate giving in terms of profit maximization versus social responsibility, it is necessary to discuss the different interpretations of profit maximization. The different interpretations of profit maximization are grouped into three categories, the outlaw firm, the short-run maximizer and the long-run profit maximizer or the wealth maximizer. Social responsibility will be defined in terms of these three categories. The various philosophies of corporate giving will be evaluated in terms of profit maximization and social responsibility as it is defined in the following examples.

Outlaw Corporations

The outlaw corporation is described as a corporation that covers only those costs that are essential to a level of production for a limited period. The shorter the period the greater the possibility of cutting costs. The extreme case might even allow for nonpayment for raw materials purchased on credit. The outlaw firm violates the "code of ethics." This firm will pursue any method available to increase profits. An example of an outlaw firm is a used car dealer who changes location and business name every six months. This extreme description of the profit maximizer is used to win support for charitable giving as a payoff for "corporate sin" as opposed to the merits of giving.

Short-Run Maximizers

Short-run maximizers are similar to the outlaws except they conform, to some degree, to the rules of society or the "code of ethics." However, attention is centered on the present and near future in terms of profit maximization. This firm might reject a highly profitable project if it required high startup costs or a long construction or development period because of the resulting effects on the current period's income. An example of a short-run maximizer is one that delibertly lowers the quality of their product. If the reduction in quality takes several years to detect, current profits will be increased at the expense of long-run profits. Again the description of the short-run profit maximizer emphasizes the negative characteristics of the corporation to win support for giving. In the cases of the outlaw firm and the short-run maximizer, the purpose of the interpretation is to justify support for giving.

Long-Run Maximizers

The long-run maximizer does not sacrifice future profits for current profits if the present value of the firm is decreased. This type of corporation will not cut current costs to increase current profits if the present value of losses in future revenues plus the present value in future increased costs exceed the current gain. This is interpreted to be the "philosophy" of the long-run maximizing corporation.

The long-run maximizer is a firm whose decisions are based on profitability measured by a present value approach. The supporters of this definition of profit maximization are divided into three groups.

The first group suggests that under this interpretation, a firm could still decide to accept a profitable project, even though potentially harmful effects may result and even though there is a nonharmful alternative available. The harmful project will be undertaken if the cost of paying claims arising from the harmful effects is less than the opportunity cost of the nonharmful alternative project. It is assumed that the actual cost of the harmful effects is greater than the claims paid, causing society to bear a part of the total cost. This firm would still be maximizing profits in terms of present value.

The second and third groups reject this feature of long-run profit maximization. Their long-run profit maximizer is a corporation that uses resources in a way that increases the wealth of shareholders to the greatest extent, as measured by the interaction of the forces of supply and demand in a competitive market. The wealth maximizing corporation absorbs all known costs in the production and sale of their product. This firm contributes a product of greater value than the value of any alternative product, including the alternative of not producing the product at all. The difference between the second and third groups are their attitude towards the benefits of giving. The second group believes giving can increase long-run profits. The third group does not believe that giving can increase long-run profits. They consider corporate giving philanthropic, an expenditure that should be made by shareholders not management.

Social Responsibility

In the area of corporate giving, social responsibility has been expressed in terms of profit maximization. Corporate social responsibility generally includes the need for the firm to donate as compensation for the production costs society has absorbed that should have been paid by the firm. Since the amount of these costs vary, depending on the definition of profit maximization and also the costs associated with internal and external social responsibility, there is a lack of any common basis for useful communication. Social responsibility in this paper will be defined in terms of the long-run maximizer. Social responsibility is the obligation of managers to make expenditures in a manner consistent with the goal of maximizing shareholder wealth.

The failure to properly distinguish between short-run and long-run profit maximization and the common usage of the term social responsibility has resulted in different views as to both the form and the level of corporate giving in the

United States. The following is an attempt to summarize the discussion of these views of corporate giving.

Social Responsibility Contrary to Profit Maximization

The Extreme View

Corporations should give to alleviate the needs of the society in which they operate, even if this giving is contrary to maximizing the wealth of the shareholders.[28] Corporate giving should be based on the "needs" of society and the ability of the corporation to give. The ability of the corporation to give should be determined without reference to the demands of the shareholders. The corporation's proper role is to maximize the wealth of the society in which it operates.[29] This group uses the term "profit maximization" as it is defined in the short-run. Firms in this setting are either outlaw corporations or short-run maximizers. Corporate giving

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[28]For further discussion of this view see: Emerson F. Andrews, "On Business and Philanthropy," Burroughs Clearing House (March 1972): pp. 22-23; Keith Davis, "The Case For and Against Business Assumptions of Social Responsibilities," Academy of Management Journal 16, No. 2 (June 1963): pp. 312-22; Richard Eells, "A Philosophy for Corporate Giving," The Conference Board Record 5, No. 1 (January 1968): pp. 14-18; Alfred C. Neal, "A More Rational Basis for Non-Profit Activities," The Conference Board Record 5, No. 1 (January 1968): pp. 5-7; and Markley Roberts, "Corporate Responsibility --A Goal for the 1980's," AFL-CIO American Federationist 86, No. 11 (November 1979): pp. 8-11.

[29]Turner, "The Societal Role," p. 12.

is necessary to atone for the undesirable results caused by the "maximizing" corporation. This view leads to the impression that the free enterprise system does not provide acceptable results. While this may or may not be true, this group does not advocate the abolishment of the free enterprise system. They only want to intercede in order to increase corporate giving.

Such an extreme view appears to be short-sighted. Certainly to extract all profit from corporations in order to promote the needs of society would result in short-run increases in corporate giving. But the long-run consequences in the investment sector would offset the short-run gains and end the corporate form of business enterprise.[30] With no prospect for shareholder profit, corporate stock would become worthless and external investment would cease.[31] For a corporation to continue to exist, internal funds have to be great enough to replace existing assets as they wear out. With rising replacement costs from both technological advancements and inflation, the prospect of maintaining the asset base appears slight. Current corporate tax laws provide an additional complication. Revenues set aside to cover increases in replacement cost due to inflationary affects are not deductible as a business expense. Any holding gains necessary for

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[30]Mayer, "Managements Social Responsibility," p. 55.
[31]Ibid., p. 56.

replacement must be shared with the government. This would cause a gradual deterioration of corporate assets to a point where continued operation would cease.

Temporary relief from these consequences could be provided by accelerated depreciation methods and investment credit. Cash flow could increase due to allowable write-offs exceeding economic depreciation in the early years of the asset. This shielded cash flow could be used to provide additional depreciable assets. The new assets provide investment credit benefits and accelerated depreciation again increases cash flow for additional investment. The perpetuation of this process depends on cash inflow generated by product sales produced by the newly acquired equipment. Unwillingness or inability of the market to absorb an ever increasing quantity of a product limits this method of postponing the eventual deterioration of the corporation.

The Modified View

An extreme view would lead to nationalization of corporations which is inconsistent with a free enterprise society. The modified view would have government legislate some minimum level of corporate giving. One suggested level is the present maximum allowable tax deduction of 5 percent[32] of pretax

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[32]The five percent limitation was increased to ten percent in 1981.

income.[33] This method would in essence be a change in corporate taxes. The resulting new tax would permit "giving" to those charitable organizations chosen by the corporation. This simple approach would be highly beneficial to charitable organizations and would increase giving five fold. But it is unlikely to be acceptable to the other parties involved. Increased corporate giving to charities would be at the expense of some or all the other groups.

Legislating corporate giving higher than the present level would have the same effect as an increase in income taxes. In addition, since this approach taxes only corporations, the change would have two immediate side effects: (1) A movement from the corporate form of business and a movement from corporate equity securities, and (2) to the degree that charitable organizations spending patterns differ, the change in corporate spending because of the extra tax would change the distribution of wealth in the society.

Corporate Social Responsibility is to Maximize Profits Which Excludes Corporate Giving

A corporation's social responsibility is to maximize profits.[34] Corporate giving is assumed to be altruistic.

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[33]Kenneth N. Dayton, "The Case For Corporate Philanthropy," Vital Speeches 56, No. 20 (August 1, 1980): p. 619.

[34]For further discussion of this point of view, see: Archie B. Carroll, "A Three-Dimensional Conceptual Model of

Altruism in this sense means that the cost of giving provides no return or benefit. Milton Friedman, a leading proponent, explains this view as follows:

> The best way corporations can be used to accomplish social goals is (a) by forcing them to compete so they don't have these monopolistic profits to throw around and (b) by setting up rules so they've got to pay for resources they use and charge for the goods they distribute.[35]

David Novick also agrees with this concept.

> The most efficient use of corporate resources, that which produces the greatest net profit for its shareholders, also creates the maximum benefit for all of society. In this view therefore, profit is the measure of the extent to which the corporation is discharging its social responsibilities.[36]

Friedman also states that:

> In a free enterprise private property system, a corporation executive is an employee of the owners of the business. He has direct responsibility to his employers. That responsibility is to conduct the business in accordance with their desires, which generally will be

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Corporate Performance," Academy of Management Review 4, No. 4 (October 1979): pp. 497-505; Jill Crabtree, "Retailing and Corporate Giving," Stores 60, No. 11 (November 1978): pp. 32-34; Sandra L. Holmes, "Executive Perceptions of Corporate Social Responsibility," Business Horizons 15, No. 3 (June 1976): pp. 34-40; and "Is Social Responsibility a Necessary Component of Corporate Policy Making?" Fortune 88, No. 5 (November 1973): p. 56.

[35]Milton Friedman debating Eli Goldston, sponsored by the Urban Research Corporation in cooperation with CNA Financial, Cummins Engine, Johnson Products and Polaroid, and reported in "Is Social Responsibility a Necessary Component of Corporate Policy Making?" Fortune 88, No. 5 (November 1973): p. 56.

[36]Novick, "Cost-Benefit Analysis," p. 63.

> to make as much money as possible while conforming to the basic rules of society, both those embodied in law and those embodied in ethical custom. . . In so far as his actions in accord with his "social responsibility" reduce returns to stockholders, he is spending their money. Insofar as his actions raise the price to customers, he is spending the customers' money. Insofar as his actions lower the wages of some employees, he is spending their money.[37]

Social Responsibility is to Maximize Profits Which Requires Corporate Giving

The economic theory of the manager's role in operating the corporation is the same as the previous view with one major exception. This group believes that corporate giving is not altruistic, but provides benefits to the corporation greater than the cost.[38] Society expects businesses to perform a variety of social services and the corporation must perform these services if it expects to maximize profits in

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[37]Milton Friedman, Capitalism and Freedom (Chicago: University of Chicago Press, 1963): pp. 13-14; reprinted in Keith Davis, "The Case For and Against," p. 318.

[38]For a further discussion of this point of view, see: Archie B. Carroll, "A Three-Dimensional Conceptual Model of Corporate Performance," Academy of Management Review 4, No. 4 (October 1979): pp. 497-505; "Is Social Responsibility a Necessary Component of Corporate Policy Making?" Fortune 88, No. 5 (November 1973): p. 56; Raymond Mayer, "Managements Social Responsibility: Profit Maximization," S.A.M. Advanced Management Journal 35, No. 1 (January 1970): pp. 53-60; David Novick, "Cost Benefit Analysis and Social Responsibility," Business Horizons 16, No. 5 (October 1973): pp. 63-72; and David Packard, "Corporate Support of Private Universities," Financial Executive 42, No. 3 (March 1974): pp. 30-35.

the long-run.[39] As a result of the social services provided by the corporation, the community is a better place to conduct business. Recruiting high quality labor will be easier, crime will be reduced requiring fewer taxes to be spent on law enforcement, etc.[40]

This view suggests that "corporate giving" is in fact an expenditure for factor goods which enhance profits above the level that would occur without the expenditure. The fact that benefits may be intangible or indirect does not negate their existence. Goodwill is an example of one benefit that may arise from corporate giving. Goodwill is difficult to isolate for measurement, and even if it is quantifiable, actions other than corporate giving may have contributed to its value.

Other benefits of corporate giving that are difficult to measure, but appear to be present are: (1) educational contributions which make it possible for employees to acquire higher levels of professional training, (2) educational contributions used for research that improves corporate technology, (3) contributions to the arts which provide a better cultural environment for employees, customers and others. These benefits are believed to be greater than the cost and necessary in order for the corporation to maximize profits.

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[39]Davis, "The Case For," p. 313.

[40]Ibid.

Corporate Giving is Necessary to Preserve a Pluralistic Society

Pluralists[41] believe that a number of groups should make the decisions concerning social problems.[42] Supporters feel that concentration of power is a threat to free institutions including free enterprise institutions.[43] They assume that it is desirable to maximize the economic freedoms of the individual members of society, and that economic freedom is present when there are alternatives.[44] The corporation is one group along with the church, the state, and the individual with both the responsibility and the power to help solve social problems. If corporations do not accept their responsibility, other groups will step in to assume those responsibilities and the power that goes with them.[45]

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[41]For further discussion of the pluralistic viewpoint, see: McGeorge Bundy, "Private Institutions in the Public Service," Financial Executive 42, No. 3 (March 1974): pp. 36-44; Keith Davis, "The Case For and Against Business Assumptions of social Responsibilities," Academy of Management Journal 16, No. 2 (June 1973): pp. 312-22; Kenneth N. Dayton, "An Optimist's Challenge to the Independent Sector," Trusts and Estates 119, No. 12 (December 1980): pp. 19-21; Paul F. Haas, "The Conflict Between Private and Social Responsibility," Akron Business and Economic Review 10, No. 2 (Summer 1979): pp. 33-36; and John H. Watson, III, "Corporate Contributions Policy," The Conference Board Record 4, No. 6 (June 1967): pp. 12-14.

[42]Eells, "A Philosophy," p. 14.

[43]Andrews, "On Business," p. 23.

[44]Mayer, "Managements Social Responsibility," p. 54

[45]Davis, "The Case For," p. 314.

Corporate contributions also provide for more creative giving. The corporation is more sensitive to a change in society's norms and reacts more quickly to change than a government agency. Corporations meet the needs of society without attaching all the constraints characteristic of government agencies.[46]

The Filer Commission reporting on private philanthropy and public needs stated the following:

> . . . no single institutional structure should exercise a monopoly on filling public needs; that reliance on government alone to fill such needs not only saps the spirit of individual initiative but risks making human values subservient to institutional ones, individual and community purposes subordinate to bureaucratic convenience or authoritarian dictates. Thus the third sectors' role as an addition to governments, has possibly never been more important, the basic rationale of the third sector in the philosophy of pluralism has possibly never been more pertinent.[47]

Recipients need to have more than one external donor to be truly independent private institutions. Donations need to be collected from several sources to remove the threat of domination by the philosophy of one special interest. And funds provided by government budgets vary on a timetable that may differ from the needs of the recipients.[48]

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[46]Ibid.

[47]Filer Commission Report, "Giving in America: Toward a Stronger Voluntary Sector, The Report of the Filer Commission on Private Philanthropy and Public Needs: A Summary," <u>Trusts and Estates</u> (February 1976): p. 85.

[48]Bundy, "Private Institutions," p. 38.

Tax Developments

Attempts to provide for corporate tax deductions for contributions were rejected in 1918 and 1921 by the Congress even though deductions for individual giving had been allowed by § 121(2) of the Revenue Act of 1917.[49] A deduction for corporate giving was not provided until the Revenue Act of 1935 in § 23(r).[50] Deductions were allowed for gifts to or for the use of:

> . . . a corporation, trust, community chest, funds or foundations, created and operated exclusively for religious, charitable, scientific, veterans groups, literary, or educational purposes or for the prevention of cruelty to children if they are organized under the laws of the Federal, State or U. S. Territorial governments, are non-profit and do not devote a substantial part of their activities to influencing legislation.[51]

Contributions are subject to a limitation of 5 percent of net income, computed without the benefit of such deductions, and any excess is not deductible as a business expense unless it was in fact a business expense.[52] Deductions are generally allowable only for the taxable year in which the contribution is paid. Accural corporations are allowed to deduct any

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[49]Ronald L. Groves, Esq., Charitable Contributions by Corporations, Tax Management Portfolio No. 290 (Washington, D.C.: Tax Management Inc., 1973): p. A-3.

[50]Ibid., p. A-4.

[51]Federal Tax Course, 1955, (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1955): p. 3119.

[52]Ibid.

contributions authorized by the board of directors during the taxable year, even if not paid until after the end of the accounting period, if paid before the 15th day of the third month after the close of the accounting year.[53]

In the years beginning after December 31, 1953, the excess of 5 percent could be carried over for two years, provided carry-over year's deduction plus carry-over does not exceed 5 percent of net income without regard to operating loss carry-back to the taxable year and special deduction for Western Hemisphere Trade corporations.[54] The carry-over feature was extended to five years for taxable years beginning after January 1, 1963.[55]

In the enactment of the charitable deduction, the legislature gave corporations the right to take a special deduction from taxable income for certain gifts and contributions not to exceed 5 percent of taxable income before the deduction.[56] Although there was considerable concern over the right of corporations to make gifts and contributions from corporate funds, this special deduction tended to support

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[53] Ibid.

[54] Ibid., p. 3120.

[55] Groves, "Charitable Contributions," p. A-11.

[56] Orace Johnson, "Corporate Philanthropy: An Analysis of Corporate Contributions," Journal of Business 39, No. 4 (October 1966): p. 491.

that right, and at the same time implied that corporate giving was not an ordinary and necessary business expense.

The tax regulations had already provided for businesses to deduct any ordinary and necessary business expense in arriving at taxable income. The ordinary and necessary business expenses are referred to as Section 162 items and the special deductions for gifts and contributions are referred to as Section 170 items.[57] The implications of Section 162 and 170 have contributed to the controversy over the right of corporations to make gifts and contributions with corporate funds.

Proponents of corporate charity interpret Section 170 as a mandate for corporations to give. They interpret the five percent limit as the socially responsible amount corporations should give.[58] Opponents of corporate giving interpret Section 170 to imply that corporate giving is not an ordinary or necessary business expense qualifying as a Section 162 deduction. The five percent limit is interpreted as the maximum expenditure for gifts and contributions not authorized in corporate charters.

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[57]George Brody, "Tax Effects on Inventory Methods: Contribution or Business Expense? Tax Results May Differ," Taxation for Accountants 10, No. 6 (June 1973): p. 360.

[58]Dayton, "The Case For," p. 619.

Development of the Legal Philosophy

In the period prior to 1915, the courts reviewed corporate giving cases in terms of a literal interpretation of the powers expressed in the corporate charter.[59] This stage of development in court philosophy has been labeled the "strict constructionist" view.[60] Under the strict constructionist view, corporate benefit was irrelevant. If the activity was not authorized by the charter, it was "ultra vire even though it might be profitable."[61]

The second stage of development occurred between 1917 and 1932. The limited corporate charter was replaced with a liberalized corporate charter.[62] Since the charter no longer detailed a strict purpose of the corporation, the courts leaned towards a "direct benefit rule."[63] When corporate giving was used as a method to increase revenues, and the benefit was reasonably direct, the courts upheld management's action as related to business operation authorized by the charter.[64]

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[59]Philip I. Blumberg, "Corporate Social Responsibility and the Social Crisis," Boston University Law Review 50, (1970): p. 168.

[60]Ibid.

[61]Ibid.

[62]Ibid., p. 169.

[63]Ibid.

[64]Ibid.

After the Internal Revenue Code was amended in 1935 to include an allowable deduction for corporate giving of up to five percent of taxable income,[65] the states began adopting expressed statutory provisions empowering corporations with the right to make charitable contributions. The number of states with such legislation increased from 9 in 1938 to 41 in 1956.[66] During the approximate period, 1936-1953, the courts began to lean toward a policy of upholding the right of corporate managers to make contributions for purposes that appear to provide only indirect benefits.

In 1953, the Supreme Court of New Jersey, in A.P. Smith Manufacturing Co. v. Barlow, rejected the benefit rule as irrelevant and supported a $1500 donation to Princeton University basing their decision on the social responsibility of business to higher education.[67] Supporters of corporate giving proclaimed the decision in the Smith case as a mandate for increased corporate giving. This decision marked the beginning of a whole new philosophy of corporate giving.[68]

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[65] Groves, "Charitable Contributions," p. A-3.

[66] Blumberg, "Corporate Responsibility," p. 167.

[67] Ibid.

[68] Norman Kurt Barnes, "Rethinking Corporate Charity," Fortune 15, No. 4 (October 1974): p. 170.

Major Studies on the Nature of Corporate Giving

R. A. Schwartz

A study of personal and corporate philanthropy was presented by R. A. Schwartz in 1966.[69] Schwartz classified corporate giving motives as either expenditure oriented or consumption oriented.[70] Schwartz used the following as examples of expenditure oriented giving:

(1) Giving to improve the image of the firm resulting in an upward shift of the demand curve. This type of giving is a form of advertising.

(2) Giving to educational, health, or cultural institutions that is expected to increase the quality of life for employees and their families. This is assumed to increase the productivity of the employees.

(3) Giving for research to universities that is expected to provide technological advancements beneficial to the firm. Expenditure oriented giving is one of the many resources used in production and is consistent with the profit motive.

Consumption oriented giving was assumed to be a through-the-firm purchase for the personal use of the owner. Schwartz

[69]Robert A. Schwartz, "Private Philanthropic Contributions--An Economic Analysis," Ph.D. Dissertation, Columbia University, 1966.

[70]Ibid., p. 73.

believed that this type of giving might be truly philanthropic. Consumption oriented funds have alternative uses such as payment of dividends, retention for reinvestment or retirement of liabilities.

Schwartz tested the strength of these motives using a time series regression. He used data compiled from various editions of Statistics of Income, Part II, provided by the Internal Revenue Service. His analysis covered the period 1936 through 1961. He used data on all corporate returns, which included firms reporting losses as well as firms reporting profits. In his arrangement of the data, Schwartz averaged net income figures by dividing aggregate net income by the number of returns filed and deflated average income using the implicit GNP price deflator.

Schwartz represented the functional relationship of corporate giving as: CG = f(P, R, A)

where: CG = Corporate Giving

P = Relative Price

R = Resource Constraint

A = Advertising.

Corporate giving was measured by the amount of gifts and contributions reported on annual tax returns of all firms. Relative price depended on the level of income or loss. For firms contributing less than 5 percent of net income, the price of giving is (1 - t) where "t" is the marginal tax rate.

For firms giving in excess of the 5 percent, the cost above the 5 percent is unity. For loss firms, the price of giving is also unity. The price is reduced by "t" because corporate giving is deductible for tax purposes up to a limit of 5 percent of net income.

The weighted price used in the analysis was:

$$P = \frac{(1 - t)\ D_n + D_l}{D_n + D_l}$$

where: t = the average tax rate of the firm

D_n = donations of firms with income

D_l = donations of firms without income.[71]

The resource constraint was measured by using alternatively net income or cash flow. Cash flow is defined as net income plus depreciation, depletion and amortization. Advertising was also considered an expenditure oriented variable. Factors which cause the firm to advertise more might also cause the firm to give more.

Schwartz suggested that if corporate giving reacted positively to a decrease in the tax rate then giving was consumption oriented and therefore philanthropic in nature. He assumed that changes in the tax rate would not affect the least cost combination of factors or the best profit output equilibrium under a static analysis. Therefore there would

[71]Schwartz excluded the present value effect of carryover which exceeded the five percent limitation.

be no change in the level of expenditure oriented corporate giving as a result of a change in the tax rate. Expenditure oriented donations should be more responsive to changes in cash flow than to changes in income. Any relationship between advertising and donations meant that giving rates were affected by considerations of profit maximization.[72]

Schwartz concluded from his analysis that the reaction of changes in giving to changes in price supported giving as more than just expenditure oriented. However, the strength of the changes in giving to changes in cash flows, as compared to income, supported the expenditures oriented approach. Schwartz deleted advertising because the results of the regression analysis indicated the variable was insignificant.

The main criticisms of the Schwartz study, according to Ralph L. Nelson[73] and Orace Johnson[74] concerned his inclusion of loss firms and his averaging technique. Since firms cannot have negative gifts and contributions, the inclusion of loss firms lowers aggregate net income while not lowering

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[72] Schwartz, "Private Philanthropic Contributions," p. 71.

[73] Ralph L. Nelson, Economic Factors in the Growth of Corporate Giving, Occasional Paper 111, National Bureau of Economic Research (New York: Russell Sage Foundation, 1970).

[74] Orace Johnson, "Corporate Philanthropy: An Analysis of Corporate Contributions," Journal of Business 39, No. 4 (October 1966): pp. 489-504.

gifts and contributions. This tends to increase variability, depending on the amount of losses reported.

Another criticism is that since the independent variable is net income, the exclusion of loss firms, where giving was probably due to other variables, would have allowed for a better analysis of the effects of net income. Averaging of net income and gifts and contributions, even with the exclusion of loss firms, may cause considerable variation in the analysis due to mergers and consolidations reported on joint returns or consolidated tax basis. While net income and gifts and contributions may not change due to merger, the number of firms decreases, thus affecting the average and relative change in the independent income variable and the dependent gifts and contributions variable.

Nelson also criticized Schwartz's use of the average tax rate as opposed to the marginal tax rate.[75] While the marginal tax rate is theoretically superior, it is difficult to define. The marginal tax rate varies depending on before tax income. For example, in 1976, the marginal tax rate was zero for firms having no net income; .2 for firms with net income before tax between zero and 25,000; .22 for firms with net income before tax of 25,000 to 50,000; and .48 for firms with net income before tax of 50,000 or greater. Other

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[75]Nelson, Economic Factors, p. 40.

factors which also affect the marginal tax rate are the surtax and excess profits tax, excess accumulated earnings penalty tax, and carry-forward. Nelson pointed out that the ideal tax rate would be an average of the marginal tax rates of different firms weighted by the relative amounts of gifts and contributions made at each marginal tax rate. However, the available data is not arranged for computation of the ideal price and an approximation is necessary for analysis.[76]

Orace Johnson

Orace Johnson attempted to determine the effect of firm size and industry structure on corporate donations in his 1966 study.[77] The dependent variable was a contribution ratio derived by dividing gifts and contributions by "compiled net profit" as reported in tax returns filed with the Internal Revenue Service. The data was compiled from the unpublished editions of the Source Book of Statistics of Income, Corporate Income Tax Returns for the years 1936-61.

The Johnson study defined the motives for corporate giving as either profit maximization and or social responsibility. The percentage of giving to net income was defined as the contribution ratio. The contribution ratio was used as the dependent variable under each of five separate hypothesis.

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[76]Ibid.

[77]Orace Johnson, "Business Corporations and Philanthropy: A Study of Why Corporations Give," Ph.D. Dissertation, University of Chicago, 1966.

(1) If corporations were socially responsible, their contribution ratio would be five percent. The allowable tax deduction was interpreted as the level of social responsibility set by law.

(2) The contribution ratio of socially responsible firms should increase with size and industrial concentration. Johnson argued that with economic power would come added responsibility.

(3) Service industries would report giving at a lower rate than product industries because of higher net cost. The difference in cost was because donation of a product is deductible for tax purposes while donation of a service is not a tax deductible item. Industries predicted to give more were trade, manufacturing, agriculture and construction. Those having non-deductible or unusable products were regulated utilities, finance, service and mining.

(4) Highly competitive and monopolistic industries would give less than oligopolistic industries. Johnson classified oligopolistic firms as rival firms. Rival firms were expected to give more as a method of innovative strategy. Competitive firms could not give and remain in competition. The monopolistic firm could not gain from giving and donated products would result in decreased sales. Manufacturing, services, trade and construction were classified as rivals. Agriculture was more competitive. Utilities, finance and mining

were more monopolistic. Since only rivalry allows for a gain, the contribution ratio should be higher for the first four industries.

(5) If size could be used as a measure of monopolistic power, then small and large firms should give less than intermediate size firms.

Industry averages over the period 1936-61 were calculated and compared to the contribution ratios. Johnson concluded the following from his analysis:

(1) Businesses have shown no desire to reach the five percent level of giving.

(2) Power as measured by concentration does not lead to greater social responsibility.

(3) Two sectors, agriculture and services, did not behave as hypothesized.

(4) Test results supported the industry structure hypothesis that competitive and monopolistic firms would give less and rival firms more.

(5) The analysis also supported the hypothesis when total assets could be used as a measure of size.

R. A. Schwartz[78] had three major criticisms of Johnson's analysis. First, he failed to present a priori reasons for believing that income elasticities would be greater for

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[78]Robert A Schwartz, "Reply," Journal of Finance 25, (1970): pp. 153-57.

medium-sized than for large or small firms. Second, he failed to distinguish between consumption and expenditure oriented motives for giving. Third, he failed to realize that the effect of market structure on consumption oriented giving is relatively unpredictable.

Schwartz thought the system of industry classification was a good framework for further analysis. He was concerned about Johnson's use of income instead of cash flow, since the analysis was primarily interested in expenditure oriented donations. He also questioned Johnson's method of assigning major industry groups to market structure. While the results tended to support the hypothesis, "further disaggregation may show that within-group dispersion is so great that between-group differences are not significant."[79] Schwartz also felt that the regression method of analysis was superior whenever the relationship between variables can be adequately described by standard functional equations.[80]

Ralph L. Nelson

The last major study of corporate giving to be discussed was published by Ralph L. Nelson in 1970.[81] Nelson also used Internal Revenue Service data for the period 1936-1963. He used time series regressions to test for a scale

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[79]Ibid., pp. 155-56.

[80]Ibid., pp. 149.

[81]Nelson, Economic Factors.

effect, price effect, profitability effect, trend factor, and a variable for measuring the effect of anticipation of a tax rate change. Cross-sectional analysis was performed for the effects of corporate size, profitability and giving, employment and giving, and dividends and giving.

Nelson concluded from the cross-sectional analysis that large corporations gave neither more nor less in proportion to their size than do small ones. Results of the time series analysis supported tax deductibility of corporate giving as a "significant factor in the giving decision."[82] Both the time series and the cross-sectional analysis indicated only a slight responsiveness of giving to changes in the rate of return on shareholder investment. The cross-sectional analysis found there was a significant relationship between corporate giving and labor used in production. Lastly, the cross-sectional analysis found a significant relationship between contributions and dividend payments.

Nelson restricted his time series regressions to aggregate all-industry data for firms reporting net income. He assumed non-linear relationships and tested using a log base ten. He did not test the major industries separately in his time series regressions. Nelson used the highest marginal tax rate in computing his price. The inclusion of after tax income as a proxy for income measure is biased by changes in

[82] Ibid., p. 54.

the income tax rate, which is also being used to measure price. The use of net worth discounted by the implicit GNP price deflator tends to understate changes in net worth and therefore overstate the responsiveness of donations to net worth.

CHAPTER III

PLANNED ANALYSIS AND DATA

General

Previous studies into the nature of corporate giving concentrated on a dichotomy between profit maximization and social responsibility. The position of this research paper, as discussed in Chapter II, is that there is no dichotomy between profit maximization and social responsibility. The social responsibility of a corporation is to maximize long-run profits. Therefore, the value of the product or service should be greater than the cost of production as determined by the market. In those cases where the market system does not force payment for all the costs of production, regulation is preferred to restitution in the form of corporate giving.

The Model

Two motives will be examined to test the nature of corporate giving, both of which have received considerable attention in the literature. They are as follows:

(1) the business expenditure motive, which is expected to provide a satisfactory return on the outlay;

(2) the through-the-firm consumption motive, which seeks to provide a product or service that otherwise would have had to be purchased by the donor from wages or dividends. With this motive, both the recipient and the donor benefit because of tax considerations, for example, as with business lunches and philanthropic giving.

Corporate giving as a form of through-the-firm consumption is defined as philanthropic in nature. The utility derived from corporate donations accrues to either management or the shareholders. However, there are supporting arguments suggesting that management through-the-firm consumption produces no significant effect on the level of corporate giving.

If the business expenditure or owner through-the-firm consumption motive exists, then the manager may receive considerable personal utility in his role as a corporate giver. As a result of manager giving to increase profits or to act as an agent for shareholder giving, the recipient of the donation will tend to ignore the distinction between the manager making the decision and the corporation. The manager will be treated as though he is in fact the donor.

Giving not classified as business-oriented or shareholder consumption is classified as management consumption and threrfore a substitute for management's salary. As there appears to be no income tax advantage or cost savings either to the corporation or to the manager, any additional reasons for giving by management appear to be served more directly through personal giving. Therefore, one premise of this study is that management through-the-firm consumption is not significant, and it is excluded from the model in the first stages of testing.

The preceding discussion suggests that corporate giving is the result of a number of factors acting as determinants of the size of contributions. In order to simplify the discussion of the statistical methodology, the assumption (at least provisionally) is that corporate giving is determined functionally as follows:

$$CG = f(A, E, D, P, L, F, C)$$

where: CG = Corporate Giving,

A = Advertising,

E = Employment Level,

D = Dividend Payout,

P = Profitability,

L = Liquidity,

F = Financial Leverage,

C = Cost.

The variables selected have differing degrees of power in explaining the nature of corporate giving. Liquidity, employment level, and dividend payout may indicate support for either the business expenditure motive or the through-the-firm consumption motive, depending on the significance and or the direction of the relationship. Advertising and profitability may be explanatory a priori only if the significance and direction of the relationship is as predicted.

The Variables

The following section presents the variables initially tested and explains the rationale for their possible significance to corporate giving, thus justifying their inclusion in the regression model.

The Dependent Variable

Corporate giving (CG) is the dependent variable. The dependent variable represents corporate contribution of resources to education, health, welfare, arts, and other social services which may or may not provide a direct benefit to the firm. Gifts and contributions as a category reported on Federal tax returns is used as a surrogate for corporate giving. Reported gifts and contributions, however, do not include the value associated with services rendered for charitable purposes by employees on company time. The cost of administrative services associated with corporate giving are also excluded. However, the value reported is believed to remain a relatively proportionate amount of total corporate giving and thus adequately serves as a surrogate for testing the nature of corporate giving.

The Independent Variables

Advertising. The papers and television frequently report corporate community involvement with some social promotion for the advancement of health, education, or a cultural project. For example, a scholarship to a college for an athlete's outstanding performance during a game is announced at the end of the contest. Later the local paper reports the contribution in conjunction with the local firm. The scholarship fund then is established by the institution's financial aid office under the name of the donor, and the donor's name is publicized through literature circulated by the financial aid office.

In another instance, a corporation donated funds to build a special addition at the local hospital, for which the corporation receives publicity in the various news media. The hospital eventually places special plaques in the new addition citing the donor's generosity as responsible for the construction, and perhaps the facilities are even named after the donor. Some corporations include in their budgets funds specifically to help publicize their contributions to community projects.

Such corporate efforts to publicize social involvement is, in effect, a form of advertising that emphasizes the image of the corporation, rather than its products or services.

However, product advertising is also achieved when the corporation donates goods and services. An assumption in this study is that giving to improve image and product advertising are complementary inputs, an assumption consistent with that made by Whitehead in his cross-sectional model.[1] This direct relationship between advertising and giving would support the business expenditure motive.[2]

Employment Level. Corporate giving began in the last quarter of the nineteenth century when the railroad companies paid over half the construction cost of YMCA buildings favorably located for railroad employees. The practice of giving to vocational schools to train potential employees is a more recent example of corporate giving related to employment.[3] The employee-oriented nature of corporate giving is suggested by Levy and Shatto:

> When businesses move employees into a developing section of the country, the increases in population strains existing facilities--schools, hospitals, and the like. Moreover, the employees complain about the shortage of services and cultural benefits, especially those services customarily provided in their old locales. Recognizing the correlation between profits and a stable

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[1] James P. Whitehead, "Some Economic Aspects of Corporate Giving," Ph.D. Dissertation, Virginia Polytechnic Institute and State University (May 1976): p. 32.

[2] Corporate giving and advertising may also be substitutes. But an inverse relationship between advertising and giving would also support the business expenditure motive.

[3] Ferdinand K. Levy and Gloria M. Shatto, "A Common Sense Approach to Corporate Contributions," Financial Executive 56, No. 8 (September 1978): p. 37.

workforce, corporations promote music and art programs as well as health and educational facilities. By improving the quality of life for their employees, through supporting and initiating community services, corporations exhibit enlightened self-interest ancillary to their profit motive.[4]

The employment motive for giving suggests a positive relationship between giving and the number of individuals employed. The number of employees per industry, however, is not given in the data provided by the Internal Revenue Service. On the major industry level, the classification of businesses by the Standard Industrial Classification (SIC) method is basically the same as the Standard Enterprise Classification (SEC) method. Because the SIC does give the number of employees by industry, it was used to measure the level of employment. A direct relationship between corporate giving and the number of employees would support the profit motive.

Dividends. The differing tax treatment of dividends and corporate giving offers a potential advantage for through-the-firm consumption. Shareholders may direct management to donate to a charity some of the funds available for dividends. Since corporate giving is a deductible expenditure and dividends are non-deductible, shareholders may increase their giving dollars at no extra personal cost. For example, if the corporation has a marginal tax rate of fifty percent, management can donate two tax-deductible dollars to a charity where

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[4] Ibid.

it might otherwise pay taxes of one dollar and declare the other dollar a taxable dividend to shareholders.

If the corporation is to aid shareholders in giving, some decision criteria should be available for determining the appropriate level of contributions. One basis would be to designate some proportion of the funds available for dividends. This would result in determining corporate giving according to the same variables which influence corporate dividends. Therefore, if corporate giving is a form of through-the-firm consumption, a direct relationship is expected between giving and dividends.

Another basis for giving could be that, after some minimum level of dividend payout, a proportion of the remaining funds available would be allocated for giving. This second basis should also result in a direct relationship between giving and dividends. Alternatively, management may first determine the funds available for distribution to the owners, and then divide the allocations between giving and dividends. In this case, dividends and giving would be substitutes; and an inverse relationship would exist.

Up to this point, the discussion of dividends has been viewed from the consumption-oriented motive. However, the business motive may also influence decisions relating to dividends. Management is usually reluctant to reduce dividends, and this attitude results in a similarly conservative reluctance to increase dividends until maintenance of the increased level is relatively assured. To avoid shareholders' pressure for higher dividends because of excess liquidity, management may use giving as a means of temporarily reducing liquidity. This "smoothing effect" would be justified if the giving serves a business motive and would result in increased giving during a period of constant dividends and decreased giving with an increase in dividends. If giving is a form of through-the-firm consumption, the relationship to the dividend variable is expected to be significant--either direct or indirect. An insignificant relationship would suggest that giving is not a form of through-the-firm consumption and thus would tend to support the profit motive.

Profitability. Schwartz defines net income and cash flow as a measurement of profits and therefore used them to represent the ability of the corporation to give. Nelson defines his resource constraint as net income, stating that net income is a measure of profitability. Both researchers hypothesized that if either higher income or cash flow (profitability) resulted in proportionately higher giving, the consumption-oriented motive was supported. However, net income and cash flow are more appropriately defined as liquidity constraints and will be discussed with that variable.

For the corporation, profitability is defined as a return on investment. This return on investment is defined as net income divided by stockholders' equity. The equity base is used because the goals are related to maximization of shareholder wealth.

During periods of high profitability, the firm's ability to give will increase. According to the consumption motive, those who have more will give more. Therefore a direct relationship between giving and profits may be interpreted as supporting the through-the-firm consumption motive. An inverse relationship would indicate that giving is not a form of through-the-firm consumption.

If giving is a form of advertising, giving may increase during a period of falling profits and decrease when profits are up. The firm will increase advertising (giving) in order to minimize the drop in profits. When profits are high, there is less need to push the product or firm's image, resulting in a decrease in advertising (giving). This would suggest that an inverse relationship between profits and giving would result if giving is a business, or advertising, expenditure.

Liquidity. Previous studies have all included a measure to determine the resources available for corporate giving. The level of income proved to be a valuable explanatory variable in the study of private giving. Cash flow could also be expected to show a strong direct relationship to individual giving. Cash flow usually is the same as income for the individual; therefore, both may serve as a measure of the ability to give. If corporate giving is an extension of personal giving, the liquidity of the firm is expected to be a contributing factor in explaining the nature of corporate giving.

Schwartz hypothesized that since the individual gave more as income increased, corporations would also give more as income increased if giving were consumption-oriented. While Schwartz interpreted income as a measure of profit for the individual, his extension to the corporation changed the form of income. Schwartz was really testing corporate giving to liquidity whereas a better measurement of liquidity is the current ratio. This latter measurement has the advantage of measuring liquidity on a relative basis whereas income and cash flow do not.

If corporate giving is a form of through-the-firm consumption, an increase in liquidity will result in an increase in giving. If, on the other hand, corporate giving is related to the profit motive, then an increase in liquidity is not expected to cause an increase in giving.

Financial Leverage. As the level of debt increases for a firm, within a giving industry and relative to stockholders' equity, the level of risk also increases. Since risk is an important factor in any business expenditure, corporate giving is also expected to be affected if such giving is based on a business-oriented motive.

The increase in risk from an increase in financial leverage is partially measured by the resulting current position of the firm and also by its ability to cover the increase in fixed cost associated with debt. The manager may offset the risk from increased financial leverage by decreasing operating leverage and increasing the funds available to cover fixed cash costs by reducing corporate giving. This results in improved liquidity and coverage ratios and a slight improvement in the debt-to-total-assets ratio, as less giving means more retained earnings. Therefore, an inverse relationship between giving and leverage would support the business expnediture motive.

Cost. The previous studies by Schwartz and Nelson defined the cost of giving as (1 - t) where "t" was the marginal tax rate, and the tax treatment of giving relative to other variables was suggested to be important in examining the motives for giving. For example, if the nature of giving is profit-oriented, then it is competing for funds with other expenditures which are deductible. Therefore, a change in the tax rate without a relative change in the ratio of giving to other factors would support the business motive for giving.

On the other hand, if giving is not a business expenditure, then it is competing with dividends, reinvestment, or reduction of liabilities, which are not deductible for tax computation. Therefore, according to Schwartz, the cost of corporate giving would decrease with an increase in the tax rate relative to dividends, reinvestment, or the retirement of corporate liabilities.[5] He thus concluded that an inverse relationship between giving and the cost of giving suggested that the motive for giving was through-the-firm consumption. Conversely, the lack of a response in the level of giving to a change in the tax rate may support the business motive, at least under a static analysis.

The Manager-Owner Agency Relationship

While this description of the research model has thus far excluded the factor of through-the-firm consumption by management, consideration of the role played by management in its agency relationship with the owners is important. Owners prefer to diversify their investments to reduce risk rather than attempt to concentrate their investment for control purposes, and this diversification requires owners to contract for an agent to manage their common interests. These agents are ultimately responsible for the operation of the firm.[6]

Managers are generally non-equity owners who are seeking to maximize their own self-interest. The concern is this: how can the shareholders' self-interest be preserved while the managers are maximizing their own self-interest? This potential conflict of interest is an important feature of the workings

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[5] Robert A. Schwartz, "Private Philanthropic Contributions--An Economic Analysis," Ph.D. Dissertation, Columbia University, 1966, p. 74.

[6] Hand, John H.; Lloyd, William P.; and Rogow, Robert B., "Agency Relationships in the Close Corporation," Financial Management (Spring 1982): p. 25.

of the market system. In particular, this factor is apparent in the labor market for corporate managers. Specifically, the market's evaluation of equity securities reflects the relative efficiency of the corporate manager; furthermore, the evaluation of equity securities is considered in the labor market to determine the manager's compensation for his services.

> Within the firm, executive incentives are provided through the dependent nature of each individual's marginal product. Each manager realized that his value in the labor market is determined, in part, by the performance of the firm which is dependent on the actions of other hired managers. This leads to an internal policing effort that monitors and controls contrary executive behavior.[7]

The corporate manager's act of giving should be reflected in the internal and external labor market as well as in the securities market. If giving is a form of manager through-the-firm consumption, it will be viewed as manager compensation by the owners--a factor reflected in the securities market. It will also result in lower contract wages in the labor market. Thus, if corporate giving is interpreted as a form of agency cost or manager through-the-firm consumption, managerial compensation will decrease as corporate giving increases.

If, though, corporate giving is a form of owner through-the-firm consumption, it will not be reflected in a decline in security prices. Since corporate giving is deductible for

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[7]Clifford B. Sowell and W. Stewart Mounts, Jr., "The Economics of Corporate Giving: Theory and Evidence," An unpublished paper presented at the Midwest Economics Association Meeting, Louisville, Kentucky, April 1981.

corporate tax purposes, the giving needs of the individual could consequently increase. The owners could effectively give more by allowing the corporate manager to make their contributions rather than to distribute the after-tax profits in the form of dividends. In this situation, the desirability of owner through-the-firm consumption would be reflected favorably in the securities market with a corresponding favorable effect for the manager in the labor market. Therefore, a direct relationship between giving and officer's compensation may be intrepreted as supporting owner through-the-firm consumption.

The Data

The major portion of the data used in the following analysis was collected from the Corporate Source Book of Statistics of Income, a set of unpublished worksheet tables, or from the annually published Statistics of Income, Corporation Income Tax Returns.[8] Balance sheet and selected income statement items are available for each year after 1936 with the exception of 1962. Because only limited balance sheet data were available for 1962, that year's data were generated using an average percentage of common size statement items for 1961 and 1963. For example, in 1962 one of the figures provided was total assets. The total assets figures for 1962 and 1963 were

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[8]The limited number of observations (38) is less than ideal. However, the previous studies by Schwartz and Nelson used only 26 and 28 sets of data, respectively.

first used to calculate the respective percentages of cash, accounts receivable, etc., for those years. The resulting percentages for 1961 and 1963 were then averaged; that average figure was then multiplied by 1962's total asset figure to generate cash, accounts receivable, etc., for 1962. This method provided estimates very close to the two other balance sheet items actually listed for 1962, inventories and depreciable assets.

Balance sheet and selected income statement items were provided by each year in one of two formats: (1) the aggregates for all corporations and also for all corporations reporting a net income, or (2) the aggregates for all corporations reporting a net income and also for all corporations reporting a net loss. Regardless of which format was used, three consistent sets of data for each year, 1936 through 1973, were compiled: (1) the aggregate for all corporations, (2) the aggregate for all corporations with a net income, and (3) the aggregate for all corporations with a net loss. (Data set 1 equals data set 2 plus data set 3.)

In the tradition of earlier studies, data set 1 (including all firms) would be the choice to use for analysis. However, a preliminary review indicated that such a general approach would not necessarily yield the most useful results. The aggregate data of loss firms indicated that while these firms generally gave less than two percent of total corporate giving, they generally constituted more than thirty percent of total corporations. Failing to distinguish the data of loss firms from the other corporate giving data thus reflects large increases in most of the aggregate dollar items reported, a decrease in aggregate net income, and only a slight increase in corporate giving.

Since this study, however, is primarily concerned with "why corporations give," the exclusion of corporations that do not give should clarify the interpretation of the regression results. This decision to exclude the loss firms, furthermore, is consistent with the studies performed by Johnson and Nelson and thus facilitates comparison of results with these studies.

The aggregates were divided into major and minor industries using the Standard Enterprise Industrial Classification issued by the Office of Statistical Policy and Management Information Systems, Office of Management and Budget, Publication 647.[9] Publication 647 provided a comparison between the above classification and the Standard Industrial Classification, and although there were some differences between the minor industry classifications, the major industry classifications were the same.

In addition to the aggregate nature of the data, other limitations are described in Publication 647. The line items listed in the balance sheet were not the same in each year.

[9]Treasury Department, Internal Revenue Service, Corporation Source Book of Statistics of Income, Publication 647 (Rev. 2-78).

For example, government securities were listed as one figure in the earlier years and separated into Federal and State components in later years. The most condensed figure was used in those cases in order to have a consistent classification for the entire time span covered by the data.

Another limitation was related to the reporting method of large companies with diversified interests. If a consolidated return was used for reporting purposes, the comparability might be compromised as stated in the following:

> Even though the classification system is designed to apply to the company rather than the establishment, its application to corporation income tax return statistics has limitations. For corporations, industry statistics are generally governed by the returns of the larger companies. Since a return is classified by industry based on the activity accounting for the largest percentage of total receipts, this means that large corporations with diversified activities are included in only one industry even though many of their business operations are unrelated to the industry in which they are classified . . . Statistics for an industry may be either understated by amounts reported by corporations whose principal activity lies elsewhere, or overstated by amounts reported by corporations classified in the industry but having substantial operations in other industries.[10]

When the reporting unit files separate returns for each member of a group of related companies, the problem is minimized. The problem becomes more critical when disaggregation is attempted and or a large number of consolidations, mergers or spin-offs are transacted during the reporting period. Since this analysis does not disaggregate the data below the

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[10]Ibid., p. 2.

major industry classification, the limitation was assumed to be minor.

The cost of corporate giving is reported in current dollars as "gifts and contributions" on tax returns filed with the Internal Revenue Service. The purchasing power of gifts and contributions are affected by the changing real value of the dollar. Adjusting for the changing purchasing power of the variables used in this analysis depends on finding some index to measure the change. Most indexes are based on a quantity-price relationship. They cannot separate changes in prices due to: (1) quality changes, (2) technological changes, and (3) other economic changes from changes in purchasing power. An appropriate index for corporate giving presents another complication related to the measuring unit. The variables used are intangibles, no common unit of measurement is provided. This makes the development of an index, to adjust for purchasing power changes over time, difficult. The traditional solution is to rely on one of the common indexes: (1) the Wholesale Price Index, (2) the Consumer Price Index, or (3) the Gross National Product (GNP) Implicit Price Deflator. Expressing the variables in ratio form eliminates chosing which index to use. The lack of goods which dominate the consumer basket and the failure to acquire goods at wholesale prices, makes it necessary to reject the Consumer Price Index and the Wholesale Price Index. Corporate giving is for a variety of purposes: capital improvements, health, education, cultural services, advertising, etc. The diversity of these expenditures makes the GNP Implicit Price Deflator the best choice. Schwartz and Nelson also chose the GNP Implicit Price Deflator in their studies.

Internal Revenue Service data is the only comprehensive set of data presently available for an analysis of corporate giving. Although the analysis undertaken in this research paper is expected to greatly increase the understanding of the nature of corporate giving, any interpretation of the results must consider the limitations imposed by aggregation of the data.

The Method of Analysis

The analysis will assume that the structural form of the firm's decision process may be expressed in terms of the general linear model using generalized least squares estimation. In particular, let the relationship be as follows:

$$(1)\quad CG = K + B_1A_t + B_2E_t + B_3D_t + B_4P_t + B_5L_t + B_6F_t + B_7C_t + B_8U_t + e_t.$$

where: $t = 1, 2, 3, \ldots 38$, for the years 1936-1973.

U_t = 0 if t is less than 18 (1953) or
1 if t is equal to or greater than 18 (1953).

e_t = random error term.

The analysis of the statistical methodology begins by assuming the simplest structural model, namely, the single equation model, equation (1) above for each major industry. However, within each equation there are several statistical problems that must be anticipated. The least squares methodology assumes that the model being estimated is of full rank and hence all coefficients are estimable. However, the matrix of independent variables may be singular or sufficiently close to being singular so that precise estimation of some or all of the individual parameters may be impossible. In effect, strong correlation among some independent variables, such as leverage and profit imply that one of the variables is almost an exact linear combination of another or several other variables. Hence the matrix of regressors will be far from orthogonal. This is especially common where balance sheet and income statements are used, due to the accounting identities. A factor analysis of all the variables will be used to test for collinearity. If collinearity exists, then one way around this impasse is to induce orthogonality between some of the variables by regressing, for example, profit on leverage and using the residual between observed and predicted profit as a measure of profit. By virtue of the least squares methodology, residual profit is known to be orthogonal to leverage, hence the collinear relationship between the two variables is broken.

Treatment of collinearity along the lines suggested above also resolves another problem--the potential presence of simultaneous equation bias. Looking over the regressors in equation (1), it is apparent that several are not strictly exogenous. The inclusion of profit, advertising and size in the same equation makes the problem a potentially serious one. Profit is defined in terms of size relative to revenue less some measure of cost. Costs ordinarily include advertising so that the latter variable as well as revenue may be regarded as logically prior to profit, hence the latter is clearly endogenous. In the single equation context proposed for this study, ignoring this dependency leads to the possibility that simultaneous equation bias will be present. Fortunately, the suggested approach for dealing with multicollinearity purges the equation of this source of bias. The argument would follow one used to rationalize the use of instrumental variables or two stage least squares by Maddala in a general discussion of simultaneous equation models.[11]

Another common statistical problem encountered in contexts similar to the proposed application is the problem of heteroscedasticity or nonconstant variance among the error terms. This problem is likely to be severe when the eight industries are pooled since the variance of the error term

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[11]G. S. Maddala, Econometrics, (New York: McGraw-Hill Book Company, 1977): pp. 220-51.

tends to grow with some measure of firm or industry size such as total assets or sales. The statistical consequences are identical to those induced by multicollinearity, namely inefficient estimation of the regression parameters and biased estimates of their variances are produced. Tests will be performed to assess the presence of heteroscedasticity disturbances, in particular the Goldfeld-Quandt[12] methodology. If these tests indicate that the problem is serious enough to warrant adjustment, each equation will be weighted separately and re-estimated following the construction of the orthogonal measure of profit in order to assure that the residuals examined for heteroscedasticity are indeed unbiased.

Another statistical problem that often occurs in time series of this type is autocorrelation. The effects of autocorrelation are unbiased but inefficient estimates of the parameters while the variances are biased. The R^2 as well as the "t" and "F" statistics are exaggerated. The Durbin-Watson D statistic will be used to detect the presence of autocorrelation. If autocorrelation exists, adjustments will be accomplished using the methodology provided in the S.A.S. User's Guide, 1979.[13]

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[12] S. M. Goldfeld and R. E. Quandt, "Some Tests for Homoscedasticity," American Statistical Association Journal (September 1965).

[13] S.A.S. User's Guide 1979 Edition, Edited by Jane T. Helwig and Kathryn A. Council, (Raleigh, North Carolina: SAS Institute, Inc., 1979).

Structural change may also have occurred in the model. Referring back to equation (1), the coefficients of U_t within each industry will be tested. This will make it possible to detect any structural change that may have resulted from the 1952 court decision noted earlier. The variable U_t will allow for the possibility of a different intercept value for the pre and post 1952 period.

Aggregate Model

Two methods are available for testing the model using the aggregate data. The first is to sum the eight observations (one for each industry) in time period "t." For example, for the year 1936, the current ratio for the aggregate data will be the sum of current assets of the eight industries divided by the sum of current liabilities of the eight industries. This method may be represented in the same form as equation (1).

The second method is to treat each observation within the eight industries separately.[14] The advantage of this method is that there will be 304 observations as opposed to the 38 observations used in equation (1). This method is represented by equation (2) as follows:

$$(2)\quad CG_{it} = K_0 + B_{1i}A_{it} + B_{2i}E_{it} + B_{3i}D_{it} + B_{4i}P_{it} + B_{5i}L_{it} + B_{6i}F_{it} + B_{7i}C_{it} + B_{8i}U_{it} + e_{it}.$$

[14] John Neter and William Wasserman, Applied Linear Statistical Models, (Homewood, Illinois: Richard D. Irwin, Inc., 1974): p. 350.

Where: $i = 1, 2, 3, \ldots 8$, industry classification from Internal Revenue Service data.

$t = 1, 2, 3, \ldots 38$, for the years 1936 to 1973.

U_{it} = 0 if t is less than 18 (1953 or before)
1 if t is equal to or greater than 18 (1953 or after)

e_{it} = random error term.

The same statistical procedures will be used to test the aggregate data as was used in the major industry analysis. Namely, tests will be run to test and correct for multicollinearity, heteroscedasticity, simultaneous equation bias, autocorrelation and structural change.

Interindustry Differences

There are a number of factors that may cause interindustry differences. Orace Johnson hypothesized that industries with products would give more than service industries.[15] The differing tax treatment is responsible for this. Products are deductible at cost, but donations of services are not deductible. As a result, industries that donate their products will report a higher level of giving than industries that donate services, all other things equal.

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[15] Orace Johnson, "Corporate Philanthropy: An Analysis of Corporate Contributions," Journal of Business 39, No. 4 (October 1966): pp. 489-504.

Additionally, the donation and use of a product may increase future sales. An example may be the donation of computers to public schools. Students who learn on a given brand name computer may be inclined to purchase that brand name in the future.[16]

Another feature that might explain interindustry differences is capital intensity. Highly capitalized industries may tend to give less than more labor intensive industries. This would especially be true if giving is a form of employee benefit.

Summary

The two motives for corporate giving--business expenditure or through-the-firm consumption--will be tested empirically using Internal Revenue Service data. The relationship between corporate giving and the variables: advertising, employment level, dividend payout, profitability, liquidity, financial leverage, and cost will be tested using the general linear model. The statistical methodology will proceed as follows:

(1) A principle components analysis will be used to test the variables for multicollinearity.

(2) The Goldfeld-Quandt methodology will be used to test for heteroscedasticity.

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[16] Leonard M. Apcar and Marilyn Chase, "Apple Wants A Big Tax Break So It Can Give One Of Its Computers To Every Public School," Wall Street Journal (March 19, 1982).

(3) The Durbin-Watson D statistic will be used to test for autocorrelation.

(4) The parameter estimates of the independent variables will be evaluated to determine their significance in explaining the nature of corporate giving.

CHAPTER IV

ANALYSIS OF THE DATA ON CORPORATE GIVING

The independent variables used to explain the nature of corporate giving were presented in Chapter III. Profit, employment, leverage, advertising, liquidity, dividend policy, and cost were expected to be significant variables in explaining the nature of corporate giving. Several alternative surrogates were available for testing the hypothesis.

The absolute value or some transformed value could be used. Absolute values were rejected because of the growth in all the variables that occurred over time. In addition to the increase in the number of corporations, the average size of the firms changed. To avoid the growth factor and the heteroscedasticity that might result, the variables were transformed into traditional ratio form or common size statements. For common size statement form, either total assets or total sales were used for the transformation.

Corporate giving was expressed as a percent of sales. Giving as a percent of net income was considered, but rejected because of its sensitivity to all the independent variables in the model. The interaction of cost and revenue on income resulted in significant relationships which could not be clearly interpreted in terms of the hypotheses in Chapter III.

Several surrogates were also available to measure the independent variables. Cash equivalents, net working capital as a percent of assets or sales, the current ratio, or the acid test ratio all appeared to be satisfactory as a surrogate for the liquidity variable. In a well structured model where only the liquidity variable remained to be selected, each surrogate could be tried and the "best" included in the model. However, since each independent variable had several surrogates, the stepwise procedure used to select the best combination failed. Some variables were represented with several surrogates while others were not represented at all. As the number of surrogates forced into the procedure increased, the greater became the problems associated with multicollinearity. Given these problems, selection of the surrogates by machine did not seem to be an acceptable research technique supported by statisticians.[1] Unaware of a machine process to select the surrogates to represent the variables, the unusual procedure of exercising the mental process was used.

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[1]G. S. Maddala, Econometrics (New York: McGraw-Hill Book Company, 1977): pp. 125-27.

The current ratio was chosen to represent the liquidity measure because of its general acceptability in financial analysis. Advertising expenditures were expressed as a percent of sales. There was only one measurement for advertising. The problem was the method of transformation. Sales appeared to be a better choice than assets or net income because of the seemingly direct relationship between advertising and sales.

The choice of measurement relating giving to employee fringe benefits was between the national unemployment level and the number of employees within each industry. The number of employees measurement included employees of noncorporate businesses. Since the level of unemployment might also serve as an indicator of the nature of corporate giving as motivated by some philanthropic rationale, it was chosen to measure the employee effect on giving.

The measurement of profit should consider the level of investment. The return on equity was used to measure the impact of profitability on corporate giving. The traditional measurement of total liabilities over total assets was used to measure financial leverage. Other measurements considered were interest payments as a percent of sales or liabilities.

Giving as a form of owner through-the-firm consumption was discussed in Chapter III. The level of corporate giving of this nature might be determined by management using some predetermined percent of dividends. Dividends as a percent of income or as a percent of sales were alternatively included in the model. Other variables tested were: size measured as average total assets, cost measured as the average tax rate, and officer compensation as a percent of sales.

The model was tested using statistical methods provided in the Statistical Analysis System (SAS) User's Guide.[2] The System Regression (SYSREG) procedure was used to determine estimates of coefficients of the independent variables used in the model. This procedure uses the ordinary least squares (OLS) method to determine estimates of the coefficients. It has the advantages of: (1) avoiding simultaneous equation bias, and (2) including a method for "seemingly unrelated" regressions useful for analysis of the aggregate data. The analysis is composed of two parts, first the presentation of the results of testing the individual industries and second, the results of testing the industries pooled.

Results of the Regression Analysis of the Major Industries

SYSREG was first used to estimate the coefficients of the independent variables for each of the major industries. Overall, the model appeared to be significant in explaining the variance in corporate giving. The multiple coefficient

[2] SAS User's Guide, 1979 Edition, Edited by Jane T. Helwig and Kathryn A. Council (Raleigh, North Carolina: SAS Institute, Inc., 1979).

of determination (R^2), the F ratio and the probability greater than F are presented in Table II, page 81 for each of the eight industries. The R^2 statistic for the model was highly significant in six of the eight groups tested. The lowest R^2 was .49 in the agriculture industry followed by utilities with a .62. The highest R^2 was .98 in the construction industry followed by a .93 in the mining and services industries. Three industries, finance, trade and manufacturing had R^2's of .88, .86, and .85, respectively. The mean R^2 was 81.8.

The F ratio ranged from 5 to 109. The mean F ratio was 40 for the eight major industry groups. These figures indicate that the model was very successful in explaining the variance in corporate giving in at least 6 of the 8 major industry groups. Agriculture and utilities, where prices are strongly influenced by government actions, are the two exceptions.

The Independent Variables

To avoid excessive redundance, the independent variables will be discussed individually across the eight industries. Their order of presentation is based on the significance and the consistency of each variable in explaining the nature of corporate giving. The variables will be discussed in the following order: advertising, unemployment, leverage, liquidity, return on equity, dividends, and cost.

TABLE II

STATISTICS FOR THE EIGHT MAJOR INDUSTRIES

Industry	R^2	F Ratio	Probability Greater Than F
Agriculture, Forestry, and Fisheries	.49	5	.001
Mining	.93	4	.001
Construction	.98	109	.001
Manufacturing	.85	35	.001
Utilities	.62	8	.001
Trade	.86	35	.001
Finance, Insurance, and Real Estate	.88	62	.001
Services	.93	41	.001

Advertising

The relationship between advertising and giving was positive and significant at a five percent level in all industries as Table III, page 83 reveals. The direct and significant relationship supports the hypothesis that giving is a form of advertising. The direct relationship indicates that on an aggregate basis, within industry, giving is a complement to advertising. A negative relationship would have suggested that giving was a substitute for advertising; however, still supporting the hypothesis that giving is a form of advertising. The relationship between giving and advertising supports the profit motive. This variable was not hypothesized to provide any insight into the through-the-firm consumption motive for giving.

Unemployment

Corporate giving was hypothesized to be a form of fringe benefit to the employee. The preferred measure of this variable was the number of corporate employees per industry. However, the number of employees per industry included noncorporate employees in addition to corporate employees. This measurement was originally used in the model and the results were inconclusive. The level of unemployment was substituted into the model, in the hope that this measurement would provide insight into the through-the-firm consumption motive

TABLE III

ADVERTISING

Industry	Prameter Estimates	t Ratio	Probability Greater Than t
Agriculture, etc.	.035	2.4	.02
Mining	.084	5.7	.01
Construction	.050	6.6	.01
Manufacturing	.020	3.6	.01
Utilities	.060	2.2	.03
Trade	.066	2.1	.04
Finance, etc.	.155	6.6	.01
Services	.018	6.2	.01

not provided by the use of the number of corporate employees. Table IV, page 85, shows the results of the analysis. The relationship was negative and significant in all of the groups tested. The results indicate support for the profit motive and rejection of the through-the-firm consumption motive. As the level of unemployment increases, giving decreases. This also suggests a possibility of employee related giving.

The decrease in giving during a time of increased unemployment indicates that the philanthropic mood of the corporate giver is not responsive to the potential increase in need. This might be the result of lower profits which translates into a lesser ability to give. However, the increase in unemployment might also be interpreted as a reaction by managers to maintain profits by reducing labor cost. The reported level of unemployment could be less than the actual level if management is exhibiting a form of giving by retaining more employees than marginally profitable. The significant inverse relationship supports the profit motive, but is mitigated by a possible management reaction that cannot be measured from the data as analyzed.

Leverage

The sign of the estimated parameter for the independent variable leverage in each of the eight major industries was

TABLE IV

UNEMPLOYMENT

Industry	Parameter Estimates	t Ratio	Probability Greater Than t
Agriculture, etc.	-.00068	- 2.9	.01
Mining	-.00093	-14.1	.01
Construction	-.00040	- 8.9	.01
Manufacturing	-.00077	- 5.1	.01
Utilities	-.00047	- 2.5	.02
Trade	-.00023	- 2.7	.01
Finance, etc.	-.00198	- 2.4	.02
Services	-.00048	- 5.1	.01

negative. As Table V, page 87 shows, only in the utilities and manufacturing industries was the estimate not significant at the 5 percent level. The hypothesis that giving is profit oriented is consistent with the negative relationship between giving and leverage. This view is that giving is reduced as leverage increases in order to: (1) preserve a better operating leverage position, and (2) preserve a better liquidity position which will reflect favorably in leverage ratio analysis.

Liquidity

The relationship between giving and the liquidity variable was significant and direct in all the groups tested except the utilities and agriculture industries at the 5 percent level. As Table VI, page 88 shows, the results support the through-the-firm consumption motive.

Return on Equity

In the eight industries tested, all indicated an inverse relationship between giving and return on equity. Only trade and agriculture, see Table VII, page 89, were not significant at the 5 percent level. This inverse relationship is contrary to the findings of Schwartz and Nelson. They found that the profitable firm was more socially responsible or philanthropic than the less profitable firm. Their conclusions, however,

TABLE V

LEVERAGE

Industry	Parameter Estimates	t Ratio	Probability Greater Than t
Agriculture, etc.	-.0014	-2.0	.05
Mining	-.0020	-5.5	.01
Construction	-.0005	-5.5	.01
Manufacturing	-.0011	-1.4	.16
Utilities	-.0021	-1.2	.23
Trade	-.0007	-4.1	.01
Finance, etc.	-.0087	-3.9	.01
Services	-.0013	-5.8	.01

TABLE VI

LIQUIDITY

Industry	Parameter Estimates	t Ratio	Probability Greater Than t
Agriculture, etc.	.000084	1.7	.09
Mining	.000023	2.3	.03
Construction	.000198	7.5	.01
Manufacturing	.000203	3.7	.01
Utilities	.000169	1.9	.07
Trade	.000247	4.4	.01
Finance, etc.	.000063	7.6	.01
Services	.000031	5.1	.01

TABLE VII

RETURN ON EQUITY

Industry	Parameter Estimates	t Ratio	Probability Greater Than t
Agriculture, etc.	-.0022	-1.8	.08
Mining	-.0019	-5.3	.01
Construction	-.0017	-7.9	.01
Manufacturing	-.0031	-2.8	.01
Utilities	-.0082	-2.8	.01
Trade	-.0060	-1.6	.11
Finance, etc.	-.0254	-2.7	.01
Services	-.0021	-2.3	.03

were based on a measure of profit represented by some form of income and or cash flow. In this study, profits defined as a return on shareholders' equity, supported rejection of the through-the-firm consumption motive based on the ability to pay.

Dividend, Cost and Structural Change

The dividend and cost variables were insignificant when tested in conjunction with the other variables. The lack of significance supports rejection of the through-the-firm consumption motive.

The dummy variable used to test for structural change was also insignificant. The contention that the Smith v. Barlow decision influenced an upward shift in the corporate giving function is rejected.

Analysis of the Aggregates

Aggregates of this type are not likely to produce meaningful parameters applicable to any specific corporation. However, the significance and the sign of the parameters of the independent variables tested using aggregate data may reinforce the results from testing the eight major industries separately.

The method of adding common independent variables across the eight industries in each time period will be labeled All Industries Summed as shown in Table VIII, page 92. The method of treating each industry as a separate observation will be labeled All Industries Pooled as shown in Table IX, page 93.

The results of the regression analysis using the aggregate is very consistent with the industry analysis. Advertising is significant and directly related to giving, supporting the business expenditure motive. Unemployment is significant and inversely related to giving supporting acceptance of the business expenditure motive and rejection of the consumption motive. Return on equity is significant and inversely related to giving supporting rejection of the consumption motive. Liquidity is significant and positive which supports the consumption motive.

Leverage is significant and directly related to giving in the aggregate, but was inversely related and generally significant in the major industry analysis. However, the opposite relationship is not interpreted to be inconsistent. Within each industry, increased financial leverage may be considered to be associated with increased risk. In the aggregate, however, more leverage in one industry than another suggests less risk. The industry that can consistently finance relatively more debt does so because of less business risk. Therefore, those industries that must keep financial leverage relatively lower than other industries give less. This supports the business expenditures motive.

TABLE VIII

ALL INDUSTRIES SUMMED

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.000565	1.8	.08
(1) Advertising	.019908	3.7	.01
(2) Unemployment	-.000633	-5.3	.01
(3) Liquidity	.000019	3.3	.01
(4) Leverage	.001161	3.1	.01
(5) Return on Equity	-.005173	-5.3	.01

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

TABLE IX

ALL INDUSTRIES POOLED

THE INDEPENDENT VARIABLES	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	-.000119	-0.8	.43
(1) Advertising	.054506	9.5	.01
(2) Unemployment	-.000280	-2.8	.01
(3) Liquidity	.000060	12.3	.01
(4) Leverage	.002399	9.9	.01
(5) Return on Equity	-.002379	-3.7	.01

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

Officer Compensation

Earlier in this analysis, management through-the-firm consumption was assumed to be of little significance in influencing the level of corporate giving. However, the level of corporate giving is usually a management decision. Owners may, therefore, see giving as an additional agency cost. Two reasons for this may be: (1) management is attempting to maximize their own wealth, or (2) because of the separation of ownership and management, information may be lost. If corporate giving is interpreted by the owners as a form of additional payment to managers, this additional cost will be reflected unfavorably in the value of corporate securities. This will, in turn, result in lower officers' salaries. Officer compensation may be thought of as a measure of the desirability of corporate giving to the owners. A direct relationship would support the acceptability of corporate giving by the owners.

To test the acceptability of corporate giving by the owners, officer compensation was added to the equation as an independent variable. The All Industries Pooled data set was used to test this relationship because there were 304 observations and the problem of multicollinearity appeared to be less significant.

The results of this regression analysis are presented in Table X, page 95. As in the previous All Industries

TABLE X

ALL INDUSTRIES POOLED

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.000173	1.3	.21
(1) Advertising	.048159	8.6	.01
(2) Unemployment	-.000596	-5.5	.01
(3) Liquidity	.000042	8.5	.01
(4) Leverage	.001426	5.9	.01
(5) Return on Equity	-.002245	-3.6	.01
(6) Officer Compensation	.012647	10.2	.01

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

(6) Officer Compensation = Officer salaries divided by total sales.

Pooled regression analysis; advertising, liquidity, and leverage are significant and directly related to corporate giving. Return on equity and unemployment also remained significant and inversely related to giving. The added independent variable, officer compensation, was significant and directly related to corporate giving. This direct relationship between officer compensation and corporate giving suggests that the owners of the firm interpret managements' decision to give favorably. This, in conjunction with the relationship between giving and the other independent variables suggests that owners view giving as consistent with wealth maximization.

Summary

The results of the regression analysis suggest that the leverage, advertising, and unemployment variables support giving as a business expenditure. Unemployment, dividends, cost, and return on equity results suggest that giving was not consumption oriented. The liquidity variable was the only variable that could be interpreted as supporting the through-the-firm consumption motive. In a secondary analysis using officer compensation as an explanatory variable, the acceptability of corporate giving by the owners was supported by the direct relationship between giving and officer compensation.

CHAPTER V

CONCLUSION

The purpose of this study was to investigate the nature of corporate giving. Of particular interest were the motives behind the donation of corporate funds. The literature extensively discussed concern over the right of managers to donate funds that might be the property of shareholders. Managers, as agents of the owners, are intrusted with property to be used to promote the welfare of the owners. If donations are consistent with the profit motive and maximization of shareholder wealth, the decision to give is appropriately the function of corporate managers. Owners may also delegate authority to the executives of the corporation to make philanthropic donations for them.

This analysis attempted an indirect approach by analyzing financial variables that might provide more insight into the nature of corporate giving. The variables chosen to be regressed on corporate giving were: liquidity, leverage, advertising, unemployment, dividends, cost, and return on equity.

While the regression results indicate a predominance of support for the profit motive, the consumption motive could not be clearly rejected. Overall, the advertising, unemployment, and leverage variables tended to suggest that managers donate corporate funds on a basis consistent with the profit motive. Regressions of officer compensation support the acceptability of corporate giving as perceived by the owners. Only the liquidity variable supported the consumption motive. The through-the-firm consumption motive was rejected on the basis of the unemployment, return on equity, dividends, and cost variables. Advertising was a neutral variable, not directly supporting or rejecting the consumption motive.

The overall conclusion is that the securities and labor markets do not allow management to go unchecked in disbursing corporate funds for philanthropic purposes. Such expenditures must be acceptable to the shareholder as either profit oriented or owner through-the-firm consumption. The results of this study strongly support the profit motive and generally tend to reject the consumption motive. The expectations by the Reagan administration that corporate giving will increase to offset the decrease in government expenditures for social programs are unlikely to materialize.

SELECTED BIBLIOGRAPHY

Books

Andrews, Frank M. A Study of Company-Sponsored Foundations. New York: Russell Sage Foundation, 1970.

Andrews, F. Emerson. Corporate Giving. New York: Russell Sage Foundation, 1952.

Andrews, F. Emerson. "Philanthropy in the United States: History and Structure." In Philanthropy in the 70's: An Anglo-American Discussion, pp. 89-114. Edited by John J. Corson and Harry V. Hodson. New York: The Council on Foundations, Inc., 1973.

Arrow, Kenneth J. "Gifts and Exchanges." In Conference on Altruism, Morality and Economic Theory, pp. 13-28. Edited by Edmund S. Phelps. New York: Russell Sage Foundation, 1975.

Baumol, William J. "Business Responsibility and Economic Behavior." In Conference on Altruism, Morality and Economic Theory, pp. 45-56. Edited by Edmund S. Phelps. New York: Russell Sage Foundation, 1975.

Baumol, William J. "Enlightened Self-Interest and Corporate Philanthropy." In A New Rationale for Corporate Social Policy, pp. 39-59. New York: Committee for Economic Development, 1970.

Byleveld, Herbert. Company Contributions in Canada, 1965. Montreal: National Industrial Conference Board, 1966.

Corson, John J. and Hodson, Harry V., Editors. Philanthropy in the 70's: An Anglo-American Discussion. New York: The Council on Foundations, Inc., 1973.

Dickinson, Frank G. The Changing Position of Philanthropy in The American Economy. New York: National Bureau of Economic Research, 1970.

Dickinson, Frank G., Editor. Philanthropy and Public Policy. New York: National Bureau of Economic Research, 1962.

Eells, Richard. Corporation Giving in a Free Society. New York: Harper and Brothers, 1956.

Federal Tax Course, 1955. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1955.

Fremont-Smith, Marion R. Philanthropy and the Business Corporation. New York: Russell Sage Foundation, 1972.

Friedman, Milton. Price Theory, A Provisional Text. Revised Edition. Chicago: Aldine Publishing Company, 1962.

Giving USA, 1976 Annual Report. New York: American Association of Fund-Raising Counsel, Inc., 1976.

Groves, Ronald L., Esq. Charitable Contributions by Corporations. Washington, D. C.: Tax Management Inc., 1973.

Harris, James F. and Klepper, Anne. Corporate Philanthropic Public Service Activities. New York: The Conference Board, 1976.

Hopkinson, Richard. Company Contributions in Canada, 1967. Ontario: The Conference Board, 1968.

Internal Revenue Code, Income, Estate and Gift Tax Profisions, Including 1965 Amendments. Chicago: Commerce Clearing House, Inc., 1965.

Johnson, Orace. "Business Corporations and Philanthropy: A Study of Why Corporations Give." Ph.D. Dissertation, University of Chicago, 1966.

Johnston, J. Econometric Methods. 2nd ed. New York: McGraw-Hill Book Company, 1972.

Klepper, Anne and Harris, James F. Annual Survey of Corporate Contributions, 1974. New York: The Conference Board, 1975.

Maddala, G. S. Econometrics. New York: McGraw-Hill Book Company, 1977.

McConnell, Campbell R. Economics. 8th ed. New York: McGraw-Hill Book Company, 1981.

McKean, Roland N. "Economics of Trust, Altruism and Corporate Responsibility." In Conference on Altruism, Morality and Economic Theory, pp. 29-44. Edited by Edmund S. Phelps. New York: Russell Sage Foundation, 1975.

Nelson, Ralph L. Economic Factors in the Growth of Corporation Giving. New York: Russell Sage Foundation, 1970.

Neter, John and Wasserman, William. Applied Linear Statistical Models. Homewood, Illinois: Richard D. Irwin, Inc., 1974.

O'Connor, Rochelle. Corporate Contributions in Smaller Companies: A Report from the Conference Board. New York: The Conference Board, 1973.

Phelps, Edmund S., Editor. Altruism, Morality, and Economic Theory. New York: The Russell Sage Foundation, 1975.

Pyle, William W.; White, John Arch; and Larson, Kermit D. Fundamental Accounting Principles. 8th ed. Homewood, Illinois: Richard D. Irwin, 1978.

Rao, Potluri and Miller, Roger LeRoy. Applied Econometrics. Belmont, California: Wadsworth Publishing Company, Inc., 1971.

SAS User's Guide 1979 Edition. Edited by Jane T. Helwig and Kathryn A. Council. Raleigh, North Carolina: SAS Institute, Inc., 1979.

Schwartz, Robert A. "Private Philanthropic Contributions--An Economic Analysis." Ph.D. Dissertation. Columbia University, 1966.

Seidman, J. S. Legislative History of Federal Income Tax Laws (1938-1961). New York: Prentice Hall, 1964.

Solomon, Lewis C. Economics. 3rd ed. Reading, Massachusetts: Addison-Wesley Publishing Company, 1980.

Sommerfeld, Ray M.; Andersen, Hershel M.; and Brock, Horace R. An Introduction to Taxation. New York: Harcourt, Brace, and Jovanovich, Inc., 1977.

Tax Reform Act of 1969. 3rd extra ed. New York: Commerce Clearing House, Inc., 1969.

Tax Reform Act of 1976. Chicago: Commerce Clearing House, Inc., 1976.

Terry, William H. Company Contributions, 1971. Ontario: The Conference Board in Canada, 1972.

The Why and How of Corporate Giving. New York: The National Industrial Conference Board, Inc., 1956.

Watson, John H., III. Biennial Survey of Company Contributions. Toronto: The Conference Board, 1972.

Watson, John H., III. The Impact of the Tax Reform Act of 1969 on Company Foundations: A Research Report from the Conference Board. New York: The Conference Board, 1973.

Weston, J. Fred and Brigham, Eugene F. Managerial Finance. 5th ed. Hinsdale, Illinois: The Dryden Press, 1975.

Whitehead, Paul James. "Some Economic Aspects of Corporate Giving." Ph.D. Dissertation. Virginia Polytechnic Institute and State University, May 1976.

Periodicals

"A Record Year for Charity, But . . ." U. S. News and World Report 78, No. 18, May 5, 1975, p. 29.

"A Record Year for Charities--But Where Does the Money Go?" U. S. News and World Report 81, No. 16, October 18, 1976, pp. 61, 64.

"A Slowdown in Giving by Major Firms--The Reasons." U. S. News and World Report 72, No. 4, January 24, 1972, pp. 37-38.

Anderson, R. H. "Social Responsibility Performance Measurement and How?" Cost and Management 53 (September-October 1979): 12-16.

Andrews, Emerson F. "On Business and Philanthropy." Burroughs Clearing House (March 1957): 22-23.

"Another Record Year for Charity." U. S. News and World Report 80, No. 26, June 28, 1976, p. 60.

Apcar, Leonard M. and Chase, Marilyn. "Apple Wants A Big Tax Break so it Can Give One of its Computers to Every Public School." Wall Street Journal, 19 March, 1982.

Barnea, Amir; Haugen, Robert A.; and Senbet, Lemma. "Market Imperfections, Agency Problems, and Capital Structure: A Review." Financial Management (Summer 1981): 7-21.

Barnes, Norman Kurt. "Rethinking Corporate Charity." Fortune 15, No. 4, October 1974, pp. 169-82.

Bates, Don. "Nonprofit PR--Trends in Giving." Public Relations Journal 36, No. 8 (August 1980): 1-2.

Behrsin, A. Jan. "What Constituted Contribution to Capital is Still Unclear--Can it be Treated as Gift?" Journal of Taxation 44, No. 5 (May 1976): 270-76.

Bennett, James T. and Manuel H. Hohnson. "Corporate Contributions: Some Additional Considerations." Public Choice 35, No. 2 (1980): 137-43.

Block, J. R. and Goodman, Norman. "Why Companies Give." Journal of Advertising Research 16, No. 5 (October 1976): 59-63.

Blumberg, Phillip I. "Corporate Responsibility and the Social Crisis." Boston University Law Review 50 (1970): 157-210.

Blumberg, Phillip I. "The Politicalization of the Corporation." Boston University Law Review 51 (Summer 1971): 524-62.

Bock, Robert H. "Modern Values and Corporate Social Responsibility." MSU Business Topics 28, No. 2 (Spring 1980): 5-17.

Boskin, Michael J. "On Some Recent Econometric Research in Public Finance." American Economic Review 66, No. 2 (May 1976): 102-09.

Brockhoff, Klaus. "A Note on External Social Reporting by German Companies: A Survey of 1973 Company Reports." Accounting, Organizations and Society 4, No. 1/2: 77-85.

Brody, George. "Tax Effects on Inventory Methods: Contribution or Business Expense? Tax Results May Differ." Taxation for Accountants 10, No. 6 (June 1973): 360-61.

Buehler, Vernon M. and Shetty, Y. D. "Managing Corporate Social Responsibility." Management Review 64, No. 8 (August 1975): 4-17.

Bundy, McGeorge. "Private Institutions in the Public Service." Financial Executive 42, No. 3 (March 1974): 36-44.

Byleveld, Herbert. "Donations Practices of Canadian Companies, 1965." The Conference Board Record 4, No. 2 (February 1967): 21-26.

Cabot, Louis W. "Corporate Support of Education: No Strings Attached." Harvard Business Review 56, No. 4 (July-August 1978): 139-44.

"Can Corporate Charity Help the Giver Too?" Industry Week 191, No. 1 (October 4, 1976): 71-77.

Carroll, Archie B. "A Three-Diminsional Conceptual Model of Corporate Performance." Academy of Management Review 4, No. 4 (October 1979): 597-505.

"Charitable Contributions Can Still Be Tax Profitable." CPA Journal 43, No. 2 (February 1973): 153-55.

"Charitable Gifts Can Be More Profitable Than Sales." CPA Journal 43, No. 4 (April 1973): 309.

"Charity Begins With A Tax Break." The Economist 257, No. 6904 (December 20, 1975): 62.

Clark, Lindley H., Jr. "The Business of Business Isn't Charity." Wall Street Journal, 2 February, 1982, p. 25.

Coil, Robert F. "Contributions: Monetary Versus Non-Monetary." Management Accounting (April 1975): 35-38.

"Company Contributions to Worthwhile Causes." Financial Executive (September 1972): 10-11.

"Corporate Altruism: A Rational Approach." The Georgetown Law Journal 59, No. 1 (October 1970): 117-69.

"Corporations May Receive Deduction in Excess of Five Percent Limitation for Contributions to Charity." CPA Journal 44, No. 3 (March 1974): 51-52.

Crabtree, Jill. "Retailing and Corporate Giving." Stores 60, No. 11 (November 1978): 32-34.

Davis, Keith. "The Case For and Against Business Assumptions of Social Responsibilities." Academy of Management Journal 16, No. 2 (June 1973): 312-22.

Dayton, Kenneth N. "An Optimist's Challenge to the Independent Sector." Trusts and Estates 119, No. 12 (December 1980): 19-21.

Dayton, Kenneth N. "The Case for Corporate Philanthropy." Vital Speeches 56, No. 20 (August 1, 1980): 619-22.

Dierkes, Meinolf. "Corporate Social Reporting in Germany: Conceptual Developments and Practical Experience." Accounting, Organizations and Society 4, No. 1/2 (1979): 87-107.

Dillon, Douglas. "The Role of Private Philanthropy in Modern American Society." Tax Policy 39, No. 1 (January 1972): 3-8.

Dillon, Ray. "Evaluating Your Social Awareness Expenditures: A Pragmatic Approach." Managerial Planning 27 (May-June 1979): 25-28.

Eells, Richard. "A Philosophy for Corporate Giving." The Conference Board Record 5, No. 1 (January 1968): 14-18.

"Effectiveness and Innovation in Corporate Giving." Proceedings of the Working Conference on Company Contributions, The Conference Board in Canada, Toronto, Canada (September 30 and October 1, 1971).

Emory, Meade. "Is IRS Correct in Treating Corporate Charitable Contributions as Dividends?" Journal of Taxation 30, No. 1 (January 1969): 6-11.

Ermann, M. David. "The operative Goals of Corporate Philanthropy: Contributions to the Public Broadcasting Service 1972-1967." Social Problems 25, No. 5 (June 1978): 504-14.

Ferri, Michael G. and Jones, Wesley H. "Determinants of Financial Structure: A New Methodological Approach." Journal of Finance, 34, No. 3 (June 1979): 631-44.

Filer, John H. "Responsible Corporate Philanthropy." The Corporate Director 1 (March-April 1980): 8-10.

Filer Commission Report. "'Giving in America: Toward A Stronger Voluntary Sector.' The Report of the Filer Commission on Private Philanthropy and Public Needs: A Summary." Trusts and Estates (February 1976): 85-132.

Fink, Norman S. "Taxation and Philanthropy--A 1976 Perspective." Journal of College and University Law 3, No. 1 (Fall 1975): 1-14.

Francis, Diane. "Holy Dividends: The New Boom in Corporate Tithing." Canadian Business 52, No. 9 (September 1979): 13-14.

Garrett, Ray. "Corporate Donations." The Business Lawyer 22 No. 2 (January 1967): 297-301.

Gillis, Floyd E. and Smith, Vernon L. "An Economic Analysis of Contributions Under the Income-Tax Laws." Journal of Political Economy 66, No. 5 (October 1958): 532-39.

Goheen, Robert F. "Is Private Philanthropy 'Government Money'?" University: A Princeton Quarterly 15, No. 60 (Spring 1976): 14-16.

Goldfeld, S. M. and Quandt, R. E. "Some Tests for Homoscedasticity." American Statistical Association Journal (September 1965).

Gottschalk, Earl C., Jr. "Many Groups Try Grantsmanship Center for Advice on How to Cope in Reagan Era." Wall Street Journal 61, No. 186, 8 July, 1981, p. 23.

Haas, Paul F. "The Conflict Between Private and Social Responsibility." Akron Business and Economic Review 10, No. 2 (Summer 1979): 33-36.

Hacker, Andrew. "When Big Business Make Gifts (Tax-Deductible)." New York Times Magazine (November 12, 1976): 34-35+.

Hand, John H.; Lloyd, William P.; and Rogow, Robert B. "Agency Relationships in the Close Corporation." Financial Management (Spring 1982): 25-30.

Herman, Jack. "Legislative Impact on Charitable Giving." Trusts and Estates 116, No. 12 (December 1977): 794-822.

Holmes, Sandra L. "Executive Perceptions of Corporate Social Responsibility." Business Horizons 15, No. 3 (June 1976): 34-40.

Horvitz, Jerome S. "Charity is Good Business." Taxes 52, No. 4 (April 1974): 249-54.

Hyatt, James C. "Charities Fret Over Moves to Make Them Bare Fund-Raising Costs; Fear Drop in Donations." Wall Street Journal 187, 6 May 1976, p. 38.

"I Hate Charities." Dun's Review 102, No. 3 (September 1973): 54-57.

"Is Social Responsibility a Necessary Component of Corporate Policy Making?" Fortune 88, No. 5 (November 1973): 56.

Johnson, Orace. "Corporate Philanthropy: An Analysis of Corporate Contributions." The Journal of Business 39, No. 4 (October 1966): 489-504.

Johnson, Orace and Johnson, Walter L. "The Income Elasticity of Corporate Philanthropy: Comment." Journal of Finance 25 (1970): 149-52.

Jones, Thomas M. "Corporate Social Responsibility Revisited, Redefined." California Management Review 22, No. 2 (Spring 1980): 59-67.

Kastenholz, Francis E. "An Accountant's View of Corporate Responsibility." Financial Executive (April 1974): 68-76.

Keim, Gerald. "Managerial Behavior and the Social Responsibility Debate: Goals Versus Constraints." Academy of Management Journal 21, No. 1 (March 1978): 57-68.

Keim, Gerald D.; Meiners, R. F.; and Frey, I. W. "On the Evaluation of Corporate Contributions." Public Choice 35, No. 2 (1980): 129-36.

Kelly, Karen. "Corporate Philanthropy." Road Maps-of-Industry No. 1668 (June 13, 1971).

Kristol, Irving. "On Corporate Philanthropy." Wall Street Journal 189, 21 March, 1977, p. 18.

Lancaster, Hal. "Nonprofit Researchers Seeking Corporate Cash." Wall Street Journal 61, No. 181, 30 June, 1981, p. 29.

Levy, Ferdinand K. and Shatto, Gloria M. "A Common Sense Approach to Corporate Contributions." Financial Executive 56, No. 8 (September 1978): 36-40.

Levy, Ferdinand K. and Shatto, Gloria M. "Corporate Philanthropy: The Case for Education." Review of Regional Economics and Business 3, No. 1 (April 1978): 22-24.

Levy, Ferdinand K. and Shatto, Gloria M. "The Evaluation of Corporate Contributions." Public Choice 33, No. 1 (1978): 19-28.

Levy, Ferdinand K. and Shatto, Gloria M. "The Evaluation of Corporate Contributions: A Reply." Public Choice 35, No. 2 (1980): 145-49.

MacBain, Gavin K. "The Philosophy of Corporate Philanthropy." Tax Policy 39, No. 2 (February 1973): 3-7.

Maddala, G. S. "The Use of Variance Components Models in Pooling Cross-Section and Time-Series Data." Econometrica (March 1971): 341-58.

Malott, Robert H. "Corporate Support of Education: Some Strings Attached." Harvard Business Review 56, No. 4 (July-August 1978): 133-38.

Manne, Henry G. "The Limits and Rationale of Corporate Altruism: An Individualistic Model." Virginia Law Review 59, No. 4 (April 1973): 708-22.

Mayer, Raymond. "Managements Social Responsibility: Profit Maximization." S.A.M. Advanced Management Journal 35, No. 1 (January 1970): 53-60.

McDaniel, Paul R. "Governmental Charity." Working Papers For A New Society 2 (Winter 1975): 21-24.

McDonald, Denys and Puxty, Anthony. "An Inducement-Contribution Approach to Corporate Financial Reporting." Accounting, Organizations and Society 4, No. 1/2 (1979): 53-65.

Milani, Ken and Wittenbach, James L. "A Charitable Contribution Deduction Flowchart for Corporations." Taxes 53, No. 8 (August 1975): 584-89.

Neal, Alfred C. "A More Rational Basis for Non-Profit Activities." The Conference Board Record 5, No. 1 (January 1968): 5-7.

Novick, David. "Cost-Benefit Analysis and Social Responsibility." Business Horizons 16, No. 5 (October 1973): 63-72.

Packard, David. "Corporate Support of Private Universities." Financial Executive 42, No. 3 (March 1974): 30-35.

Parks, Richard W. "Efficient Estimation of a System of Regression Equations When Disturbances are Both Serially and Contemporaneously Correlated." American Statistical Association Journal (June 1967): 500-09.

Parks, Richard W. "Price Responsiveness of Factor Utilization in Swedish Manufacturing, 1870-1950." Review of Economics and Statistics (1971): 129-39.

Pattillo, Manning M. "The Impact of Government Expenditures on Philanthropy." The Conference Board Record 5, No. 1 (January 1968): 8-10.

Perham, John. "New Toughness in Corporate Giving." Dun's Review 109, No. 3 (March 1977): 68, 70.

Press, S. James and Wilson, Sandra. "Choosing Between Logistic Regression and Discriminant Analysis." American Statistical Association Journal 73, No. 364 (December 1978): 699-705.

Prunty, Bert S., Jr. "Love and the Business Corporation." Virginia Law Review 56, No. 3 (April 1960): 467-76.

Randall, Gary C. "Charitable Contributions After the 1969 Tax Reform Act." Gonzaga Law Review 11, No. 4 (Spring 1977): 869-91.

"Recent Decisions Alter Charitable Contribution Allowance." Public Utilities Fortnightly 1103, No. 13 (June 21, 1979): 51-53.

Reuschling, Thomas. "Corporate Philanthropy: An Unwanted Stepchild." Industry Week 171, No. 8 (November 22, 1971): 41-42.

Roberts, Markley. "Corporate Responsibility--A Goal for the 1980's." AFL-CIO American Federationist 86, No. 11 (November 1979): 8-11.

Robinson, Daniel D. "Nonprofit Accounting Under Closer Scrutiny." Trusts and Estates 116, No. 12 (December 1977): 789-92.

Saltzman, Cynthia. "Companies Doubt Their Arts Giving Would Rise to Offset Reagan's Cuts." Wall Street Journal 61, No. 89, 26 February, 1981, pp. 25, 31.

Schreuder, Hein. "corporate Social Reporting in the Federal Republic of Germany: An Overview." Accounting, Organizations and Society 5, No. 1/2 (1979): 109-22.

Schwartz, John J. "The Filer Commission: From Then Until Now." Trusts and Estates 118, No. 12 (December 1979): 30-35.

Schwartz, Robert A. "Corporate Philanthropic Contributions." Journal of Finance 23, No. 3 (June 1968): 479-97.

Schwartz, Robert A. "Reply." Journal of Finance 25 (1970): 153-57.

Scott, David F., Jr. "Evidence on the Importance of Financial Structure." Financial Management (Summer 1972): 45-50.

Scott, David F., Jr. and Martin, John D. "Industry Influence on Financial Structure." Financial Management 4, No. 1 (Spring 1975): 67-73.

Sowell, Clifford B. and Mounts, W. Stewart, Jr. "The Economics of Corporate Giving: Theory and Evidence." Paper presented at the Midwest Economics Association Meeting, Louisville, Kentucky, April 1981.

Stencel, Sandra. "American Philanthropy." Editorial Research Reports 1 (January 11, 1974): 23-40.

Strier, Franklin. "The Business Manager's Dilemma--I. Defining Social Responsibility." Journal of Enterprise Management 2 (1979): 5-10.

Strier, Franklin. "The Business Manager's Dilemma--II. Artuments Pro and Con Social Responsibility." Journal of Enterprise Management 2 (1979): 11-26.

Stultz, J. E. "The Decision to Give: Methods and Rewards of Corporate Philanthropy." Directors & Boards 5, No. 4 (Winter 1980): 6-20.

Sundel, Harvey H.; Zelman, William N.; Weaver, Charles N.; and Pasternak, Richard E. "Fund Raising: Understanding Donor Motivation." Social Work 23, No. 3 (May 1978): 233-36.

Symonds, Edward. "From Corporate Tight-Wad Into Fairy Godmother." The Accountant 182, No. 5497 (June 19, 1980): 940-41.

Teitell, Conrad. "Charitable Gifts by Corporations." Trusts and Estates 118 (July 1979): 79-80.

Teitell, Conrad. "How New Tax Laws Affect Charitable Gifts." Trusts and Estates 118 (March 1979): 48+.

"The Foundations Brace for an All-Out Attack." Business Week (December 7, 1974): 92-95.

Thiele, Richard H., Jr. "Corporate Giving: Some Legal Aspects." Rutgers Law Review 8, No. 3 (Summer 1954): 527-41.

Turner, W. Homer. "The Societal Role of the Corporation." The Conference Board Record 5, No. 1 (January 1968): 11-13.

Tuthill, Mary. "The Growing Impact of Business Giving." Nation's Business 68, No. 10 (October 1980): 67-70.

Ullmann, Arieh A. "Corporate Social Reporting: Political Interests and Conflicts in Germany." Accounting, Organizations and Society 4, No. 1/2 (1979): 123-33.

"Unique New Yay to Handle Corporate Giving." Business Management 32, No. 3 (June 1967): 53-57.

Vance, Stanley C. "Are Socially Responsible Corporations Good Investment Risks?" Management Review 64, No. 8 (August 1975): 18-24.

Watson, John H., III. "Corporate Contributions Policy." The Conference Board Record 4, No. 6 (June 1967): 12-14.

Watson, John H., III. "Employee Gift Matching Programs." The Conference Board Record 6, No. 6 (June 1969): 21-25.

Watson, John H., III. "Recent Company Contribution Trends." The Conference Board Record 5, No. 1 (January 1968): 2-4.

Waysman, William H. "A Brief Discourse Concerning Changes in the Law with Respect to Corporate Contributions Occasioned by Certain Amendments to Title 18 USC Contained in the Federal Election Campaign Act of 1971--Also Known As: The Lawyers and Accountants Employment Act." California State Bar Journal 49, No. 2 (March/April 1974): 124+.

Weimer, George A. "Corporate Giving is Corporate Investment." Industry Week 171, No. 3 (October 18, 1971): 26-34.

Weithorn, Stanley S. "Prospective Impact of Noncharitable Provisions of the 1976 Tax Reform Act on Incentives for Charitable Giving." Taxes 55, No. 4 (April 1977): 243-52.

"Who Gets What: Health, Welfare and Education Lead. 'Arts' on the Rise." Stores 60, No. 11 (November 1978): 32-33.

Whittenbach, James L. and Mayer, Stephen J. A Flowchart of the Charitable Contribution Rules." Journal of Accountancy 138, No. 5 (November 1974): 63-67.

Zellner, A. "An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias." American Statistical Association Journal (June 1962): 348-68.

Public Documents

Federal Reserve System, Board of Governors. Federal Reserve Bulletin, Vols. 59-65 (1973-79).

U. S. Department of Commerce, Bureau of the Census. Historical Statistics of the United States: Colonial Times to 1970, Part 2.

U. S. Department of the Treasury, Bureau of Internal Revenue. Corporation Source Book of Statistics of Income, Publication 647 (Rev. 2-78).

U. S. Department of the Treasury, Bureau of Internal Revenue. Statistics of Income, 1944, Part II, 1949.

U. S. Department of the Treasury, Bureau of Internal Revenue. Statistics of Income--1971, Corporation Income Tax Returns, 1976.

APPENDIX A

Autocorrelation

In time-series data the successive residuals tend to be highly correlated. This type of correlation is called serial correlation or autocorrelation. One common method used to test for autocorrelation is the Durbin-Watson test. Durbin-Watson derived upper (d_u) and lower (d_l) limits to determine the nature of autocorrelation.[1]

The Durbin-Watson D statistic was calculated for each major industry using a five percent level of significance and compared to the bounds provided in <u>Applied Linear Statistical Models</u>, Table A-6. At the five percent level of significance with 38 observations and 5 independent variables, the upper bound was 1.79 and the lower bound was 1.21.[2] The test indicated that the construction industry was not serially correlated above 1.79. Utilities, trade, service, and finance industries were indicated to have positive autocorrelation less than 1.21. In the agriculture, mining, and manufacturing industries, the D statistics were in the indeterminate range between 1.21 and 1.79.

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[1]G. S. Maddala, <u>Econometrics</u> (New York: McGraw-Hill Book Company, 1977): pp. 277-284.

[2]John Neter and William Wasserman, <u>Applied Linear Statistical Models</u> (Homewood, Illinois: Richard D. Irwin, Inc., 1974): p. 817.

To adjust for autocorrelation, the technique provided in the SAS User's Guide, pages 131 to 136 was applied. This method (Autoreg) approximates least squares estimates in a manner similar to Cochrane-Orcutt.[3] The parameter estimates are generally similar to ordinary least squares estimates, but the standard error may be very different. The Yule-Walker equations are solved to obtain estimates of the autoregressive parameters, $a_1 \ldots a_q$, and a preliminary estimate of sigma squared.[4]

The variables from the original data are transformed. Using the transformed data, the betas are re-estimated by an OLS regression which is equivalent to a generalized least squares estimate with appropriate weights.

Multicollinearity

The variables used in this study were selected from financial statements and tend to be interrelated. Correlation matrices and principal components tests were employed to determine the extent of the correlation between the independent variables. When two of the independent variables were determined to be excessively correlated, the residual resulting

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[3]Maddala, Econometrics.

[4]SAS User's Guide, 1979 Edition, Edited by Jane T. Helwig and Kathryn A. Council (Raleigh, North Carolina: SAS Institute, Inc., 1979): p. 131.

from a regression of the two variables was substituted for one of the two related independent variables.

The unadjusted model contained the following independent variables; liquidity, unemployment, advertising, leverage, and return on equity. When testing each of the eight major industries, it was necessary to substitute residuals for some of the independent variables. The adjustments for multicollinearity within each separate industry were as follows:

(1) Agriculture

Residual of Unemployment = Liquidity

Residual of Liquidity = Leverage

Residual of Leverage = Return on Equity.

(2) Mining

Residual of Unemployment = Liquidity

Residual of Leverage = Return on Equity

Residual of Return on Equity = Liquidity.

(3) Construction

Residual of Advertising = Leverage

Residual of Liquidity = Leverage.

(4) Manufacturing

Residual of Unemployment = Liquidity

Residual of Liquidity = Leverage

Residual of Leverage = Liquidity.

(5) Utilities

Residual of Liquidity = Leverage

Residual of Leverage = Liquidity.

(6) Trade

Residual of Unemployment = Advertising

Residual of Liquidity = Leverage

Residual of Leverage = Return on Equity.

(7) Finance

Residual of Leverage = Return on Equity.

(8) Service

Residual of Advertising = Unemployment

Residual of Liquidity = Leverage.

All Industries Summed

Residual of Advertising = Leverage.

All Industries Pooled

No adjustment necessary.

Results of Analysis

The results of the regressions in each of the eight major industries are presented in Tables I through VIII, pages 118 through 125.

TABLE I

AGRICULTURE, FORESTRY, AND FISHERIES

RESULTS OF THE REGRESSION ANALYSIS OF CORPORATE GIVING

Durbin-Watson D Statistic	1.26	R^2	.49
Probability Greater Than F	.001	F Ratio	5

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.000624	5.9	.01
(1) Advertising	.035025	2.4	.02
(2) Unemployment	-.000681	-2.9	.01
(3) Liquidity	.000084	1.7	.09
(4) Leverage	-.001434	-2.0	.05
(5) Return on Equity	-.002163	-1.8	.08

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

TABLE II

MINING

RESULTS OF THE REGRESSION ANALYSIS OF CORPORATE GIVING

Durbin-Watson D Statistic	1.72	R^2	.93
Probability Greater Than F	.001	F Ratio	24

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.000417	9.9	.01
(1) Advertising	.083673	4.7	.01
(2) Unemployment	-.000925	-14.1	.01
(3) Liquidity	.000023	2.3	.03
(4) Leverage	-.002007	-5.5	.01
(5) Return on Equity	-.000898	-5.3	.01

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

TABLE III

CONSTRUCTION

RESULTS OF THE REGRESSION ANALYSIS OF CORPORATE GIVING

Durbin-Watson D Statistic	1.98	R^2	.98
Probability Greater Than F	.001	F Ratio	109

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.001082	23.5	.01
(1) Advertising	.050110	6.6	.01
(2) Unemployment	-.000398	- 8.9	.01
(3) Liquidity	.000198	7.5	.01
(4) Leverage	-.000519	- 5.5	.01
(5) Return on Equity	-.001705	- 7.9	.01

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

TABLE IV

MANUFACTURING

RESULTS OF THE REGRESSION ANALYSIS OF CORPORATE GIVING

Durbin-Watson D Statistic	1.37	R^2	.85
Probability Greater Than F	.001	F Ratio	35

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.000862	6.9	.01
(1) Advertising	.019656	3.6	.01
(2) Unemployment	-.000767	-5.1	.01
(3) Liquidity	.000203	3.7	.01
(4) Leverage	-.001169	-1.4	.16
(5) Return on Equity	-.003123	-2.8	.01

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

TABLE V

UTILITIES

RESULTS OF THE REGRESSION ANALYSIS OF CORPORATE GIVING

Durbin-Watson D Statistic	.91	R^2	.62
Probability Greater Than F	.001	F Ratio	8

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.000964	5.4	.01
(1) Advertising	.060399	2.2	.03
(2) Unemployment	-.000474	-2.5	.02
(3) Liquidity	.000169	1.9	.07
(4) Leverage	-.002105	-1.2	.23
(5) Return on Equity	-.008247	-2.8	.01

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

TABLE VI

TRADE

RESULTS OF THE REGRESSION ANALYSIS OF CORPORATE GIVING

Durbin-Watson D Statistic	.80	R^2	.86
Probability Greater Than F	.001	F Ratio	35

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.000404	7.6	.01
(1) Advertising	.065662	2.1	.04
(2) Unemployment	-.000226	-2.7	.01
(3) Liquidity	.000247	4.4	.01
(4) Leverage	-.000677	-4.1	.01
(5) Return on Equity	-.006031	-1.6	.11

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

TABLE VII

FINANCE, INSURANCE, AND REAL ESTATE

RESULTS OF THE REGRESSION ANALYSIS OF CORPORATE GIVING

Durbin-Watson D Statistic	1.15	R^2	.88
Probability Greater Than F	.001	F Ratio	62

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.003005	3.1	.01
(1) Advertising	.154824	6.6	.01
(2) Unemployment	-.001976	-2.4	.02
(3) Liquidity	.000063	7.6	.01
(4) Leverage	-.008676	-3.9	.01
(5) Return on Equity	-.025429	-2.7	.01

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.

TABLE VIII

SERVICES

RESULTS OF THE REGRESSION ANALYSIS OF CORPORATE GIVING

Durbin-Watson D Statistic	.90	R^2	.93
Probability Greater Than F	.001	F Ratio	41

THE INDEPENDENT VARIABLES

	Parameter Estimates	t Ratio	Probability Greater Than t
Intercept	.001937	21.1	.01
(1) Advertising	.018241	6.2	.01
(2) Unemployment	-.000477	-5.1	.01
(3) Liquidity	.000031	5.1	.01
(4) Leverage	-.001338	-5.8	.01
(5) Return on Equity	-.002065	-2.3	.03

Where:

(1) Advertising = Total advertising divided by total sales.

(2) Unemployment = Total unemployed divided by civilian labor force.

(3) Liquidity = Current ratio.

(4) Leverage = Total liabilities divided by total assets.

(5) Return on Equity = Net income divided by stockholders' equity.