AN EMPIRICAL ESTIMATION OF INTERACTION OF FINANCIAL POLICIES AND FIRM GOALS

By

SEYED ALI MOHAMMAD FATEMI

Licentiate
College of Commerce
Tehran, Iran
1972

Master of Business Administration
Oklahoma State University
Stillwater, Oklahoma
1975

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF PHILOSOPHY
December, 1979

Thesis
1979D
F252e
cop. 2

OKLAHOMA STATE UNIVERSITY LIBRARY

AN EMPIRICAL ESTIMATION OF INTERACTION OF

FINANCIAL POLICIES AND FIRM GOALS

Thesis Approved:

James Ang

Thesis Adviser

Jamest Jackson

W. Sterrett

John D. Rea

Gerald M Lage

Norman N Durham

Dean of the Graduate College

1043412

ACKNOWLEDGMENTS

The author wishes to express his appreciation to his major adviser, Dr. James S. Ang, for his guidance and assistance throughout this study. Appreciation is also expressed to Dr. Jess H. Chua for his invaluable assistance throughout this study. Thanks are also extended to the other committee members, Dr. James F. Jackson, Dr. Gerald M. Lage, Dr. Wayne A. Meinhart and Dr. John D. Rea, for their assistance in the preparation of the final manuscript.

Gratitude is expressed to Dr. Donald Holbert of the Department of Statistics for his valuable assistance in using the canonical correlation technique in this study. Thanks are also extended to Mrs. Joyce Gazaway for the excellence of the typing of the manuscript.

Special gratitude is expressed to my parents and my sister, Shokouh, whose encouragement and financial support sustained me throughout my academic career. Finally, special thanks are expressed to Laura for her understanding and encouragement.

TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

FIGURE

CHAPTER I

INTRODUCTION

The issue of managerialism versus shareholder wealth is, yet, an unsettled issue. On the one extreme the neo-classical theory of the firm posits shareholder wealth maximizationas the sole goal of the organization. On the other extreme managerial models of the firm assert that managers run firms for their own benefit (e.g., Baumol's [6] sales maximization model, Marris' [56] growth maximization model and Williamson's [93] expense preferency theory).

Actually, the neo-classical and the managerial models are special cases of the general behavioral model of the firm which assert that the activities of the firm are carried out by different interest groups, each of which maximizes its own benefits subject to the constraints set by the other groups (18) (19). The neo-classical model may be interpreted as viewing the firm from the perspective of only one interest group, i.e., shareholders; while the managerial model as viewing the firm from the perspective of another interest group, i.e., managers.

However, no operational version of the general behavioral model has yet been presented in the literature. Operational models are restricted to the two special cases of shareholder wealth maximization and manager utility maximization. One of the objectives of this study is to approximate such a general model.

Actually, if firms operate in a world where: (1) individuals have homogeneous expectations, (2) assets are infinitely divisible, (3) there are no taxes, and (4) markets function perfectly, the managerial model should produce the same results as the neo-classical model (26). Any deviation from the shareholder wealth maximization, on the part of manager, would result in his replacement. In such a world all firms have to follow the optimal path prescribed in the neo-classical model of shareholder wealth maximization. There would be no room for the managers to deviate from the principle.

There is also a second case where the managerial model and the neo-classical model obtain the same results. This is when the managers are also the owners of the firm.

In either case management policies, especially financial policies, should respond in similar fashion to the same objective of shareholder wealth maximization. For example, the optimal capital structure of the firm would be set at that debt and equity combination which minimizes the cost of capital. The investment policy will be designed to accept all projects yielding more than the marginal cost of capital. There will be no active dividend policy. Dividends are residuals (26) (32) (63).

The above assumptions are, of course, violated in the real world. Taxes are an important factor which influence the decisions of investors. Assets are not infinitely divisible. Individuals have heterogeneous expectations, and market imperfections are present.

Proponents of the managerial model maintain that these violations of assumptions are "material" enough to give the non-owner managers room to deviate from the optimum path and follow a "satisficing" path instead.

This satisficing behavior will result in:

1. A non-optimal capital structure where the level of debt is determined by some common-practice norm. (This can be referred to as a market satisficing behavior.)
2. A relatively stable and active dividend policy. (This can be referred to as a shareholder satisficing behavior, which is exhibited as a result of informational content of dividends [74].)
3. A residual investment policy, i.e., the capital budget being determined after the payment of dividends, with no particular cut-off rate except where take-over becomes a threat because of a very low rate of return (27) (56) (57).
4. Earnings smoothing through accounting manipulation (18) (33). (This can be referred to as market-shareholder satisficing behavior.)

While it is true that the assumptions needed for the neo-classical model to hold are probably violated, the model cannot be rejected on this basis. Quoting Friedman (28)

> . . . the only relevant test of the validity of a hypothesis is comparison of its predictions with experience. The hypothesis is rejected if its predictions are contradicted ['frequently' or more often than predictions from an alternative hypothesis]; it is accepted if its predictions are not contradicted; great confidence is attached to it if it has survived many opportunities for contradiction (p. 8).

Therefore, the validity of the hypotheses should be accepted or rejected only after empirical tests on these hypotheses. The tests that readily suggest themselves would be those on the interaction of policies and goals. This is so because, as we have seen, the two competing hypotheses concerning goals imply very different financial policies.

Numerous empirical studies (e.g., [5] [11] [24] [30] [37] [39] [41] [48] [53] [93]) have tested the neo-classical and the managerial model hypotheses, and the predictions of the neo-classical hypothesis have been contradicted more often than the predictions of the managerial models hypotheses. However, the studies have not been thorough in their analyses. For example, they have shown that management has goals other than shareholder wealth maximization. But, from their analysis we cannot make any statement as to whether shareholders' economic well being is of principal concern to the management, or of a secondary importance subject to the achievement of other goal(s). Also, we do not know which financial policies have been utilized to achieve firms' goals, and what their order of priority is. We also do not know the effect of separation of ownership and control, if any, on the priority scheme of firms' goals and policies.

Scope of the Study

It is the purpose of this study to do much needed comparative study of goal preference and policy preference of owner controlled and management controlled firms to find:

1. the priority scheme of firm goals,
2. the priority scheme of firm financial policies in achievement of goals,
3. the extent of activeness and effectiveness of financial policies, and
4. the effect of separation of ownership and control on 1, 2 and 3 above.

The study is a major contribution to the area of study for the following reasons:

1. Most of the existing studies in finance and economics, that concern the interaction of goals and policies, are mainly partial analysis studies. They are concerned with either the effects of one policy on one goal, the effect of exogenous variables on one goal, or how financial policies respond to one goal. This study will construct a general dynamic model of the financial management process. The model will enable a more complete analysis of the interaction of firm goals with the firm's financial policies.
2. The study will examine an area not covered by previous researchers. It considers the firm's objective function with multiple goals. The weight or relative importance of each goal will be determined empirically. This will shed some light on the controversial issue of firm goals and theory of the firm.
3. The study will also attempt to generate a priority ranking of financial policies utilized in achieving firm goals as a further check on the implications of theory of the firm for financial management.
4. The study will generate empirical evidence as to the effect of separation of ownership and management on firm goals pursued, and financial policies utilized.

CHAPTER II

SURVEY OF LITERATURE

From a review of existing literature, relevant to this work, it can be concluded that:

1. The neo-classical theory of profit maximization is no longer a theory applicable to large, modern firms. Maximization of sales and/or growth, subject to a minimum profit constraint, seems to give a much-closer-to-reality explanation of the behavior of these firms.
2. There is an active (although imperfect) market for corporate control and as a result the differences between owner controlled and management controlled firms are of a degree and not of a kind. Management controlled firms have a greater desire for sales and/or growth maximization, but profits are of prime importance to management and owner controlled firms alike.
3. Policies the firm pursues will depend on the form of its objective function. Under the assumption of shareholder wealth maximization, the capital structure is optimized at the point where the average cost of capital is minimized; there would be no active dividend policy, and investment policy would be the most important policy. Alternative assumptions of sales maximization, growth maximization, or multiple goals will yield different implications for financial policies of the firm.

Empirical evidence lends itself to the fact that contrary to the implications of shareholder wealth maximization assumption, dividend policy is an active policy and firms operate with a concept of target leverage ratio.

Firm Goal(s)

According to the neo-classical theory of a firm, the goal of a business firm is profit maximization. It is the only goal to pursue and the assumption of perfect competition insures that, over the long-run, only those firms which pursue this goal will be able to survive. If firms did not maximize profit, or deviated far from profit maximization, someone would attempt to take them over, change the course of action of the firm, and make a windfall profit.

In the last three decades, however, dissatisfaction with profit maximization theory has been widely expressed. This dissatisfaction has been one of two types. Either it has been argued that profit maximization is a nonoperational concept and hence a difference analytical framework is required, or the exclusive attention to the profit goal is disputed. The "marginalist controversy" of the late 1940's was concerned with the first type but did not provide a useful substitute. The second type of discontent was initiated by Simon (80) who expressed the need for replacing profit maximization by an adaptive behavior model. Cyert and March's (19) behavioral theory of the firm was offered in response to this need. They chose the decision process of the firm as the critical unit for analysis and concluded that under intended, but bounded rationality, adaptive behavior rather than maximizing behavior characterizes the firm's behavior.

Baumol (6) observed that profits do not constitute the prime objective of the modern business firm. He argued that the businessman can be viewed as a calculating individual, but one whose calculations take account of profits in a manner which differs somewhat from the standard view. Different in the sense that the size of the firm's operations becomes a goal in itself, sharing with profits the role of prime objective. So far there is no necessary clash between Baumol's argument and the "orthodox" analysis. Businessman's desire to increase his profit lends itself to translation into a desire to expand his firm. But he takes a next step and hypothesizes that once a minimum profit level is achieved sales revenue, rather than profits, becomes the overriding goal. Thus, rendering the profit maximization goal obsolete.

Cohen and Cyert (16), examining the firm in a managerial-economics framework, offered a theory of the firm with five dominant goals--a production goal, an inventory goal, a sales goal, a market-share goal, and a profit goal--each representing demands of intra-organization groups, without specifying any order of importance. They notice that their model, and behavioral models in general, can be viewed as supplementing the conventional theory of the firm. While the conventional theory is designed to answer questions about resource allocation within the economy, the behavioral theory is designed to answer questions about resource allocation within the firm.

In 1967, Machlup (51) reviewed theories of the firm, and the outcome of the marginalist controversy, and concluded that

> . . . the choice of theory has to depend on the problem we have to solve. . . . The simple marginal formula based on profit maximization is suitable where (1) large groups of firms are involved and nothing has to be predicted about particular firms, (2) the effects of a <u>specified change</u> in

> conditions upon prices, inputs and outputs are to be explained or predicted rather than the values of these magnitudes before or after the change, and nothing has to be said about the 'total situation' or general developments, and (3) only qualitative answers, that is, answers about directions of change, are sought rather than precise numerical results. Managerial marginalism is more suitable to problems concerning particular firms and calling for numerical answers. And, I am sure, there are also some problems to which behavioral theory may be the most helpful approach. My impression is that it will be entirely concerned with particular firms and perhaps designed to give answers of a normative, that is advisory nature (p. 31).

The conclusion is in line with that of Cohen and Cyert (16), and Baumol and Stewart as cited by Marris (57).

Marris (56) (57) suggested that firms maximize the rate of growth subject to some constraint on minimum profitability. His hypothesis identifies more closely with the neo-classical theory and Baumol's (6) sales maximization hypothesis than with the behavioral theory. Solow as cited by Marris (57), however, cannot be easily identified with either theory. He argues that there is unlikely ever to be a simple answer to the question: What does a firm maximize? In the first place, a firm may be unable to maximize anything. In the second place, even if a firm does have a utility function, it may be content with approximate solutions and rules of thumb. Finally, if the firm does actually maximize something, the thing that it maximizes is likely to be a very complicated quantity, depending on the relative strengths of many interests and persons, and on the character of the market in which it operates. However, he argues, it is useful to think of a typical firm as maximizing something. He, then, shows that growth-oriented and profit-oriented firms would respond in qualitatively similar ways to such stimuli as changes in factor prices, discount rate, and excise and

profit taxes. Thus, we would find it hard to distinguish one kind of firm from the other.

In 1972, Cyert and Hedrick (18, p. 408) observed the growing uneasiness with the neo-classical approach; but, in their own words, they "see no evidence at this time for a substantial change despite the restricted progress being made by current approaches. The real world still escapes our models; our explanations remain at an aggregate level."

Wong (95), using a neo-classical model, made an ateempt to reconcile profit maximization theory and other theories of the firm (except the behavioral theory). He shows that behavior consists of two phases: (1) growth maximization phase during which the firm maximizes sales, and (2) golden stage or quasi profit maximization phase during which all operating income is paid out and investment is limited to replacement capital. It is in the second stage that the firm behaves like neo-classical profit maximizers.

Albin and Alcaly's (1) paper is also a reconciliation attempt. They show that the economy may have two disjoint equilibrium zones: one corresponding to low growth, market exploitation and profit maximization; the other corresponding to high growth and growth maximization. Thus, one firm may be growth oriented at one time and profit oriented at another time.

The review thus far has been centered around the arguments presented mostly by managerial-economists, and not researchers specifically identified with the discipline of finance. The reason, however, is that the discipline has been skeptical in addressing the question. Researchers in the field have often taken it for granted that the only goal should be the orthodox goal prescribed by neo-classicals. Hirschleifer, Gordon and

Vickers, among others, have shown that shareholder wealth maximization can be derived by adding shareholders, risk, and time to the neo-classical competitive model of profit maximization (26). And, optimum financial policies to be followed are all derived from the assumption of shareholder wealth (value) maximization.

Value maximization was not challenged until very recently when Grossman and Stiglitz (31) argued that there are fundamental difficulties with justifying value maximization on the basis of takeover bids. In the conventional static models the desirability of value maximization is obvious. When all prices are known and the technology is known there is unanimity about what course of action leads to value maximization. This result also extends to dynamic situations with uncertainty and a complete set of markets. Where there is not a complete set of markets

> . . . it has been shown that unanimity obtains if there is no trade and if any production plan of the firm can be written as a linear combination of production plans of other firms, i.e., there is what has come to be called spanning (31, p. 390).

Grossman and Stiglitz (31, p. 401) then argue that: (1) in any market there is trade and spanning does not imply unanimity,[1] (2) if there is unanimity for a traded firm due to the assumption of competitivity,[2] the firm must maximize value, "but closed-end mutual funds do not maximize value and these companies are the ones we would most expect to do so," thus, spanning is an unsatisfactory assumption.

Empirical Studies

To test Baumol's sales maximization hypothesis, Mabry and Siders (50) examined the correlation between sales and profits for a sample of 120 firms over the period 1952-1963. Trend adjusted time series data

revealed significant positive correlation between sales and profits for the majority of the sample. They argue that although correlation values greater than, less than, or equal to zero, between sales and profits, are possible under the goals of either sales or profit maximization, Baumol's (6) hypothesis implies that negative correlation can be expected as a central tendency. A finding that sales and profits do correlate positively, therefore, would weaken our confidence in Baumol's hypothesis. Baumol (6), in justifying his sales maximization hypothesis, made the assertion that size tends to result in high rates of profit. In his own words

> . . . increased money capital will not only increase the total profits of the firm, but because it puts the firm in a higher echelon of imperfectly competing capital groups it may very well also increase its earnings per dollar of investment (p. 33).

Hall and Weiss (33) examined the relationship between firm size and profitability and found that size does tend to result in higher profit rates, thus giving some support to Baumol's hypothesis.

Sharpe and Sossin (79) present the evidence that clsosed-end mutual funds sell at a substantial discount, i.e., the market value of the mutual funds portfolio is higher than the market value of mutual funds own shares. If value maximization is a universal goal applicable to all firms, and the neo-classical theory asserts it is, then we would expect closed-end funds' portfolios to be sold off and the cash distributed to shareholders. But since closed-end funds have been in existence for some time, and still are, one's strong suspicions arise as to the operationality of the neo-classical theory.

Beedles (8) presents evidence supporting the premise that firms may be more accurately characterized as having several objectives. He

compares the descriptive power of a triple-goal (profits, stock price, sales) model of firm behavior to that of a single-goal model, applied to three different firms. Results indicate that the triple-goal model performs better. Inferior performance of the single-goal model indicates that profit maximization (value maximization) does not adequately explain the behavior of business firms.

Finally, Ang, Chua and Chastain (3) find share price maximization as the dominant firm goal. Sales growth maximization was found to be of a secondary importance, but in a competing position with share price maximization. They include two other goals in their tests, i.e., earnings growth smoothing and solvency, but they were found to have very low implied weights.

Effect of Separation of Ownership and Control on Goals

The belief that managerial discretion has an important influence on the resource allocation process within the business firm has a long and recurrent history among economists. Support for this view is traced back to J. R. Hicks, J. M. Keynes, Alfred Marshall and Adam Smith by Williamson (93).

Gordon (29), in his 1954 study of business leadership, observed that the management considers not only the stockholder's interests but also the interests of its own. In the preface to the second edition of his study in 1961, he stressed the need for a theory of the firm which takes into account behavioral factors. He states that

> . . . the maintenance of satisfactory profits is a more accurate statement of the profit's objective than is complete profit maximization. Perhaps it is not inaccurate to say

> that profits are viewed as the basic constraint subject to which other goals can be follows (p. xii).

This was exactly the position Baumol (6) had taken in 1959. He hypothesized that managers have a desire to expand operations of the firm, and once a minimum profit level is achieved, sales revenues, rather than profits, become the overriding goal. Kaysen (40) found that a large segment of manufacturing industry and most of the regulated sector of the economy are effectively isolated from such compeition, which opens up a wide range of discretionary choice to their managements. Consequently, he argues, stockholders' objectives become only one of a number of competing influences that the management attends to in running the firm.

Mason (58, p. 10), in his 1958 work, analyzed the managerial revolution and its implications for the functioning of the firm and concluded that "just how much difference this shift in the locus of control makes to the functioning of the company depends largely on the competitive position of big firms in the market in which they operate."

Williamson's (93) (94) elaborate work is a classical work. He observed, through field studies and principle firm tests, that

> . . . managerial objectives have a systematic influence on the operations of the firm, and that conditions of competition in the product market play a critical role in determining the extent to which discretionary behavior is quantitatively important (93, p. 167).

And so the expense-preference theory was initiated, which states that managers attach positive values to some types of expenses, namely level of staff expenditures, amount of management slack absorbed as cost, and the amount of discretionary spending available for investment. He hypothesized that managers maximize a utility index which is a function of staff or general administrative and selling expense, managerial

emoluments, and discretionary profit (the amount by which earnings exceed a minimum profit constraint), which was supported by his empirical results.

Monsen and Downs (65) observe that the behavior of large firms deviates from the profit maximization of the neo-classical theory. The reason, they argue, is that managers are economic men who desire to maximize their lifetime incomes, and owners, being remote, cannot push for profit maximization. Manne (55), however, suggests that significant deviations from profit maximization on the part of management would cause the company's stock to be undervalued and make the corporation a tempting target for a takeover. Williamson (92, p. 335) argues, regarding Manne's hypothesis, that the market for corporate control would appear to be imperfect, and the capital market "is too ill-formed, too restricted to non-marginal solutions and too costly to employ as a displacement technique to be reliably considered as means by which closely to enforce profit-maximization selection."

Marris (56) (57) acknowledges the existence of the market for corporate control. To him this market is imperfect yet active. This can be deduced from his hypothesis that managements display a definite preference for growth, or size as such, subject to competing desires to satisfy stockholders or to maintain their own security of employment. He believes that the utility of managers are associated with a variety of satisfactions such as salary, bonus, power, prestige, and role, which are in turn associated with measures of size and/or rate of change of size. Thus, management maximizes growth, per se, subject to a minimum acceptable ratio of stock price to book value (in order to thwart takeovers).

In a recent work, Jensen and Meckling (38) assert:

> While the literature of economics is replete with references to the 'theory of the firm', the material generally subsumed under that heading is not a theory of the firm but actually a theory of markets in which firms are important actors. The firm is a 'black box' operated so as to meet the relevant marginal conditions with respect to inputs and outputs, thereby maximizing profits, or more accurately, present value. Except for a few recent and tentative steps, however, we have no theory which explains how the conflicting objectives of the individual participants are brought into equilibrium, so as to yield this result (p. 306).

With this belief they set out to tackle the issue of agency costs in a theory of the firm framework--an important issue which has not received proper attention by researchers. In their analysis, Jensen and Meckling retain the notion of maximizing behavior on the part of all individuals. The difference, however, is that in this model individuals maximize utility, as opposed to maximization of profits in the neo-classical model. An individual owner-manager will choose the combination of "firm value" and "expenditures on non-pecuniary benefits" which maximizes his utility by consulting his utility function. Denote this firm value by V^*. If the owner sells a fraction $(1 - \alpha)$ of the firm to an outsider, he, as manager, will no longer bear the full cost of any non-pecuniary benefits he consumes. The cost to the owner-manager of consuming \$1.00 of non-pecuniary benefits in the firm will no longer be \$1.00. Instead, it will be $\alpha \times \$1.00$. Thus, his welfare will be maximized by increasing his non-pecuniary benefits with a resulting decrease in the value of the firm to V^o, where $V^o < V^*$. Although it is possible to monitor a manager's actions to ensure that he will make optimal decisions (resulting in firm value V^*), it is generally impossible to do this at zero cost. The effect of separation of ownership and control is, thus, a

decrease in firm value and an increase in expenditures on manager's non-pecuniary benefits.

Empirical Studies

Empirical studies dealing with the effect of separation of ownership and control on firm goals can be roughly divided into two groups--those which conclude that the effect is either nonexistent, or at best very minor, e.g., (24) (36) (37) (38) (39) (42) (45) (46) (47) (48); and those which conclude that separation affects goals in one way or another, e.g., (5) (11) (17) (22) (41) (53) (59) (62) (66) (70) (71) (75) (81).

Separation Effect Nonexistent or Very Minor. Larner (43), studying the pattern of control in the 200 largest nonfinancial corporations, concluded that the mangerial revolution observed by Berle and Means (10), 30 years before his study, was close to complete.[3] In a later work, Larner (42, p. 66) observes that "Although control is separate from ownership in most of America's largest corporations, the effect on the profit orientation of firms and on stockholder's welfare has been minor." Kamerschen (39), using Larner's (43) sample of the 200 largest nonfinancial firms, found no significant difference in profitability between manager and owner controlled firms.

Lewellen (45) found that firm's profits are a better predictor of its senior officers' rewards than are either its assets, its sales or the market value of its common stock. Later, Lewellen (46) reported that although a separation of ownership and management clearly exists, a significant separation of their pecuniary interests does not. In a study co-authored with Huntsman (48, p. 718), they found that "Reported

profits and equity market values are substantially more important in determination of the executive comparison than are sales--indeed sales seem to be quite irrelevant." Finally, in his Ownership Income of Management, Lewellen (47, p. 150) found that "Annual income of executives depends very heavily, very directly and very persistently on the dividends received and capital gains experienced" by them. As such, it is an evidence of a broad-based link between managerial welfare and shareholder returns.

Elliot (24), too, found no difference in earnings or profitability between owner-managed and non-owner-managed firms in the United States. The same result was obtained by Holl (37) when examining United Kingdom firms. Holl concludes that separation of ownership from control does not have any behavorial implications for the theory of the firm. In a later study, Holl (36) introduces the market for corporate control into his analysis, and concludes that while separation is important, its influence is less general than has been thought.

McKean and Kania (54) considered four measures of performance: return on equity, operating net income to total assets minus cash, net sales to total assets, and net income to net sales. They defined sample industries at the four-digit SIC level. Testing each industry separately, they used an analysis of variance model to test for a systematic effect of control type on performance, and they found no strong inter-industry patterns relating profit performance to control type.

Separation's Effects Detected. In arriving at his sales maximization hypothesis, Baumol (6, p. 46) asserts that "executive salaries appear to be far more closely correlated with the scale of operations of

the firm than with its profitability." McGuire, Chiu and Elbing (53) set out to investigate, empirically, the relation. They found that sales and executive income are highly correlated, not profits and executive income. Their results strengthened the confidence in Baumol's (6) hypothesis.

Baker (5), using a log-linear model, found that both profits and sales are significant in determining executive compensations. Using a linear model and a log model, however, he found that profits were not significant. He preferred a semi-log model as a result of comparing correlation coefficients and Durbin-Watson statistics (obtained by ranking firms by compensation).[4]

Masson (59) found that firms with executives whose rewards are tied to the stock's performance, performed better (had a higher stock return) than others. Cox and Shauger (17) found executive compensation to be significantly related to both sales and profitability.[5] This result was also obtained by Smyth, Boyes and Peseau (81), using a large sample of 557 companies. Smyth, Boyes and Peseau's study is unique in the sense that it is an attempt to explain conflicting results of earlier studies, and at the same time obtain further empirical evidence, avoiding econometric problems present in earlier studies. They found that

> . . . profitability measured by profit/equity are negatively and highly significantly related to size measured by equity, whereas profits/assets are positively and usually significantly related to equity. In the United Kingdom both profits/assets and profits/equity are negatively and significantly related to size measured by sales, assets and employment. In the United States when size is measured by sales, assets or employment, there is a tendency for a negative relationship when profits/assets is the profitability measure; there are no significant relationships with these size variables when profits/equity is the profitability measure. There is no evidence that industry concentration influences profitability in either the United Kingdom or the United States (p. 59).

Also of interest is their finding of

> . . . no difference in the behaviour of profit variability for firms of different size in the group of 500 largest United States and United Kingdom industrial companies studied. In addition, in further analysis for the United States, we find no connection between the variability of profits and concentration and no trade-off between profitability and profit variability (p. 70).

As to the goals of the firm, they conclude that the firm has a utility function that includes both sales and profits.

Koshal, Pradsad and Jain (41), in a recent work, found that remuneration of executives depends both on sales and profits, rejecting McGuire, Chiu and Elbing's (53) results, and Lewellen and Huntsman's (48) results because of presence of multicolinearity in their models.

Monsen, Chiu and Cooley (66) studied the effect of separation of ownership and control on the performance of large firms and found that owner controlled groups of firms out-performed the management controlled firms by a considerable margin, a quite different result than that of Larner (42). Radice (75), studying the effect of control type on profitability and growth of large firms, found higher profit rates and growth rates for owner-controlled relative to management-controlled firms. He concludes that the managerial theories of the firm are basically theories of large modern firms. The same kind of results and conclusions were arrived at by Boudreaux (11) and Palmer (70) (71). Boudreaux (11) and Palmer (70) further report that diffused-ownership firms report more variable (riskier) profit rates than concentrated-ownership firms.

Finally, Mingo (62), in a study of the performance of holding company banks, found that profits are a constraint and not an objective,[6] a result which is in line with Williamson's (93) hypothesis. Edwards (22) also tests the expense-preference theory for the banking industry

and finds that wage and salary expenditures in banking industry with monopoly power which indicates that an expense-preference model may be a more useful framework for describing and predicting bank behavior than the traditional profit maximization model.

Firm Goals and Financial Policies

Under the assumption of profit maximization, or alternatively shareholder wealth maximization, firms' optimum financial policies are rather straightforward:

1. The capital structure is optimized at the point where the average cost of capital is minimized (67).
2. Dividends are treated as a residual, implying that there will be no active dividend policy. Dividends will be paid out only after all profitable investment opportunities are being undertaken. Hence, dividends would be erratic, inversely related to the profitability of available investment opportunities, and would never be paid out in the year of a new stock issue (26) (32) (61).
3. Investment policy is the most important policy of the firm. It will be designed to accept all projects yielding more than the marginal cost of capital (26) (32) (63).

Different solutions will be obtained under alternative assumptions of sales maximization, growth maximization, or multiple goals. Williamson (91) shows that the policies the firm pursues will depend on the form of its objective function, except where profitability is at best the minimum sum necessary to prevent takeover. Profit, growth and sales maximizers will act differently. Specifically:

1. A profit and growth maximizer would reach the same output decision, but a sales maximizer would produce more (except in the limiting case).
2. A profit maximizer would distribute more of its profits than a growth maximizer (except in the limiting case).
3. The growth rate of the firm cannot be increased by resort to additional equity finance.
4. A profit or growth maximizer will grow at a positive rate if it is a profitable firm, a sales maximizer need not.
5. Growth is never limited by lack of finance as such, as postulated by Baumol (6), but by fear of takeover, as postulated by Marris (56).

Williamson (91, p. 16) concludes his study by stating that "one may conclude that there is substantial empirical evidence favoring abandonment of the time-honoured profit maximization assumption."

Lintner, cited by Marris and Wood (57), analyzed the effect of different assumptions regarding firm goals or policies under uncertainty and concluded that:

1. Firms maximizing equity values never maximize their rate of growth. Equity maximizers stop short their rate of growth at the point where marginal gain no longer exceeds the marginal cost as determined by the riskless rate in the market. Growth maximizers would act is if there were no cost to growth, and would push to the point where MR = 0 (not where MR = MC).
2. Firms may "buy" more expected growth by either undertaking policy mixes involving more risk, or increasing their retention ratio; both of which are subject to diminishing returns.

3. A growth-oriented but risk-averse management, responsible to no one else and owning no stock in the firm, would determine the maximum growth rate by consulting its own utility function ordering different attainable combinations of expected growth and risks of growth. But it would be sheer coincidence if its trade-offs were the same as those relevant to equity-value maximizers.

Marris (57) argues that a manager's pecuniary and non-pecuniary compensation is more clearly tied to firm size than profitability. Consequently, managers will push investment programs to a point where their marginal rate of return is below the level which would maximize shareholder welfare. Findlay and Whitmore (26) contrasted the implications of shareholder wealth maximization and "manager welfare maximization" models for positive finance and argued that the popular assumption of shareholder wealth maximization lacks empirical validity.

Jensen and Meckling (38) assume that the management maximizes a two-argument utility function, the two arguments being non-pecuniary benefits and firm value. If the manager owns 100 percent of the firm, investment is carried to the value maximization point, at which the next addition to the value of the firm is just offset by the additional investment. But, however, if the manager sells a share of the firm $(1 - \alpha)$ and retains for himself a share (α), investment is carried to the point at which the change in the market value of the firm is offset by the additional investment minus the dollar value to the manager of the incremental non-pecuniary benefits (which is equal to manager's fraction of ownership, α, times the incremental non-pecuniary benefits) he consumes.

Jensen and Meckling, then, introduce agency costs into their analysis. Agency costs consist of monitoring expenses incurred by the owners to control the performance of a manger, bonding costs incurred by the manager to guarantee a level of performance satisfactory to the owners, and a residual loss which results from the divergence between those decisions which would maximize owners' wealth and those which would maximize the welfare of the manager. If the cost functions involved in monitoring and bonding are such that some positive levels of the activities are desirable (i.e., yield benefits greater than their cost) then the expansion path will lie between the expansion path with 100 percent ownership by manager and the expansion path with fractional managerial ownership but no monitoring or bonding activities. The final solution will be at that point where the new expansion curve is tangent to the highest indifference curve. The difference between the value of the firm obtained with 100 percent ownership by the manager, and the value obtained given positive monitoring and bonding costs, are the total agency costs. This reduction in firm value is because of manager's consumption of non-pecuniary benefits.

Use of debt would also engender agency costs. The agency costs associated with debt consist of:

1. the opportunity wealth loss caused by the impact of debt on the investment decisions of the firm,
2. the monitoring and bonding expenditures by the bondholders and the owner-manager (i.e., the firm), and
3. the bankruptcy and reorganization costs.

Jensen and Meckling (38) argue that the owner-manager bears the entire wealth effects of the agency costs of debt and outside equity.

From their point of view the optimal proportion of outside funds to be obtained is that proportion which minimizes total agency costs (agency costs involved in both debt and outside equity financing). In presenting the theory of ownership structure, Jensen and Meckling argue that for each fraction of outside funds in the capital structure, as the fraction changes from 0 to 100 percent, there would be a point at which agency costs are minimized. The locus of such points determines the optimal proportion of equity and debt to be used in obtaining outside funds. In the final analysis the optimal amount of outside financing is determined by the interaction of marginal agency costs and marginal value of increased diversification which the manager can obtain by reducing his ownership claims and optimally constructing a diversified portfolio.

Empirical Studies

Turnovsky (89), examining the allocation of corporate profits between dividends and retained earnings, found that contrary to the implications of profit-maximization, dividend commitments are more urgent than investment, funds for investments are not strong in determining the amount of retained earnings, and retained earnings are determined residually. Baumol et al. (7) found an implied marginal rate of return on retained earnings of 3 to 4.6 percent compared to a return of 4.2 to 14 percent on funds obtained from new debt and 14.5 to 20.8 percent on new equity, a behavior inconsistent with the implications of shareholder wealth maximization and in line with the implications of managerial models.[5] This ranking was also supported by Whittington's (90) study with British data.

Grabowski and Mueller (30) tested Marris' (56) hypothesis for firm's investment policy and found Marris' model superior to pure stockholder welfare maximization. They also found that payouts are kept low if earnings are growing but are raised if they are unstable (i.e., prices might decline enough to induce a takeover bid without the larger dividend yield).

Scott (78) found that various industries, subject to various degrees of business risk, have developed characteristically different financial structures. If financial structures were irrelevant in the valuation of the firm (and shareholder wealth maximization implies it is), then a wide variety of equity ratios should be found within each industry. But Scott's findings indicate a definite tendency to cluster, as a matter of practical business policy. Ang (2) also found that firms operate with a concept of target leverage ratio. He also found some weak evidence of the presence of unused debt capacity for his sample.

McEachern (52) argues, both theoretically and empirically, that an owner-manager has more incentive and opportunity to take risk than a hired manager; also a hired manager under the control of a dominant stockholder has less opportunity and less incentive to take risk than managers in firms without a dominant stockholder interest. Elliott (24) found that non-owner-managed firms are more liquid than their owner-managed counterparts, an indication of a greater degree of risk aversion on the part of hired managers. Finally, Ang, Chua and Chastain (3) found investment policy to be the policy with the greatest weight attached. Dividend policy, working capital policy and financing policy were found to be of lesser importance in a descending order.

Conclusion

What has been reviewed in this chapter is by no means an exhausting and complete survey of studies dealing with the theory of firms. The main purpose has been to cite only those studies that have direct relevance to the present study, i.e., those dealing with firm goals and/or implications of firm behavior for financial policies.

As a result, it is concluded that, based on the available evidence, the neo-classical theory of profit maximization is no longer a theory applicable to today's large, modern corporations. Managerial theories of the firm provide a better frame of analysis for these economic entities, regardless of the type of control. It is found that profits and sales are the two most important goals of these economic agents, and the people who run the firm. Whether owner-controlled or manager-controlled firms place the same priority ranking on these goals or not is an empirical question the researcher intends to answer in this study.

On the issue of implications for financial policies of the firm, too, managerial models are better predictors of firm behavior.

FOOTNOTES

[1]They examine two situations where trade is likely to be generated continuously: (1) trade is generated by the arrival of new information and (2) trade is generated by life cycle considerations.

[2]If firms behave as perfect competitors in the composite commodities which form a basis for the spanned space, then we have competitivity.

[3]Chevalier (15) obtained results somewhat divergent from Larner's (43). He found that American corporations are entering a stage of control by fiduciary institutions through which dispersed stockholders, once more, become concentrated, i.e., the fourth stage predicted by Berle (9).

[4]Such a comparison is illegitimate so that Baker's choice of the regressions yielding both profits and sales significant cannot be supported. The reason is that in the linear and semi-log models the correlation coefficients relate to compensation whereas in the linear in log model they relate to the logarithm of compensation. Thus, the fact that the correlation coefficient for the semi-log model is higher than a log model does not mean that it explains a higher proportion of the variance of either compensation or the logarithm of compensation. Also, the Durbin-Watson statistics cannot be compared because the residuals are for compensation in one case and for the logarithm of compensation in the other. For a more thorough discussion see Smyth, Boyes and Peseau (81) and Thiel (88).

[5]They used a logarithmic model and found that the relative explanatory influence of profitability increases as the measure of executive pay used becomes more inclusive.

[6]He also found that: (1) holding company banks (HC's) leverage more than independent banks, (2) HC's hold greater proportion of higher yielding (riskier) assets, (3) HC's are less risk-averse, and (4) HC's are more efficient.

CHAPTER III

THE HYPOTHESES

Based upon the available evidence, reviewed in Chapter II, the researcher intends to test a number of hypotheses. In setting the hypotheses, the reseracher will follow the methodology prescribed by Friedman (28) for constructing hypotheses, i.e., the hypotheses are consistent with the existing evidence and they are capable of generating new facts about the class of phenomena they are designed to explain. The hypotheses are designed to explain the behavior of large firms in the United States.

Hypotheses I, II and III

Based on the available evidence, the neo-classical theory of profit maximization is no longer a theory applicable to today's large, modern corporations. On the other hand, support is found for managerial theories of the firm which hypothesize that firms maximize sales (6) or growth (56) subject to a minimum profits constraint. It is, thus, hypothesized that large United States' firms have two important competing goals of profit maximization, and sales maximization, with profit maximization being the dominant goal.

The majority of studies dealing with the effect of separation of ownership and control on firm's profitability are unable to detect any significant effect. Consequently, the above hypotheses are generalized

to all firms regardless of the type of control. But, however, in a third hypothesis it is hypothesized that the relative preference for sales maximization goal is greater for management controlled firms than for owner controlled firms. The hypothesis is in agreement with managerial hypotheses that managers have positive preference for the scale of operations of the firm (6) (56) (57). Therefore, Hypotheses I, II and III are:

HI: Large United States' firms have two important competing goals of profit maximizationand sales maximization.

HII: Regardless of the type of control, profit maximization is the dominant goal.

HIII: The relative preference for sales maximization is greater for large management controlled firms than for large owner controlled firms.

Hypotheses IV and V

The neo-classical theory of profit maximization regards investment policy as the most important financial policy of the firm; maximization of shareholder wealth is attained through investment policy. Having hypothesized profit maximization as the dominant goal of the firm, it is accordingly hypothesized that investment policy is the most effective financial policy of the firm. It is further hypothesized that firms, regardless of type of control, are aware of the effectiveness of investment policy, and utilize investment policy as the most preferred policy. Therefore, Hypotheses IV and V are:

HIV: Investment policy is the most effective policy of the firm.

HV: Investment policy is the most preferred policy of the firm.

Hypotheses VI Through XI

Miller and Modigliani (61) hypothesize that dividend policy does not affect the value of the firm. Being ineffective, a firm which maximizes the wealth of its shareholders, does not utilize dividend policy in any systematic way. Having hypothesized profit maximization as the dominant goal, it is subsequently hypothesized that dividend policy is ineffective, i.e., it does not affect attainment of goals. But, however, due to the presence of informational content of dividends (25), it is hypothesized that dividend policy is active, i.e., it responds to goals of the firm.

Further, having hypothesized less preference for profit maximization goal by management controlled firms compared to owner controlled firms (with profit maximization being still the dominant goal), it is hypothesized that dividend policy (while still being ineffective) is more active in management controlled firms compared to owner controlled firms.

Additionally, Modigliani and Miller's (64) hypothesis on the irrelevance of financing policy will be employed to hypothesize ineffectiveness of financing policy. But, however, due to the presence of evidence on the importance of structure (2) (78), it is hypothesized that financing policy is active; it responds to goals of the firm. Following the same line of reasoning offered, for dividend policy above, it is hypothesized that financing policy is more active in management controlled firms compared to owner controlled firms. Therefore, Hypotheses VI through XI are:

HVI: Dividend policy is an ineffective policy in attainment of goals.

HVII: Dividend policy is an active policy.

HVIII: Dividend policy is more active in management controlled firms than in owner controlled firms.

HIX: Financing policy is an ineffective policy in attainment of goals.

HX: Financing policy is an active policy.

HXI: Financing policy is more active in management controlled firms than in owner controlled firms.

CHAPTER IV

A DYNAMIC MODEL OF FINANCIAL MANAGEMENT

The dynamic process of financial management of the firm, as with all decision processes, entails:

1. selection of the goal(s),
2. determination of the effect of financial policies (controllable variables) and exogenous factors (uncontrollable variables) on firm goal(s), and
3. finding a policy or a combination of policies which enhance the goal(s) and minimize the unfavorable effect of exogenous factors.

Within such a framework, the financial management of a firm may be represented as the maximization of an expected utility function of the firm:

$$U'_t = U(G'_t | W'_t) \qquad (1)$$

where $G'_t = [g_{1t}, g_{2t}, \ldots, g_{it}]$ represents the vector of goals with the corresponding vector of weights $W'_t = [w_{1t}, w_{2t}, \ldots, w_{it}]$. The weights indicate relative preference among goals.

Each goal is determined by the interactions of exogenous factors $Z'_t = [z_{1t}, z_{2t}, \ldots, z_{mt}]$, and policy variables $P'_t = [p_{1t}, p_{2t}, \ldots, p_{nt}]$, i.e.,

$$
\begin{aligned}
g_{1t} &= h_1(Z'_t, P'_t) \\
g_{2t} &= h_2(Z'_t, P'_t) \\
&\vdots \\
g_{it} &= h_i(Z'_t, P'_t)
\end{aligned} \tag{2}
$$

In the dynamic case lagged variables Z'_{t-j}, P'_{t-k} and G'_{t-L} due to costs of adjustment, revision of expectations or adaptive behavior, will also affect the current goal values. Therefore, a more dynamic version of (2) may be written as:

$$
\begin{aligned}
g_{1t} &= g_1(G'_{t-L}, Z'_{t-j}, P'_{t-k}) \\
g_{2t} &= g_2(G'_{t-L}, Z'_{t-j}, P'_{t-k}) \\
&\vdots \\
g_{it} &= g_i(G'_{t-L}, Z'_{t-j}, P'_{t-j})
\end{aligned} \tag{3}
$$

where $j, k \geq o$ and $L > o$.

Equation (3) basically describes the environment the firm functions in; showing how autonomous factors, policy variables (both contemporaneous and lagged), and lagged goal variables affect the attainment of goals. More importantly, it shows the effectiveness or ineffectiveness of utilizing the policy variables to enhance the goals.

Conceptually, the optimization problem described may be solved by mathematical programming techniques. In the mathematical programming framework, equation (1) forms the objective function to be maximized. Equation (3) forms the constraints on the management process.

By substituting equation (3) into (1) and maximizing the expected utility, U, with respect to policy variables, P_t, the rules for responding to the changes in the exogenous factors are obtained. In symbols

they are:

$$p^*_{1t} = p_1(Z'_{t-j}, P'_{t-k}, G'_{t-L})$$

$$p^*_{2t} = p_2(Z'_{t-j}, P'_{t-k}, G'_{t-L})$$

$$\vdots$$

$$p^*_{nt} = p_n(Z'_{t-j}, P'_{t-k}, G'_{t-L}) \qquad (4)$$

where $j \geq o$, and $k, L > o$.

The rules so obtained will tell the management what the appropriate levels of p_t's (P^*_t) should be when Z_{t-j}, P_{t-k} and G_{t-L} are known. Although, analytically, there may be a unique representation of equation (4) depending on the type of relationships in equation (3), the combination of policies to achieve the objective of the management process is non-unique. Therefore, managers may have preference concerning which policy variables are used.

It should be emphasized here, that in this study, being a positive study, the intent is to determine how firms have (not should have) responded when Z_{t-j}, P_{t-k} and G_{t-L} ($j \geq o$ and $k, L > o$) were known. Thus, the model needs to be extended so that such an investigation is possible.

By substituting equation (3) into (1), expected utility can be expressed as:

$$U = U(G'_{t-L}, Z'_{t-j}, P'_{t-k} | \alpha', \beta', \Omega') \qquad (5)$$

where $j, k \geq o$ and $L > o$, where $\alpha = [\alpha_{t-1}, \alpha_{t-2}, \ldots]$ is the vector of lagged goal value weights, $\beta' = [\beta_t, \beta_{t-1}, \ldots]$ is the vector of contemporaneous and lagged exogenous factor weights, and $\Omega' = [\Omega_t, \Omega_{t-1}, \ldots]$ is the vector of contemporaneous and lagged policy variable

weights.[1] Equation (5) shows the effect of lagged goals, exogenous factors and policy variables (both lagged and contemporaneous) on firm's overall performance. Since (1) and (5) are equivalent we have

$$U(G'_t|W'_t) = U(G'_{t-L}, Z'_{t-j}, P'_{t-k}\ \alpha', \beta', \Omega') \qquad (6)$$

where $j, k \geq o$ and $L > o$.

Equation (6) expresses the relationship between contemporaneous goals, on the one hand, and lagged goals, exogenous factors and policy variables (both lagged and contemporaneous), on the other hand. It basically describes the interaction of firm goals and financial policies in a dynamic manner.

The development suggests that a complete positive analysis of financial management involves the analysis of four different problems. First is the determination of the firm's relative preference for different goals. Empirically this is the determination of the vector of weights, W', in equation (1).

The second problem is the structure problem, i.e., measurement of the effect of exogenous and policy variables on goal variables. Empirically, this involves estimation of equation (3).

Third, the rules that the firm follows to respond to changes in relevant exogenous factors must be determined. This is the reaction problem and empirically it involves estimation of equation (4).

Fourth is the determination of the firm's relative preference for different financial policies. This is the policy preference problem. Empirically, this involves the estimation of Ω in equation (5).

However, both equations (1) and (5) are expressed in (6) which reduces the two problems of goal preference and policy preference to a

single preference problem, and the subsequent reduction of the number of problems to be analyzed to three problems.

Figure 1 is a graphical view of the general model presented above.

An Illustration

To illustrate the model, consider a newly established hypothetical firm with the single goal of profit maximization, $U = U(\Pi)$. Further, assume that (1) the firm's customers buy only on credit, (2) the firm can buy and sell unlimited quantities of its product, and (3) the only controllable variables at the financial manager's discretion are the elements of credit policy--terms of credit and credit limit. Expressing net profits (Π) as a function of sales (S) and expected bad debt losses (L) we have:

$$\Pi = M \times S - L$$

where $M = \frac{\text{profit}}{\text{sales}}$ is the profit margin.

Both sales and bad debt losses are functions of exogenous variables (e.g., the level of economic activity, etc.) and the controllable elements of credit policy (terms of credit, credit limit):

$$S = S(Z', P')$$

$$L = L(Z', P')$$

where $Z' = [z_1, z_2, \ldots]$ is the vector of exogenous factors, and $P' = [p_1, p_2]$ is the vector of elements of credit policy. Substituting for S and L in the net profit equation we obtain net profits, for the first period, as a function of Z_t and P_t:

$$\Pi = \Pi(Z_t, P_t, M) \qquad \text{(the structure)}.$$

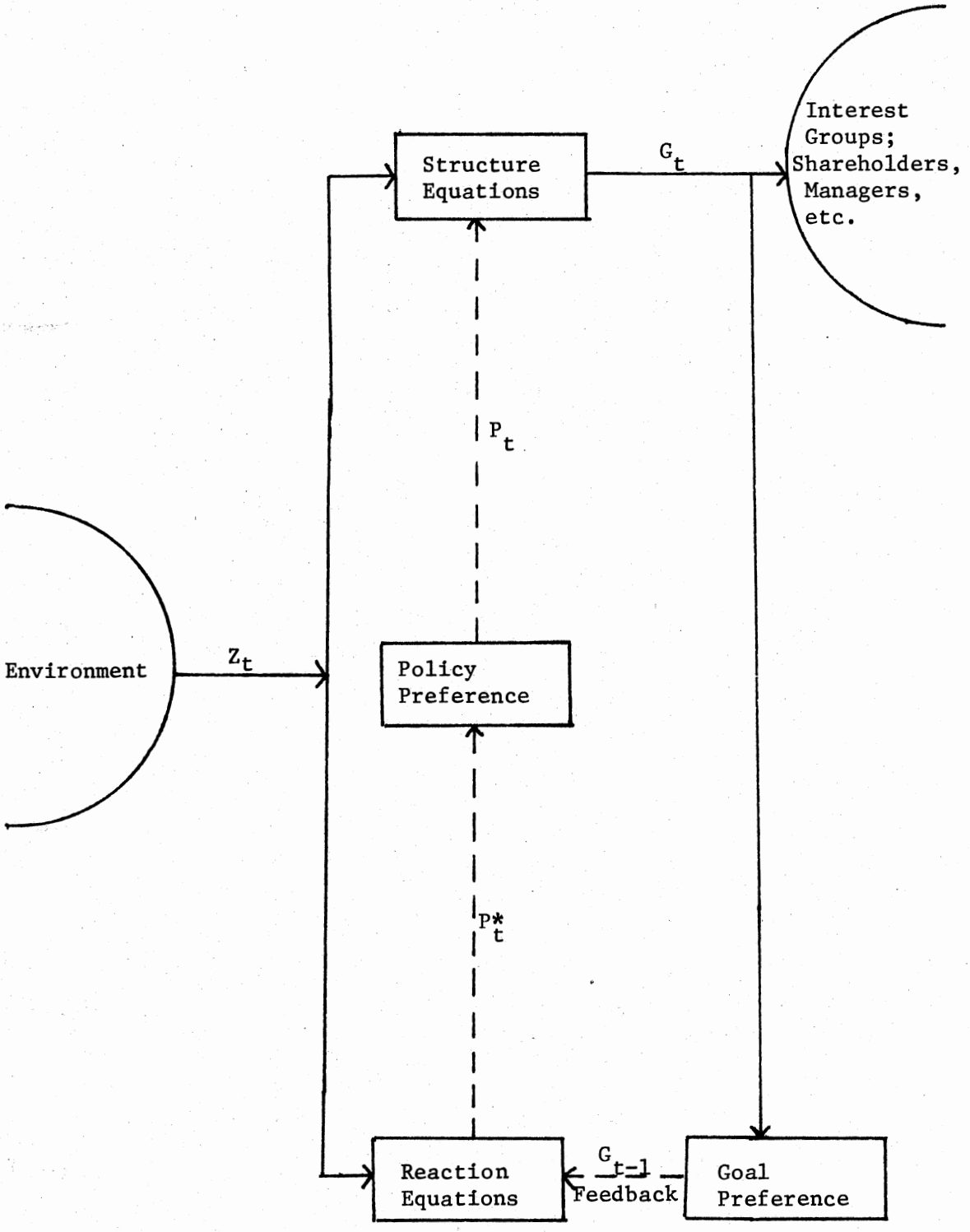

Figure 1. The Dynamic Model of Financial Management

Substituting for Π in the utility function and maximizing with respect to P we obtain

$$p^*_{1t} = p_1(Z'_t, M)$$

$$p^*_{2t} = p_2(Z'_t, M)$$

Although p^*_{1t} and p^*_{2t} may be unique, the combinations of elements of credit policy which achieve the same level of profits are non-unique (e.g., different credit limits for each customer vs. different terms of payment). The financial manager will determine these alternative actions by consulting his policy preference equation. Having determined the preferred policy, the level of P_t and Z_t will determine the level of profits through the structure equation.

Next period (time t + 1), the firm's past performance, as well as last period's exogenous factors enter the structure and reaction equations through the feedback process. The resulting policy level (which is affected by last period as well as this period's factors, last period's policy and last period's profits) and this period's exogenous factors will determine this period's profits through the structure equation.[2] This circular flow is repeated each period thereafter, with some new variables entering the flow, and some old variables leaving the flow after their informational content is exhausted.

FOOTNOTES

[1]Notice that each $_t$, $_t$ and $_t$ is a row vector, and the number of elements in each of these row vectors is equal to the relevant number of variables, i.e.,

$$\alpha_t = [\alpha_{1t}, \alpha_{2t}, \ldots, \alpha_{it}],\ \beta_t = [\beta_{1t}, \beta_{2t}, \ldots, \beta_{mt}],\ \text{and}$$

$$\Omega_t = [\Omega_{1t}, \Omega_{2t}, \ldots, \Omega_{nt}].$$

[2]When lagged values of exogenous factors, policy variables and goal variables enter the process (i.e., from the second period afterwards), the structure, reaction and preference equations take the general forms (3), (4) and (6).

CHAPTER V

METHODOLOGY

Variables of the Model

Based on the available evidence the following variables were chosen to be included in the model. The goals chosen for testing were: (1) maximization of shareholders' wealth, (2) sales growth maximization, (3) sustaining a smooth earnings per share growth (earnings smoothing), and (4) maintaining adequate liquidity. Financial policies chosen for inclusion in the model were: (1) investment policy, (2) working capital policy, (3) dividend policy, and (4) financing policy. Initially attempts were made to incorporate additional variables such as marketing goals, research and development goals, and employee and management incentive policies, into the model. However, inclusion of these variables would have limited the sample size to only five firms due to the unavailability of the required data. Thus, it was decided to limit the goal and policy variables of the model to the aforementioned.

Exogenous variables initially chosen to be included were: (1) the Index of Industrial Production, (2) the level of interest rates, (3) level of the stock market, and (4) investment tax credit. The Index of Industrial Production will likely be an important explainer of sales. Both the level of interest rates and the level of stock market are likely to be explainers of the return to the stockholders as well as

financing and investment policies. Investment tax credit will most likely be an important explainer of the investment policy. Later, in the estimation phase of the study, the researcher was faced with a severe multicollinearity problem. Separate regression analyses on exogenous factors proved that the Index of Industrial Production and the level of the stock market were both perfect linear combinations of the other two exogenous factors: the level of interest rates and the investment tax credit over the sample period. It was, therefore, decided to retain the latter two factors in the model and delete the former two.

Proxies for the Variables

1. Maximization of shareholders' wealth was proxied by the risk-adjusted-rate-of-return (RAR) on the common stock on an annual basis. Adjustment for risk was carried out both for total risk, as measured by the variance of return, and the systematic risk, as measured by the beta. Thus, two alternative measures of RAR were calculated for further testing.

Monthly rates of return were used to calculate the betas according to the following model:

$r_{jT} = \alpha_j + \beta_j r_{mT} + e_{jT}$ where

$r_{jT} = \dfrac{P_{jT} - P_{j,T-1} + D_T}{P_{j,T-1}}$ is the monthly rate of return on firm j's common stock,

P_{jT} = price of common shares at the end of month T,

D_{jT} = dividends to common in month T,

α_j = the intercept of the regression line,

β_j = beta of the firm, regression estimate of the slope of the line,

r_{mT} = monthly return on the market portfolio, as proxied by the University of Chicago's CRSP Tape market index, and

e_{jT} = residual error.

Beta-adjusted return (BAR) was then defined as the annual rate of return on the stock, divided by its beta,

$$BAR_t = \frac{ARR_t}{\beta}$$

where

$$AAR_t = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$$

is the rate of return on the stock for year t, and all other symbols defined as before. The alternate measure of RAR was obtained by adjusting the annual rate of return by the variance of annual rates of return during the period covered by the study. Thus, variance-adjusted-return (VAR) was defined as

$$VAR_r = \frac{ARR_t}{\sigma^2}$$

where σ^2 is the variance of the annual rates of return.

One shortcoming associated with using the variance of annual rate of return, however, is the limited number of observations. To alleviate the problem the researcher could use monthly rates of return to calculate the variance and then adjust the annual rates of return by the variance so obtained. Therefore, a third measure of RAR is defined as the monthly-variance-adjusted-return (MVAR),

$$MVAR_t = \frac{ARR_t}{V}$$

where V is the variance of the monthly rate of return.

2. The goal of sales growth maximization was proxied by the annual growth rate of sales,

$$GRS_t = \frac{S_t - S_{t-1}}{S_{t-1}}$$

where S_t is sales in year t.

3. The goal of sustaining a smooth earnings per share growth was proxied by deviations from the historical earnings per share (EPS) growth regression line. EPS figures, for the period in study, were regressed against time to obtain the EPS growth line

$$EPS_t = a + bt,$$

where a and b are regression coefficients. Deviations from this line were calculated as the absolute difference between the actual EPS and the calculated EPS from the regression line

$$EPSD_t = |EPS_{Actual} - EPS_{Calculated}|,$$

where EPSD stands for absolute deviations from the historical EPS growth line. Arguments can be forwarded that by taking absolute deviations from the line, deviations above and below the line are treated equally, whereas management tries to minimize only downward deviations. To exhaust the alternatives, an alternate proxy was defined which treats the above line deviations as though they were nonexistent, and takes into account only downward deviations:

$$EPSDD_t = 0 \text{ if } EPS_{Actual} > EPS_{Calculated},$$

$$EPSDD_t = EPS_{Actual} - EPS_{Calculated} \quad \text{otherwise,}$$

where EPSDD stands for downward deviations from the historical EPS growth line.

4. The goal of maintaining adequate liquidity was proxied by the change in the coverage ratio from one period to the next

$$CICGR_t = CGR_t - CGR_{t-1},$$

where CICGR stands for the change in the coverage ratio defined as the ratio of operating income to fixed charges,

$$CGR_t = \frac{(\text{Operating Income})_t}{(\text{Fixed Charges})_t}.$$

5. Investment policy was measured by the rate of growth in net fixed assets

$$GRFA_t = \frac{NFA_t - NFA_{t-1}}{NFA_{t-1}},$$

where GRFA stands for the growth rate of net fixed assets and NFA stands for net fixed assets.

6. Working capital policy was measured by the percentage change in current ratio

$$PCICTR_t = \frac{CTR_t - CTR_{t-1}}{CTR_{t-1}},$$

where PCICTR stands for percentage change in the current ratio, and CTR stands for current ratio defined as the ratio of current assets to current liabilities.

7. Dividend policy is measured by the precentage change in dividends per share adjusted for stock splits and stock dividends

$$PCIDPS_t = \frac{DPS_t - DPS_{t-1}}{DPS_{t-1}},$$

where PCIDPS stands for percentage change in dividends per share and DPS stands for dividends per share adjusted for stock dividends and splits.[1]

8. Financing policy was measured by the percentage change in debt ratio

$$PCIDTR_t = \frac{DTR_t - DTR_{t-1}}{DTR_{t-1}},$$

where PCIDTR stands for percentage change in debt ratio and DTR stands for debt ratio defined as the ratio of total debt to total assets.

9. Yield on new issues of high-grade corporate bonds (34) was used as a proxy for the level of interest rates. Consistent with other variables, percentage change in the level of interest rates (PCILIR) was used in the model.[2]

Investment tax credit (ITC) was in effect during some of the years and lifted during the other years covered by the study (82). A value of zero was assigned to ITC if there was no change from one year to the next. Whenever investment tax credit was lifted from one year to the next, a value of -7.0 percent was assigned to ITC. The variable was assigned of +7.0 percent whenever investment tax credit was again put into effect.

The Sample

The process of selecting the sample was carried out in three consecutive stages. In the first stage, Standard and Poor's PDE Tape was screened for availability of price data required for calculating monthly and annual rates of return. The second stage consisted of screening Standard and Poor's Compustat Tape for availability of other data used as proxies for other goal and policy variables. This simultaneous screening was carried out for varying sample periods between 5 and 20 years. The 10 year period (1966 to 1975) provided a sample of 749

companies for which the data were available on both PDE and Compustat tapes. Since increasing the sample period beyond 10 years would have drastically reduced the sample size, the researcher chose to limit the period of study to the period of 1966 to 1975 and still have a relatively large sample to work with. However, since variables of the model are stated in percentage change, the actual sample period is a nine-year period between 1967 and 1975. Finally, in the third stage, Value Line Instrument Surveys were consulted to obtain ownership data. Of the 749 companies, 225 were not surveyed by Value Line and were, thus, deleted from the sample. This reduced the sample size to 524 firms.

Classification of Firms as Owner-Controlled and Management-Controlled

Following Palmer (71), each firm was assigned to one of the following three classes according to its type of ownership as reported by Value Line:

1. Strong owner control--one party owned 30 percent or more of the outstanding common stock of the corporation.
2. Weak owner control--one party owned between 10 and 29 percent of the outstanding common stock of the corporation.
3. Management control--no single party owned 10 percent or more of the outstanding common stock of the corporation.

Following this criteria, 85 companies in the sample were assigned to the first group, strong owner; 113 companies were assigned to the second group, weak owner control; and 326 companies were assigned to the third group, management control. A listing of the firms in each group is provided in Appendix D.

Estimation

The model of the study, as described in Chapter IV, is a dynamic model and includes lagged as well as contemporaneous variables. One of the questions which confronted the researcher in the early stages of the study was the number of lag periods to be included in the model. The researcher had an actual sample period of nine years. Excluding lagged variables would have left nine years of data with which to work. However, the dynamic nature of the model would have been overlooked. On the other hand, the researcher could have used eight lag periods and have done a cross-sectional study for the second and third group, but would have been unable to do so for the first group due to lack of a sufficient number of observations. Additionally, it is doubtful that events so many years back would have any effect on contemporaneous goal or policy variables. Although there was no concrete evidence to back this decision, it was felt that a two-period lag would be sufficient for the purpose of this study.

Pooling the resulting seven-year time series and cross-sectional data the researcher used ordinary least squares technique to estimate the structure and reaction equations. The multivariate technique of canonical correlation was used to estimate the preference equation.

Testing of Hypotheses

HI: Large United States firms have two important competing goals of shareholder wealth maximization and sales maximization. This hypothesis will be tested by observing the correlation coefficients

between each goal variable and canonical variates of all goal variables in the preference equation.[3]

HII: Regardless of type of control, shareholder wealth maximization is the dominant goal. HIII: The relative preference goal for sales maximization is greater for management controlled firms than for owner controlled firms. These hypotheses will be tested by observing the correlation coefficients between each goal variable and canonical variates of all goal variables in the preference equations for the three control groups.

HIV: Investment policy is the most effective policy of the firm. This hypothesis will be tested by observing the number of goal variables which are significantly affected by contemporaneous and lagged values of investment policy in the estimated structure equations, and comparing it to the number of goal variables which are significantly affected by each one of the other policy variables.[4]

HV: Investment policy is the most preferred policy of the firm. This hypothesis will be tested by observing the correlation coefficients between each policy variable and canonical variates of the right hand side variables in the preference equation.

HVI: Dividend policy is an ineffective policy in attainment of goals. HIX: Financing policy is an ineffective policy in attainment of goals. These hypotheses will be tested by observing the number of goal variables which are significantly affected by the relevant policy variable in the estimated structure equations.

HVII: Dividend policy is an active policy. HX: Financing policy is an active policy. These hypotheses will be tested by observing how

frequently the relevant policy variable responds significantly to lagged goal variables in the estimated structure equations.

HVIII: Dividend policy is more active in management controlled firms than in owner controlled firms. HXI: Financing policy is more active in management controlled firms than in owner controlled firms. These hypotheses will be tested by observing how frequently the relevant policy variable responds significantly to lagged variables in the estimated raction equations and comparing them across samples.

FOOTNOTES

[1]In calculating the percentage change in dividends per share the researcher encountered the problem of no dividends one period and some dividends a period later for some of the firms in the sample. This phenomenon would result in a meaningless PCIDPS according to the formula. To get rid of the problem an arbitrary rule was devised for such cases. According to the rule, in such cases, the deciding factor will be the dividend yield. If dividend yield is less than or equal to two percent, the researcher assigned an arbitrary 50 percent to PCIDPS. If dividend yield is between two percent and four percent then PCIDPS would be set equal to 100 percent. Finally, if dividend yield is greater than four percent then PCIDPS would be set equal to 150 percent.

[2]Stating the variables in percentage change eliminates measurement sensitivity problems due to both firm size and time period. Additionally it greatly reduces the econometric problems of collinear regressors and heterosceastic and autocorrelated errors.

[3]See Stewart and Love (84) and Tatham and Dornoff (87).

[4]Significance levels throughout this work are defined at the five percent level.

CHAPTER VI

ANALYSIS OF THE RESULTS

As expalined in Chapter V, three different proxies were defined for the risk-adjusted return: beta-adjusted return (BAR), annual-variance-adjusted return (VAR), and monthly-variance-adjusted return (MVAR). Additionally, two different proxies were defined for earnings smoothing goal: absolute deviations from the historical EPS line (EPSD), and downward deviations from the historical EPS growth line (EPSDD). As shown in Table I, this multiple proxy definition gives rise to six possible model specifications. All possible specifications were estimated for the three control groups as well as the whole sample. Appendix A presents the empirical results for the structure and the reaction equations. Results for the preference equations are presented in Appendix B. A detailed analysis of the results follows.

The Entire Sample

BAR-EPSD Specification

Structure Equations. According to this specification the goal of shareholder wealth maximization is significantly affected by contemporaneous investment and dividend policies. It is also significantly affected by: (1) two-period lagged values of wealth maximization and sales maximization goals, (2) lagged values of dividend policy, and (3) contemporaneous and lagged values of exogenous factors.

TABLE I

ALTERNATE MODEL SPECIFICATIONS

Model Specification	Goal Variables				Policy Variables				Exogenous Variables	
	G1	G2	G3	G4	P1	P2	P3	P4	Z1	Z2
BAR-ESPD	BAR	GRS	EPSD	CICGR	GRFA	PCICTR	PCIDPS	PCIDTR	PCILIR	ITC
BAR-EPSDD	BAR	GRS	EPSDD	CICGR	GRFA	PCICTR	PCIDPS	PCIDTR	PCILIR	ITC
MVAR-EPSD	MVAR	GRS	EPSD	CICGR	CRFA	PCICTR	PCIDPS	PCIDTR	PCILIR	ITC
MVAR-EPSDD	MVAR	GRS	EPSDD	CICGR	GRFA	PCICTR	PCIDPS	PCIDTR	PCILIR	ITC
VAR-EPSD	VAR	GRS	EPSD	CICGR	GRFA	PCICTR	PCIDPS	PCIDTR	PCILIR	ITC
VAR-EPSDD	VAR	GRS	EPSDD	CICGR	GRFA	PCICTR	PCIDPS	PCIDTR	PCILIR	ITC

Key: BAR = beta-adjusted-return.
CICGR = change in the coverage ratio.
EPSD = absolute deviation from the historical EPS line.
EPSDD = downward deviation from the historical EPS line.
GRFA = growth rate of fixed assets.
GRS = growth rate of sales.
ITC = investment tax credit.
MVAR = monthly-variance-adjusted-return.
PCICTR = percentage change in current ratio.
PCIDPS = percentage change in dividends per share.
PCIDTR = percentage change in debt ratio.
PCILIR = percentage change in the level of interest rates.
VAR = annual-variance-adjusted-return.

The goal of policy maximization is significantly affected by contemporaneous investment, dividend, and financing policies. It is also significantly affected by: (1) lagged values of shareholder wealth goal, (2) lagged values of earnings smoothing goal, (3) one-period lagged values of all policy variables, and (4) contemporaneous and two-period lagged values of the level of interest rates.

The goal of earnings smoothing is significantly affected by contemporaneous investment, working capital, and financing policies. It is also significantly affected by: (1) lagged values of itself, (2) two-period lagged values of investment policy, and (3) lagged values of working capital policy. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to lagged values of shareholder wealth maximization and sales maximization, as well as its own one-period lagged value. It responds significantly, but negatively, to one-period lagged values of earnings smoothing goal and lagged values of financing policy.

Working capital policy responds positively and significantly to two-period lagged value of shareholder wealth maximization. It responds significantly, but negatively, to: (1) its own lagged values, (2) one-period lagged value of dividend policy, and (3) all contemporaneous and lagged values of exogenous factors.

Dividend policy responds positively and significantly to lagged values of shareholder wealth maximization, one-period lagged value of sales maximization, two-period lagged value of earnings smoothing goal, and one-period lagged value of itself. It responds significantly, but negatively, to: (1) one-period lagged value of earnings smoothing

goal, (2) two-period lagged values of liquidity goal and investment policy, (3) lagged values of itself and financing policy, and (4) all contemporaneous and lagged exogenous factors.

Financing policy responds positively and significantly to lagged values of investment and working capital policies and all contemporaneous and lagged values of exogenous factors. It responds significantly, but negatively, to lagged values of itself and sales maximization goal.

Preference Equation. The goal of shareholder wealth maximization has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlation coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Working capital policy, financing policy, and dividend policy have lower correlation coefficients in a descending order.

Conclusion on BAR-EPSD Specification. According to the results obtained:

1. Shareholder wealth maximization and sales maximization are the two most important goals, with the former being the dominant one (HI not rejected).
2. Investment policy affects goal variables, significantly more than any other policy variable, and is thus the most effective policy (HIV not rejected).
3. Investment policy is the most preferred policy (HV not rejected).

4. Dividend policy affects shareholder wealth maximization and sales maximization goals significantly (HVI rejected).
5. Financing policy affects sales maximization and earnings smoothing goals significantly (HIX rejected).
6. Dividend policy responds significantly to lagged values of all goal variables and is, thus, an active policy (HVII not rejected).
7. Financing policy responds significantly to lagged values of sales maximization goal and is, thus, an active policy (HX not rejected.

BAR-EPSDD Specification

Structure Equations. According to this specification the goal of shareholder wealth maximization is significantly affected by contemporaneous investment, working capital, and dividend policies. It is also significantly affected by: (1) two-period lagged values of itself and sales maximization goal, (2) lagged values of earnings smoothing goal, (3) lagged values of dividend policy, and (4) contemporaneous and lagged values of exogenous variables.

Sales maximization goal is significantly affected by contemporaneous investment, dividend, and financing policies. It is also significantly affected by: (1) lagged values of shareholder wealth maximization and earnings smoothing power, (2) one-period lagged values of all policies, (3) contemporaneous level of interest rate, and (4) two-period lagged values of both exogenous factors.

The goal of earnings smoothing is significantly affected by contemporaneous investment, dividend and financing policies. It is also

significantly affected by: (1) one-period lagged values of itself and shareholder wealth maximization goal, (2) two-period lagged values of sales goal and working capital policy, (3) lagged values of investment policy, and (4) two-period lagged value of the level of interest rates. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to lagged values of shareholder wealth maximization and sales maximization goals, and one-period lagged value of itself. It responds significantly, but negatively, to lagged values of financing policy.

Working capital policy responds positively and significantly to two-period lagged values of shareholder wealth maximization goal. It responds significantly, but negatively, to lagged values of itself and all values of exogenous factors.

Dividend policy responds positively and significantly to: (1) lagged values of shareholder wealth maximization goal, (2) one-period lagged values of sales maximization and earnings smoothing goals, and (3) one-period lagged value of itself. It responds significantly, but negatively, to all values of exogenous factors, two-period lagged values of itself, earnings smoothing goal, liquidity goal, and investment policy, and lagged values of financing policy.

Financing policy responds positively and significantly to all values of exogenous factors, and all lagged values of investment and working capital policies. It responds significantly, but negatively, to all lagged values of itself and sales maximization goal.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlation coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

Conclusions on BAR-EPSDD Specification. According to results obtained:

1. Shareholder wealth maximization and sales maximization are the two most important goals, with the former being the dominant one (HI not rejected).
2. Investment policy and dividend policy are equally effective in the sense that they affect, significantly, attainment of all goal variables except liquidity goal (HIV and HVI rejected).
3. Investment policy is the most preferred policy (HV not rejected).
4. Financing policy affects sales maximization and earnings smoothing goals and is, therefore, effective (HIX rejected).
5. Dividend policy responds significantly to lagged values of all goal variables and is, thus, an active policy (HVII not rejected).
6. Financing policy responds significantly to lagged values of sales maximization and is, thus, an active policy (HX not rejected).

MVAR-EPSD Specification

Structure Equations. According to this specification, the goal of shareholder wealth maximization is significantly affected by contemporaneous and one-period lagged value of dividend policy. It is also significantly affected by: (1) one-period lagged value of itself, (2) two-period lagged value of sales goal, and (3) all values of exogenous factors.

Sales goal is significantly affected by contemporaneous values of investment, dividend and financing policies, as well as one-period lagged values of all policies. It is also significantly affected by: (1) one-period lagged value of shareholder wealth maximization goal, (2) lagged values of earnings smoothing goal, (3) contemporaneous values of exogenous variables, and (4) one-period lagged value of investment tax credit.

Earnings smoothing goal is significantly affected by contemporaneous values of investment and financing policies, as well as two-period lagged value of investment policy and lagged values of working capital policy. It is also significantly affected by lagged values of itself. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to lagged values of shareholder wealth maximization and sales maximization goals as well as one-period lagged value of itself. It responds significantly, but negatively, to one-period lagged value of earnings smoothing goal and lagged value of financing policy.

Working capital policy responds significantly and negatively to one-period lagged value of shareholder wealth maximization and lagged values of itself. It also responds significantly and negatively to: (1) contemporaneous and two-period lagged values of the level of interest rates and (2) contemporaneous and lagged values of investment tax credit.

Dividend policy responds positively and significantly to: (1) lagged values of shareholder wealth maximization goal, (2) one-period lagged value of sales goal, (3) two-period lagged value of earnings smoothing goal, and (4) one-period lagged value of itself. It responds significantly, but negatively, to: (1) two-period lagged values of sales and liquidity goals, (2) one-period lagged value of earnings smoothing goal, (3) two-period lagged value of investment policy, (4) two-period lagged value of itself, (5) lagged values of financing policy, and (6) all values of exogenous factors.

Financing policy responds positively and significantly to lagged values of investment and working capital policies and all contemporaneous and lagged values of exogenous factors. It responds significantly, but negatively, to two-period lagged value of sales goal and lagged values of itself.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlation coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, working

capital policy and dividend policy have lower correlation coefficients in a descending order.

Conclusions on MVAR-EPSD Specification. According to results obtained:

1. Shareholder wealth maximization and sales maximization are the two most important goals, with the former being the dominant one (HI not rejected).
2. Investment and financing policies significantly affect attainment of sales and earning smoothing goals. Dividend policy significantly affects attainment of shareholder wealth and sales goals. Therefore, it can be concluded that all three policies are effective (HIV, HVI and HIX rejected).
3. Investment policy is the most preferred policy (HV not rejected).
4. Dividend policy responds significantly to lagged values of all goal variables and is, therefore, an active policy (HVII not rejected).
5. Financing policy responds significantly to two-period lagged values of sales maximization goal and is, therefore, an active policy (HX not rejected).

MVAR-EPSDD Specification

Structure Equations. According to this specification, the goal of shareholder wealth maximization is significantly affected by contemporaneous dividend policy. It is also significantly affected by: (1) lagged values of earnings smoothing goal, (2) one-period lagged value of itself,

(3) two-period lagged value of sales goal, (4) one-period lagged value of dividend policy, and (5) contemporaneous and lagged values of exogenous factors.

The goal of sales maximization is significantly affected by contemporaneous investment, dividend, and financing policies. It is also significantly affected by: (1) one-period lagged value of shareholder wealth goal, (2) two-period lagged value of earnings smoothing goal, (3) one-period lagged values of all policy variables, (4) contemporaneous exogenous variables, and (5) one-period lagged value of investment tax credit.

Earnings smoothing goal is significantly affected by contemporaneous investment and financing policies. It is also significantly affected by: (1) lagged values of shareholder wealth maximization goal, (2) two-period lagged value of sales goal, (3) one-period lagged value of itself, (4) lagged values of investment policy, and (5) two-period lagged values of working capital policy and the level of interest rates. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to lagged values of shareholder wealth maximization and sales maximization goals, one-period lagged value of earnings smoothing goal, and one-period lagged value of itself. It responds significantly, but negatively, to lagged values of financing policy.

Working capital policy responds significantly, but negatively, to one-period lagged value of shareholder wealth maximization goal and lagged values of itself. It also responds significantly, but negatively,

to: (1) contemporaneous and two-period lagged values of the level of interest rates and (2) contemporaneous and lagged values of investment tax credit.

Dividend policy responds significantly and positively to lagged values of shareholder wealth maximization goal and one-period lagged values of sales goal, earnings smoothing goal, and itself. It responds significantly, but negatively, to: (1) two-period lagged values of earnings smoothing and liquidity goals, (2) one-period lagged value of investment policy, (3) lagged values of financing policy, (4) two-period lagged value of itself, and (5) contemporaneous and lagged values of exogenous factors.

Financing policy responds significantly, but negatively, to lagged values of sales goal and itself. It responds significantly and positively to: (1) lagged values of investment and working capital policies and (2) contemporaneous and lagged values of exogenous factors.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlation coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical value of all variables on the right hand side of the preference equation. Financing policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

Conclusions on MVAR-EPSDD Specification. According to the results obtained:

1. Shareholder wealth maximization and sales maximization are the two most important goals with the former being the dominant one (HI not rejected).
2. Investment policy, dividend policy, and financing policy are all effective in the sense that they significantly affect attainment of goals (HIV, HVI and HIX rejected).
3. Investment policy is the most preferred policy (HV not rejected).
4. Dividend policy responds significantly to lagged values of all goal variables and is, therefore, an active policy (HVII not rejected).
5. Financing policy responds to lagged values of sales maximization goal and is, therefore, an active policy (HX not rejected).

VAR-EPSD Specification

Structure Equation. According to this specification, the goal of shareholder wealth maximization is significantly affected by contemporaneous dividend and working capital policies. It is also significantly affected by: (1) one-period lagged value of dividend policy, (2) two-period lagged value of sales goal, (3) lagged values of itself, and (4) contemporaneous and lagged values of exogenous variables.

Sales maximization goal is significantly affected by contemporaneous investment, divident, and financing policies. It is also significantly affected by: (1) one-period lagged values of all policy variables, (2) one-period lagged value of shareholder wealth goal, (3) lagged values of earnings smoothing goal, (4) contemporaneous level of

interest rates, and (5) contemporaneous and lagged values of investment tax credit.

Earnings smoothing goal is significantly affected by contemporaneous investment, working capital, and financing policies. It is also significantly affected by: (1) two-period lagged value of investment policy, (2) lagged values of working capital policy, and (3) lagged values of itself. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to lagged values of shareholder wealth maximization and sales maximization goals, as well as to one-period lagged value of itself. It responds significantly, but negatively, to one-period lagged value of earnings smoothing goal, and lagged values of financing policy.

Working capital policy responds significantly, but negatively, to one-period lagged value of shareholder wealth maximization goal. It also responds in the same manner to: (1) one-period lagged value of dividend policy, (2) lagged values of itself, and (3) contemporaneous and lagged values of exogenous factors.

Dividend policy responds significantly and positively to: (1) lagged values of shareholder wealth maximization goal, (2) one-period lagged value of sales goal, (3) two-period lagged value of earnings smoothing goal, and (4) one-period lagged value of itself. It responds significantly, but negatively, to: (1) one-period lagged value of earnings smoothing goal, (2) two-period lagged value of liquidity goal, (3) two-period lagged value of investment policy, (4) two-period lagged value of itself, (5) lagged values of financing policy, (6) two-period

lagged value of the level of interest rates, and (7) contemporaneous and two-period lagged values of investment tax credit.

Financing policy responds significantly, but negatively, to lagged values of sales goal and itself. It responds significantly and positively to: (1) lagged values of investment and working capital policies and (2) contemporaneous and lagged values of exogenous factors.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlation coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

Conclusions on VAR-EPSD Specification. According to the results obtained:

1. Shareholder wealth maximization and sales maximization are the two most important goals with the former being the dominant one (HI not rejected).
2. Investment policy, dividend policy, and financing policy are all effective in the sense that they significantly affect attainment of goals (HIV, HVI and HIX rejected).
3. Investment policy is the most preferred policy (HV not rejected).

4. Dividend policy responds significantly to lagged values of all goal variables and is, therefore, an active policy (HVII not rejected).
5. Financing policy responds to lagged values of sales maximization goal and is, therefore, an active policy (HX not rejected).

VAR-EPSDD Specification

Structure Equations. According to this specification, the goal of shareholder wealth maximization is significantly affected by working capital and dividend policies. It is also significantly affected by: (1) lagged values of itself, (2) two-period lagged value of sales maximization goal, (3) one-period lagged value of earnings smoothing goal and (4) contemporaneous and lagged values of exogenous factors.

Goal of sales maximization is significantly affected by investment, dividend, and financing policies. It is also significantly affected by: (1) one-period lagged value of shareholder wealth maximization goal, (2) two-period lagged value of earnings smoothing goal, (3) one-period lagged values of all policy variables, (4) contemporaneous values of both exogenous factors, and (5) one-period lagged value of investment tax credit.

Earnings smoothing goal is significantly affected by investment, dividend and financing policies. It is also significantly affected by: (1) lagged values of shareholder wealth maximization goal, (2) two-period lagged value of sales goal, (3) one-period lagged value of itself, (4) lagged values of investment policy, and (5) two-period lagged value of working capital policy. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to lagged values of shareholder wealth maximization and sales maximization goal. It also responds significantly and positively to one-period lagged value of earnings smoothing goal and one-period lagged value of itself.

Working capital policy responds significantly, but negatively, to one-period lagged value of shareholder wealth maximization goal. It responds in the same manner to lagged values of itself and contemporaneous and lagged values of exogenous factors.

Dividend policy responds significantly and positively to: (1) lagged values of shareholder wealth maximization goal, (2) one-period lagged values of sales and earnings smoothing goals and (3) one-period lagged value of itself. It responds significantly, but negatively, to: (1) two-period lagged values of earnings smoothing and liquidity goals, (2) two-period lagged values of investment policy and itself, (3) lagged values of financing policy, (4) contemporaneous value of investment tax credit, and (5) two-period lagged values of both exogenous factors.

Financing policy responds significantly, but negatively, to lagged values of sales maximization goal and lagged values of itself. It responds significantly and positively to lagged values of investment policy, lagged values of working capital policy, and contemporaneous and lagged values of exogenous variables.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correaltion coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

Conclusions on VAR-EPSDD Specification. According to the results obtained:

1. Shareholder wealth maximization and sales maximization are the two most important goals with the former being the dominant one (HI not rejected).
2. Dividend policy significantly affects shareholder wealth maximization goal, sales maximization goal and earnings smoothing goal. Investment and financing policies affect sales maximization and earnings smoothing goals. Therefore, dividend policy is as effective as, if not more effective than, investment policy (HIV and HXI rejected).
3. Financing policy is an effective policy (HIX rejected).
4. Investment policy is the most preferred policy (HV not rejected).
5. Dividend policy responds significantly to lagged values of all goal variables and is, therefore, an active policy (HVII not rejected).
6. Financing policy responds significantly to lagged values of sales goal and is, therefore, an active policy (HX not rejected).

Summary--The Entire Sample

Structure, reaction and preference equations were estimated for six different specifications. The results obtained indicate that regardless of proxies used:

1. Shareholder wealth maximization is the dominant goal for the firms in the sample.
2. Sales maximization is the second most important goal.
3. Earnings smoothing and liquidity goals rank third and fourth.
4. Investment policy is the most preferred policy.
5. Liquidity goal is not significantly affected by any of the policy variables.
6. Earnings smoothing goal is not significantly affected by contemporaneous exogenous factors.
7. Liquidity goal is not significantly affected by exogenous factors, either contemporaneous or lagged.
8. Shareholder wealth maximization and sales maximization goals are significantly affected by contemporaneous and lagged values of exogenous variables.
9. Working capital, dividend and financing policies respond to contemporaneous and/or lagged exogenous factors.
10. Investment policy does not respond to exogenous variables, either contemporaneous or lagged.
11. All policy variables are both effective and active.
12. Investment policy and dividend policy are the two most effective policies. According to four of the six specifications (BAR-EPSDD, MVAR-EPSD, MVAR-EPSDD and VAR-EPSD), investment

and dividend policies are equally effective. According to one specification (BAR-EPSD), investment policy is more effective than dividend policy; while according to a final specification (MVAR-EPSDD), dividend policy is more effective than investment policy. Thus, it can be said that, overall, investment and dividend policies are equally effective.

13. Working capital and financing policies are the two least effective policies. Between the two, however, financing is more effective than working capital policy.
14. Dividend policy is the most active policy, followed by investment policy being the second most active policy. Since the two are equally effective, it can be concluded that dividend policy is more active than it is effective. Financing and working capital policies rank third and fourth with regard to activeness.

Strong Owner Control Sample

BAR-EPSD Specification

Structure Equations. According to this specification, the goal of shareholder wealth maximization is significantly affected by contemporaneous dividend policy and the two-period lagged value of itself. It is also significantly affected by contemporaneous and lagged values of exogenous factors.

Sales goal is significantly affected by contemporaneous values of investment and financing policies. It is also significantly affected by: (1) one-period lagged values investment and financing policies,

(2) two-period lagged value of financing policy, (3) one-period lagged value of shareholder wealth maximization goal, (4) two-period lagged value of earnings smoothing goal, and (5) contemporaneous level of interest rates.

Earnings smoothing goal is significantly affected by contemporaneous dividend and financing policies. It is also significantly affected by lagged values of itself. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to lagged values of shareholder wealth maximization goal, two-period lagged value of sales goal, and one-period lagged value of itself. It responds significantly, but negatively, to one-period lagged values of earnings smoothing goal and working capital policy.

Working capital policy responds negatively, and significantly, to lagged values of itself.

Dividend policy responds positively and significantly to one-period lagged values of shareholder wealth and sales goals, two-period lagged value of earnings smoothing goal, lagged values of working capital policy, and one-period lagged value of itself. It responds significantly, but negatively, to: (1) two-period lagged values of sales and liquidity goals, (2) one-period lagged value of earnings smoothing goal, (3) contemporaneous and two-period lagged values of the level of interest rates, and (4) contemporaneous and lagged values of investment tax credit.

Financing policy responds positively and significantly to two-period lagged values of shareholder wealth and earnings smoothing goals, one-period lagged value of investment policy, and two-period lagged value of

working capital policy. It responds significantly, but negatively, to one-period lagged value of itself.

Preference Equation. The goal of sales maximization has the highest correlation coefficient with the canonical variate of all goal variables. Shareholder wealth maximization, liquidity and earnings smoothing goals have lower correlation coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

BAR-EPSDD Specification

Structure Equations. The goal of shareholder wealth maximization is significantly affected by contemporaneous dividend policy. It is also significantly affected by: (1) one-period lagged value of earnings smoothing goal, (2) two-period lagged value of itself, and (3) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous investment and financing policies. It is also significantly affected by: (1) lagged values of investment policy, (2) lagged values of financing policies, (3) lagged values of shareholder wealth goal, (4) two-period lagged value of earnings smoothing goal, (5) contemporaneous level of interest rate, and (6) one-period lagged value of investment tax credit.

Earnings smoothing goal is significantly affected by contemporaneous values of investment and financing policies. It is also significantly

affected by one-period lagged values of shareholder wealth goal and itself. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to: (1) lagged values of shareholder wealth goal, (2) two-period lagged value of sales goal, (3) one-period lagged value of earnings smoothing goal, and (4) one-period lagged value of itself. It responds significantly, but negatively, to one-period lagged value of working capital policy.

Working capital policy responds significantly, but negatively, to lagged values of itself.

Dividend policy responds positively and significantly to: (1) one-period lagged values of shareholder wealth, sales, and earnings smoothing goals, (2) lagged values of working capital policy, and (3) one-period lagged value of itself. It responds significantly, but negatively, to: (1) two-period lagged values of sales, earning smoothing and liquidity goals, (2) contemporaneous and two-period lagged values of level of interest rates, and (3) contemporaneous and lagged values of investment tax credit.

Financing policy responds positively and significantly to two-period lagged values of shareholder wealth goal and working capital policy. It responds significantly, but negatively, to one-period lagged value of itself.

Preference Equation. The goal of sales maximization has the highest correlation coefficient with the canonical variate of all goal

variables. Shareholder wealth maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, working capital policy, and dividend policy have lower correlations in a descending order.

MVAR-EPSD Specification

Structure Equations. Shareholder wealth maximization is significantly affected only by exogenous factors, contemporaneous and lagged.

Sales maximization goal is significantly affected by contemporaneous investment, dividend and financing policies. It is also significantly affected by: (1) lagged values of financing policy, (2) one-period lagged value of investment policy, (3) one-period lagged values of shareholder wealth and sales goals, (4) two-period lagged value of earnings smoothing goal, (5) contemporaneous level of interest rates, and (6) contemporaneous and one-period lagged values of investment tax credit.

Earnings smoothing goal is significantly affected by contemporaneous dividend and financing policies. It is also significantly affected by lagged values of itself. Liquidity goal is significantly affected only by the lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to: (1) lagged values of shareholder wealth goal, (2) two-period lagged value of sales goal, and (3) one-period lagged value of itself. It responds significantly, but negatively, to one-period lagged values of earnings smoothing goal and working capital policy.

Working capital policy responds positively and significantly to two-period lagged value of sales goal. It responds significantly, but negatively, to lagged values of itself.

Dividend policy responds positively and significantly to: (1) one-period lagged values of shareholder wealth and sales goals, (2) two-period lagged values of earnings smoothing goal, (3) two-period lagged value of working capital policy, and (4) one-period lagged value of itself. It responds significantly, but negatively, to: (1) two-period lagged values of sales and liquidity goals, (2) one-period lagged value of earnings smoothing goal, and (3) two-period lagged values of exogenous factors.

Financing policy responds positively and significantly to: (1) two-period lagged values of shareholder wealth and earnings smoothing goals, (2) one-period lagged value of investment policy, (3) two-period lagged value of working capital policy, and (4) contemporaneous level of interest rates. It responds significantly, but negatively, to one-period lagged value of itself.

Preference Equation. The goal of sales maximization has the highest correlation coefficient with the canonical variate of all goal variables. Shareholder wealth maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, working capital policy, and dividend policy have lower correlation coefficients in a descending order.

MVAR-EPSDD Specification

Structure Equations. The goal of shareholder wealth maximization is significantly affected by contemporaneous dividend policy. It is also significantly affected by: (1) one-period lagged value of earnings smoothing goal and (2) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous values of investment, dividend, and financing policies. It is also significantly affected by: (1) lagged values of investment and financing policies, (2) one-period lagged value of shareholder wealth goal, (3) two-period lagged value of earnings smoothing goal, (4) contemporaneous exogenous factors, and (5) one-period lagged value of investment tax credit.

Earnings smoothing goal is significantly affected by contemporaneous values of investment and financing policies. It is also significantly affected by one-period lagged values of shareholder wealth goal and itself. Liquidity goal is significantly affected only by the lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to: (1) lagged values of shareholder wealth goal, (2) two-period lagged value of sales goal, (3) one-period lagged value of earnings smoothing goal, and (4) one-period lagged value of itself. It responds significantly, but negatively, to one-period lagged value of working capital policy.

Working capital policy responds positively and significantly to

two-period lagged value of sales goal. It responds significantly, but negatively, to lagged values of itself.

Dividend policy responds positively and significantly to: (1) one-period lagged values of shareholder wealth, sales, and earnings smoothing goals, (2) two-period lagged value of working capital policy, and (3) one-period lagged value of itself. It responds significantly, but negatively, to two-period lagged values of sales, earnings smoothing and liquidity goals.

Financing policy responds positively and significantly to: (1) one-period lagged values of shareholder wealth and working capital policy, and (2) contemporaneous level of interest rates. It responds significantly, but negatively, to one-period lagged value of itself.

Preference Equation. The goal of sales maximization has the highest correlation coefficient with the canonical variate of all goal variables. Shareholder wealth maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, working capital policy, and dividend policy have lower correlation coefficients in a descending order.

VAR-EPSD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by two-period lagged value of itself. It is also significantly affected by contemporaneous and lagged values of exogenous factors.

Goal of sales maximization is significantly affected by contemporaneous values of investment, dividend and financing policies. It is also significantly affected by: (1) lagged values of financing policy, (2) one-period lagged value of investment policy, (3) one-period lagged values of shareholder wealth and sales goals, (4) two-period lagged value of earning smoothing goal, (5) contemporaneous level of interest rates, and (6) contemporaneous and lagged values of investment tax credit.

Earnings smoothing goal is significantly affected by contemporaneous dividend and financing policies. It is also significantly affected by lagged values of itself. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to: (1) two-period lagged values of shareholder wealth and sales goals, and (2) one-period lagged value of itself. It responds significantly, but negatively, to one-period lagged values of earnings smoothing goal and working capital policy.

Working capital policy responds positively and significantly to two-period lagged value of sales goal. It responds significantly, but negatively, to two-period lagged value of shareholder wealth goal and lagged values of itself.

Dividend policy responds positively and significantly to: (1) one-period lagged values of shareholder wealth and sales goals, (2) two-period lagged values of earnings smoothing goal and working capital policy, and (3) one-period lagged value of itself. It responds significantly, but negatively, to one-period lagged value of earnings smoothing goal and two-period lagged values of sales and liquidity goals.

Financing policy responds positively and significantly to: (1) two-period lagged values of shareholder wealth and earnings smoothing goals, (2) one-period lagged value of investment policy, (3) two-period lagged value of working capital policy, and (4) contemporaneous level of interest rates. It responds significantly, but negatively, to one-period lagged value of itself.

Preference Equation. Goal of sales maximization has the highest correlation coefficient with the canonical variate of all goal variables. Shareholder wealth maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, dividend policy, and working capital policy have lower correlation coefficients in a descending order.

VAR-EPSDD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by one-period lagged value of earnings smoothing goal and two-period lagged value of itself. It is also significantly affected by contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous levels of investment, dividend, and financing policies. It is also significantly affected by: (1) lagged values of financing policy, (2) one-period lagged values of shareholder wealth goal and itself, (3) two-period lagged value of earnings smoothing goal, (4) one-period

lagged value of investment policy, (5) contemporaneous level of interest rates, and (6) contemporaneous and lagged values of investment tax credit.

Earnings smoothing goal is significantly affected by contemporaneous values of investment and financing policies. It is also significantly affected by one-period lagged values of shareholder wealth goal and itself. Liquidity goal is significantly affected only by lagged values of itself.

Reaction Equations. Investment policy responds positively and significantly to: (1) two-period lagged values of shareholder wealth and sales goals and (2) one-period lagged values of earnings smoothing goal and itself. It responds significantly, but negatively, to one-period lagged value of working capital policy.

Working capital policy responds positively and significantly to two-period lagged value of sales goal. It responds significantly, but negatively, to two-period lagged value of shareholder wealth goal and lagged values of itself.

Dividend policy responds positively and significantly to: (1) one-period lagged values of earnings smoothing and sales goals, (2) one-period lagged value of itself, and (3) two-period lagged value of working capital policy. It responds significantly, but negatively, to two-period lagged values of sales, earnings smoothing and liquidity goals.

Financing policy responds positively and significantly to: (1) two-period lagged values of shareholder wealth goal and working capital policy, (2) one-period lagged value of investment policy, and (3) contemporaneous level of interest rates. It responds significantly, but negatively, to one-period lagged value of itself.

Preference Equation. Goal of sales maximization has the highest correlation coefficient with the canonical variate of all goal variables. Shareholder wealth maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Financing policy, dividend policy, and working capital policy have lower correlation coefficients in a descending order.

Summary--Strong Owner Control Sample

Structure, reaction, and preference equations were estimated for six different specifications. Results obtained indicate that regardless of proxies used:

1. Sales maximization is the dominant goal for the firms in the sample.
2. Shareholder wealth maximization is the second most important goal.
3. Earnings smoothing and liquidity goals rank third and fourth.
4. Investment policy is the most preferred policy.
5. Liquidity goal is not significantly affected by any of the policy variables.
6. Liquidity goal is not significantly affected by exogenous factors, either contemporaneous or lagged.
7. Earnings smoothing goal is not significantly affected by exogenous factors, either contemporaneous or lagged.
8. Shareholder wealth maximization and sales maximization are

significantly affected by contemporaneous and/or lagged values of exogenous factors.

9. Investment and working capital policies do not respond to exogenous variables, either contemporaneous or lagged.
10. Working capital policy is an ineffective policy, i.e., it does not affect, significantly, any of the goal variables.
11. Investment, dividend, and financing policies are all effective. Financing policy, however, consistently affects sales and earnings smoothing goals. Lagged values of financing policy consistently affect the sales goal. It can cautiously be concluded that financing policy is the most effective for this sample. Investment and dividend policies would rank second and third, respectively.
12. Dividend policy is the most active policy, followed by investment policy being the second most active policy. Financing policy and working capital policy are almost equally active. In light of observations 10 and 11 above, it can be concluded that dividend and working capital policies are far more active than they are effective.

Weak Owner Control Sample

BAR-EPSD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous investment and dividend policies. It is also significantly affected by one-period lagged value of dividend policy and contemporaneous and lagged values of exogenous variables.

Sales maximization goal is significantly affected by contemporaneous investment, working capital and financing policies. It is also significantly affected by one-period lagged values of investment policy, financing policy, shareholder wealth goal and itself.

Earnings smoothing goal is significantly affected by one-period lagged value of investment policy. It is also significantly affected by one-period lagged value of sales goal and lagged values of itself.

Liquidity goal is significantly affected by two-period lagged value of dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equation. Investment policy responds significantly and positively to one-period lagged value of shareholder wealth goal and two-period value of sales goal.

Working capital policy responds positively and significantly to two-period lagged value of earnings smoothing goal and two-period lagged value of financing policy. It responds significantly, but negatively, to two-period lagged value of investment policy and one-period lagged value of itself.

Dividend policy responds positively and significantly to one-period lagged values of shareholder wealth goal, sales, goal, working capital policy and itself. It responds significantly, but negatively, to one-period lagged value of financing policy and two-period lagged values of itself and exogenous factors.

Financing policy responds positively and significantly to one-period lagged value of working capital policy.

Preference Equation. Shareholder wealth maximization goal has the

highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlation coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Working capital policy, financing policy and dividend policy have lower correlation coefficients in a descending order.

Results of the estimated preference equation for the following four specifications (BAR-EPSDD, MVAR-EPSD, MVAR-EPSDD, and VAR-EPSD) are the same as those reported above and will not be repeated for those specifications.

BAR-EPSDD Specification

Structure Equation. Shareholder wealth maximization is significantly affected by contemporaneous values of investment, working capital and dividend policies. It is also significantly affected by lagged values of earnings smoothing goal, and contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous values of investment, working capital and financing policies. It is also significantly affected by: (1) one-period lagged values of investment and financing policies, (2) one-period lagged values of shareholder wealth goal and itself, and (3) two-period lagged value of earnings smoothing goal.

Earnings smoothing goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by one-period lagged

values of shareholder wealth goal and itself, and two-period lagged value of level of interest rates.

Liquidity goal is significantly affected by two-period lagged value of dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to one-period lagged value of shareholder wealth goal and two-period lagged value of sales goal.

Working capital policy responds significantly and positively to two-period lagged values of sales goal and financing policy. It responds significantly, but negatively, to two-period lagged values of earnings smoothing goal and investment policy, and one-period lagged value of itself.

Dividend policy responds significantly and positively to one-period lagged values of shareholder wealth goal, sales goal, earnings smoothing goal, working capital policy and itself. It responds significantly, but negatively, to one-period lagged value of financing policy and two-period lagged values of earnings smoothing goal, itself and exogenous factors.

Financing policy responds significantly and positively to one-period lagged value of working capital policy.

MVAR-EPSD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by: (1) one-period lagged values of dividend

policy and itself and (2) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous values of investment, working capital and financing policies. It is also significantly affected by one-period lagged values of investment policy, financing policy, and earnings smoothing goal.

Earnings smoothing goal is significantly affected by one-period lagged values of investment policy and sales goal. It is also significantly affected by lagged values of itself.

Liquidity goal is significantly affected by two-period lagged value of dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to two-period lagged value of sales goal.

Working capital policy responds significantly and positively to two-period lagged values of earnings smoothing goal and financing policy. It responds significantly, but negatively, to two-period lagged value of investment policy and one-period lagged value of itself.

Dividend policy responds significantly and positively to one-period lagged values of shareholder wealth goal, sales goal, working capital policy and itself. It responds significantly, but negatively, to one-period lagged value of financing policy and two-period lagged values of itself and exogenous factors.

Financing policy responds significantly and positively to one-period lagged value of working capital policy.

MVAR-EPSDD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous values of investment, working capital and dividend policies. It is also significantly affected by: (1) one-period lagged value of itself, (2) lagged values of earnings smoothing goal, and (3) contemporaneous and lagged values of exogenous factors.

Sales goal is significantly affected by contemporaneous values of investment, working capital and financing policies. It is also significantly affected by one-period lagged values of investment and financing policies, and two-period lagged value of earnings smoothing goal.

Earnings smoothing goal is significantly affected by contemporaneous value of dividend policy. It is also significantly affected by one-period lagged value of itself.

Liquidity goal is significantly affected by two-period lagged value of dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to two-period lagged value of sales goal.

Working capital policy responds significantly and positively to two-period lagged values of sales goal and financing policy. It responds significantly, but negatively, to two-period lagged value of investment policy and one-period lagged value of itself.

Dividend policy responds significantly and positively to one-period lagged values of shareholder wealth goal, sales goal, earnings smoothing goal, investment policy and itself. It responds significantly, but

negatively, to: (1) two-period lagged values of earnings smoothing goal and itself, (2) one-period lagged value of financing policy, and (3) two-period lagged values of exogenous factors.

Financing policy responds positively and significantly to one-period lagged value of working capital policy.

VAR-EPSD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by values of investment, working capital and financing policies. It is also significantly affected by one-period lagged values of investment policy, financing policy and earnings smoothing goal.

Earnings smoothing goal is significantly affected by one-period lagged value of investment policy. It is also significantly affected by lagged values of itself and one-period lagged value of sales goal.

Liquidity goal is significantly affected by two-period lagged value of dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to two-period lagged value of sales goal.

Working capital policy responds significantly and positively to two-period lagged values of sales goal, earnings smoothing goal and financing policy. It responds significantly, but negatively, to

one-period lagged value of itself and two-period lagged value of investment policy.

Dividend policy responds significantly and positively to one-period lagged values of shareholder wealth goal, sales goal, working capital policy and itself. It responds significantly, but negatively, to one-period lagged value of financing policy and two-period lagged values of itself and the level of interest rates.

Financing policy responds significantly and positively to one-period lagged value of working capital policy.

VAR-EPSDD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by lagged values of earnings smoothing goal and contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous values of investment, financing and working capital policies. It is also significantly affected by one-period lagged values of investment and financing policies and two-period lagged value of earnings smoothing goal.

Earnings smoothing goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by one-period lagged values of itself and shareholder wealth goal.

Liquidity goal is significantly affected by two-period lagged value of dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to two-period lagged values of shareholder wealth and earnings smoothing goals.

Working capital policy responds significantly and positively to two-period lagged values of sales goal and financing policy. It responds significantly, but negatively, to one-period lagged value of itself and two-period lagged value of investment policy.

Dividend policy responds significantly and positively to one-period lagged values of shareholder wealth, sales and earnings smoothing goals and itself. It responds significantly, but negatively, to: (1) two-period lagged values of earnings smoothing goal, itself, and the level of interest rates, and (2) one-period lagged value of financing policy.

Financing policy responds significantly and positively to one-period lagged value of working capital policy.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, liquidity and earnings smoothing goals have lower correlation coefficients in a descending order.

Among policy variables, investment policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Working capital policy, financing policy and dividend policy have lower correlation coefficients in a descending order.

Summary--Weak Owner Control Sample

Structure, reaction and preference equations were estimated for

six different specifications. Results obtained indicate that regardless of proxies used:

1. Shareholder wealth maximization is the dominant goal for the firms in the sample.
2. Sales maximization is the second most important goal.
3. Earnings smoothing and liquidity goals rank third and fourth.
4. Investment policy is the most preferred policy.
5. Shareholder wealth maximization is the only goal which is consistently and significantly affected by contemporaneous and lagged values of exogenous factors. Other goal variables are not significantly affected by exogenous factors (contemporaneous or lagged). The only exception is in the BAR-EPSDD specification, in which earnings smoothing goal is significantly affected by two-period lagged value of the level of interest rates.
6. Dividend policy is the only policy variable which responds to exogenous factors--and it responds only to two-period lagged values of exogenous factors. Other policy variables do not respond to exogenous factors, contemporaneous or lagged.
7. Investment policy and dividend policy are the two most effective policies and, overall, they are equally effective.
8. Working capital policy and financing policy are the two least effective policies. Between the two, however, financing policy is more effective than working capital policy.
9. Dividend policy is the most active policy, followed by investment policy as the second most active policy. Since the two are equally effective, it can be concluded that dividend policy is more active than it is effective. Financing and working

capital policies rank third and fourth with regard to activeness.

Management Control Sample

BAR-EPSD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous values of working capital, dividend and financing policies. It is also significantly affected by: (1) lagged values of investment policy and dividend policy, (2) lagged values of itself, (3) one-period lagged value of liquidity goal, and (4) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by all contemporaneous policy variables. It is also significantly affected by: (1) lagged values of investment and dividend policies, (2) one-period lagged values of working capital and financing policies, (3) lagged values of earnings smoothing goal, (4) one-period lagged values of shareholder wealth goal and itself, and (5) two-period lagged values of exogenous factors.

Earnings smoothing goal is significantly affected by contemporaneous values of investment, dividend and financing policies. It is also significantly affected by: (1) lagged values of investment policy, (2) two-period lagged values of working capital and financing policies, and (3) lagged values of itself.

Liquidity goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and

positively to lagged values of shareholder wealth goal and two-period lagged values of sales goal and itself. It responds significantly, but negatively, to one-period lagged value of earnings smoothing goal and two-period lagged value of financing policy.

Working capital policy responds significantly, but negatively, to lagged values of itself, and contemporaneous and lagged values of exogenous factors.

Dividend policy responds significantly and positively to lagged values of shareholder wealth goal and one-period lagged values of itself and sales goal. It responds significantly, but negatively, to: (1) one-period lagged value of earnings smoothing goal, (2) two-period lagged value of investment policy, (3) lagged values of financing policy, and (4) contemporaneous and lagged values of exogenous variables.

Financing policy responds significantly and positively to: (1) two-period lagged values of shareholder wealth and earnings smoothing goals, (2) one-period lagged value of working capital policy, (3) two-period lagged value of dividend policy, and (4) contemporaneous and lagged values of exogenous factors. It responds significantly, but negatively, to two-period lagged value of sales goal, and lagged values of itself.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficients with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, financing policy has the highest correlation with the canonical variate of all variables on the right hand side

of the preference equation. Investment policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

BAR-EPSDD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous values of working capital, dividend and financing policies. It is also significantly affected by: (1) lagged values of investment policy, dividend policy, earnings smoothing goal, and itself, (2) one-period lagged value of liquidity goal, and (3) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by all contemporaneous policy variables. It is also significantly affected by: (1) lagged values of investment policy, dividend policy, shareholder wealth goal and earnings smoothing goal, (2) one-period lagged values of working capital policy, financing policy and itself, and (3) two-period lagged values of exogenous factors.

Earnings smoothing goal is significantly affected by contemporaneous values of investment, dividend and financing policies. It is also significantly affected by: (1) lagged values of investment policy, (2) one-period lagged values of shareholder wealth goal and itself, and (3) two-period lagged value of sales goal.

Liquidity goal is significantly affected by contemporaneous dividend policy. It is also significnalty affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to: (1) lagged values of shareholder wealth goal, (2) one-period lagged value of earnings smoothing goal, and (3) two-period lagged

values of sales goal and itself. It responds significantly, but negatively, to two-period lagged values of earnings smoothing goal and financing policy.

Working capital policy responds significantly, but negatively, to lagged values of itself and contemporaneous and lagged values of exogenous factors.

Dividend policy responds significantly and positively to lagged values of shareholder wealth goal and one-period lagged values of sales goal and itself. It responds significantly, but negatively, to: (1) two-period lagged values of earnings smoothing goal and investment policy, (2) lagged values of financing policy, and (3) contemporaneous and lagged values of exogenous factors.

Financing policy responds significantly and positively to: (1) two-period lagged values of shareholder wealth goal and dividend policy, (2) one-period lagged value of working capital policy, and (3) contemporaneous and lagged values of exogenous factors. It responds significantly, but negatively, to two-period lagged value of sales goal and one-period lagged value of itself.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, financing policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Investment policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

MVAR-EPSD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by: (1) one-period lagged values of investment and dividend policies, (2) lagged values of sales goal, (3) one-period lagged value of itself, and (4) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous values of all policy variables. It is also significantly affected by: (1) one-period lagged values of working capital policy, financing policy and itself, (2) lagged values of dividend policy and earnings smoothing goal, (3) two-period lagged value of investment policy, and (4) contemporaneous level of interest rates.

Earnings smoothing goal is significantly affected by contemporaneous values of investment, dividend and financing policies. It is also significantly affected by two-period lagged values of working capital policy and financing policy, and lagged values of investment policy and itself.

Liquidity goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by one-period lagged value of itself.

Reaction Equations. Investment policy responds significantly and positively to lagged values of shareholder wealth and sales goals, and two-period lagged value of investment policy. It responds significantly, but negatively, to one-period lagged value of earnings smoothing goal and two-period lagged value of financing policy.

Working capital policy responds significantly, but negatively, to (1) one-period lagged value of shareholder wealth goal, (2) lagged values of itself, (3) contemporaneous and one-period lagged values of the level of interest rates, and (4) contemporaneous and lagged values of investment tax credit.

Dividend policy responds significantly and positively to lagged values of shareholder wealth goal, and one-period lagged values of sales goal and itself. It responds significantly, but negatively, to: (1) one-period lagged value of earnings smoothing goal, (2) lagged values of financing policy, (3) two-period lagged value of investment policy, and (4) contemporaneous and two-period lagged values of exogenous factors.

Financing policy responds significantly and positively to: (1) two-period lagged values of earnings smoothing goal and dividend policy, (2) one-period lagged value of working capital policy, and (3) contemporaneous and lagged values of exogenous factors. It responds significantly, but negatively, to lagged values of itself.

Preference Equation. Shareholder wealth maximization goal has the highest correlation with the canonical variate of all goal variables. Sales maximization, liquidity and earnings smoothing goals have lower correlation coefficients in a descending order.

Among policy variables, financing policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Investment policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

MVAR-EPSDD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by: (1) one-period lagged values of investment policy, earnings smoothing goal and itself, (2) lagged values of sales goal, and (3) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous values of all policy variables. It is also significantly affected by: (1) lagged values of investment and dividend policies, (2) one-period lagged values of working capital and financing policies, (3) two-period lagged value of earnings smoothing goal, (4) one-period lagged values of itself and investment tax credit, and (5) contemporaneous level of interest rates.

Earnings smoothing goal is significantly affected by contemporaneous values of investment, dividend and financing policies. It is also significantly affected by: (1) lagged values of investment policy, (2) lagged values of shareholder wealth goal, (3) two-period lagged value of sales goal, and (4) one-period lagged value of itself.

Liquidity goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy significantly and positively responds to: (1) lagged values of shareholder wealth and sales goals, (2) one-period lagged value of earnings smoothing goal, and (3) two-period lagged value of itself. It responds significantly, but negatively, to two-period lagged values of earnings smoothing goal and financing policy.

Working capital policy responds significantly, but negatively, to: (1) one-period lagged value of shareholder wealth goal, (2) contemporaneous and two-period lagged values of the level of interest rates, (3) contemporaneous and lagged values of investment tax credit, and (4) lagged values of itself.

Dividend policy responds significantly and positively to lagged values of shareholder wealth goal and one-period lagged values of sales goal, earnings smoothing goal and itself. It responds significantly, but negatively, to: (1) two-period lagged values of earnings smoothing goal and investment policy, (2) lagged values of financing policy, (3) two-period lagged values of exogenous factors, and (4) contemporaneous investment tax credit.

Financing policy responds significantly and positively to: (1) one-period lagged value of working capital policy, (2) two-period lagged value of dividend policy, and (3) contemporaneous and lagged values of exogenous factors. It responds significantly, but negatively, to lagged values of itself.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, financing policy has the highest correlation with the canonical variate of all variables on the right hand side of the preference equation. Investment policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

VAR-EPSD Specification

Structure Equations. Shareholder wealth maximization is significantly affected by contemporaneous dividend policy. It is also significantly affected by: (1) lagged values of itself, (2) two-period lagged values of working capital policy and sales goal, (3) one-period lagged value of dividend policy, and (4) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by contemporaneous values of all policy variables. It is also significantly affected by: (1) lagged values of investment and dividend policies, (2) one-period lagged values of working capital and financing policies, (3) lagged values of earnings smoothing goal, (4) one-period lagged values of shareholder wealth goal and itself, and (5) contemporaneous level of interest rates.

Earnings smoothing goal is significantly affected by contemporaneous values of investment, dividend and financing policies. It is also significantly affected by two-period lagged values of working capital and and financing policies, and lagged values of investment policy and itself.

Liquidity goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to lagged values of shareholder wealth goal and sales goal, and two-period lagged values of itself. It responds significantly, but negatively, to one-period lagged value of earnings smoothing goal and two-period values of financing policy.

Working capital policy responds significantly and negatively to: (1) one-period lagged value of shareholder wealth goal, (2) lagged values of itself, and (3) contemporaneous and lagged values of exogenous factors.

Dividend policy responds significantly and positively to lagged values of shareholder wealth goal, and one-period lagged values of sales goal and itself. It responds significantly, but negatively, to: (1) one-period lagged value of earnings smoothing goal, (2) two-period lagged value of investment policy, (3) lagged values of financing policy, and (4) two-period lagged values of exogenous factors.

Financing policy responds significantly and positively to: (1) two-period lagged values of earnings smoothing goal and dividend policy, (2) one-period lagged value of working capital policy, and (3) contemporaneous and lagged values of exogenous factors. It responds significantly, but negatively, to lagged values of itself.

Preference Equation. Shareholder wealth maximization goal has the highest correlation with the canonical variate of all goal variables. Sales maximization, liquidity and earnings smoothing goals have lower correlation coefficients in a descending order.

Among policy variables, financing policy has the highest correlation coefficient with the canonical variate of all variables on the right hand side of the preference equation. Investment policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

VAR-EPSDD Specification

Structure Equations. Shareholder wealth maximization goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by: (1) two-period lagged values of working capital and financing policies, (2) lagged values of itself, (3) two-period lagged value of sales goal, (4) one-period lagged value of earnings smoothing goal, and (5) contemporaneous and lagged values of exogenous factors.

Sales maximization goal is significantly affected by all contemporaneous policy variables. It is also significantly affected by: (1) lagged values of investment and dividend policies, (2) one-period lagged values of working capital policy, financing policy, shareholder wealth goal, and itself, (3) two-period lagged value of earnings smoothing goal, and (4) contemporaneous level of interest rates.

Earnings smoothing goal is significantly affected by contemporaneous values of investment, dividend and financing policies. It is also significantly affected by: (1) lagged values of investment policy and shareholder wealth goal, (2) two-period lagged value of sales goal, and (3) one-period lagged value of itself.

Liquidity goal is significantly affected by contemporaneous dividend policy. It is also significantly affected by lagged values of itself.

Reaction Equations. Investment policy responds significantly and positively to: (1) lagged values of shareholder wealth goal and sales goal, (2) one-period lagged value of earnings smoothing goal, and (3) two-period lagged value of itself. It responds significantly, but

negatively, to two-period lagged values of earnings smoothing goal and financing policy.

Working capital policy responds significantly and negatively to one-period lagged value of shareholder wealth goal, lagged values of itself, and contemporaneous and lagged values of exogenous factors.

Dividend policy responds significantly and positively to lagged values of shareholder wealth goal, and one-period lagged values of sales goal, earnings smoothing goal and itself. It responds significantly, but negatively, to two-period lagged values of earnings smoothing goal, investment policy and exogenous factors, and lagged values of financing policy.

Financing policy responds significantly and positively to one-period lagged value of working capital policy, two-period lagged value of dividend policy, and contemporaneous and lagged values of exogenous factors. It responds significantly, but negatively, to lagged values of itself.

Preference Equation. Shareholder wealth maximization goal has the highest correlation coefficient with the canonical variate of all goal variables. Sales maximization, earnings smoothing and liquidity goals have lower correlations in a descending order.

Among policy variables, financing policy has the highest correlation with the canonical variate of all variables on the right hand side of the preference equation. Investment policy, working capital policy and dividend policy have lower correlation coefficients in a descending order.

Summary--Management Control Sample

Structure, reaction, and preference equations were estimated for six different specifications. Results obtained indicate that regardless of proxies used:

1. Shareholder wealth maximization is the dominant goal for the firms in the sample.
2. Sales maximization is the second most important goal.
3. Earnings smoothing and liquidity goals rank third and fourth.
4. Financing policy is the most preferred policy.
5. Earnings smoothing goal is not significantly affected by exogenous factors, contemporaneous or lagged.
6. Liquidity goal is not significantly affected by exogenous factors, contemporaneous or lagged.
7. Investment policy does not respond to exogenous factors, contemporaneous or lagged.
8. Dividend policy is the most effective policy.
9. Investment policy is the second most effective policy. Financing policy and working capital policy rank third and fourth respectively.
10. Investment policy is the most active policy.
11. Dividend policy is the second most active policy. Working capital policy and financing policy are the two least active policy variables.

The Comparative Study

In this section the researcher will compare the results obtained,

under each specification, for the three samples, to test the comparative hypotheses.

BAR-EPSD Specification

1. Sales maximization is the dominant goal for the strong owner control group, while shareholder wealth maximization is the dominant goal for the weak owner control and management control groups. (HII and HIII rejected.)

2. Dividend policy is the most effective policy for the strong owner control group. Investment policy is the most effective policy for the weak owner control group. For the management control group, contemporaneous dividend policy is more effective than contemporaneous investment policy, but investment policy has more long-term effects and is, overall, more effective.

3. Investment policy is the most preferred policy for both strong and weak owner control groups. For the management control group, financing policy is the most preferred policy.

4. Dividend policy and investment policy are equally active in weak owner control and management control groups. For the strong owner control group, dividend policy is more active than other policies. (HVIII rejected.)

5. Financing policy is not an active policy in the weak owner control group. However, it is active in the strong owner and management control groups, and it is more active in the management control group than in the owner control group. (HXI not rejected.)

BAR-EPSDD Specification

1. Sales maximization is the dominant goal for the strong owner control group, while shareholder wealth maximization is the dominant goal for the weak owner and management control groups. (HII and HIII rejected.)

2. Financing policy is the most effective policy for the strong owner control group. Investment policy is the most effective policy for the weak owner control group. Finally, dividend policy is the most effective policy for the management control group.

3. Investment policy is the most preferred policy for both strong and weak owner control groups. For the management control group, financing policy is the most preferred policy.

4. Dividend policy is the most active policy in both strong and weak owner control groups. For the management control group, investment policy is the most active policy. (HVIII rejected.)

5. Financing policy is not active in the strong and weak owner control groups. However, it is active in the management control group. (HXI not rejected.)

MVAR-EPSD Specification

1. Sales maximization is the dominant goal for the strong owner control group, while shareholder wealth maximization is the dominant goal for the weak owner control and management control groups. (HII and HIII rejected.)

2. Financing policy is the most effective policy for strong and weak owner control groups. For the management control group, the most effective policy is dividend policy.

3. Investment policy is the most preferred policy for both strong and weak owner control groups. For the management control group, financing policy is the most preferred policy.

4. Dividend policy is the most active policy for both strong and weak owner control groups. Investment policy is the most active policy for the management control group. (HVIII rejected.)

5. Financing policy is not active in the weak owner control group. However, it is active in the strong owner control and management control groups and is more active in the former than in the latter. (HXI rejected.)

MVAR-EPSDD Specification

1. Sales maximization is the dominant goal for the strong owner control group, while shareholder wealth maximization is the dominant goal for the weak owner control and management control groups. (HII and HIII rejected.)

2. Investment policy is the most effective policy for the weak owner control group. For the strong owner control group, investment policy and financing policy are equally effective. Dividend policy is the most effective policy for the management control group.

3. Investment policy is the most preferred policy for both strong and weak owner control groups. For the management control group, financing policy is the most preferred policy.

4. Dividend policy is the most active policy for both strong and weak owner control groups. Investment policy is the most active policy for the management control group. (HVIII rejected.)

5. Financing policy is active only in the strong owner control group. (HXI rejected.)

VAR-EPSD Specification

1. Sales maximization is the dominant goal for the strong owner control group, while shareholder wealth maximization is the dominant goal for the weak owner control and management control groups. (HII and HIII rejected.)

2. Investment policy is the most effective policy for the weak owner control group. The most effective policy for the strong owner control group is financing policy. For the management control group, dividend policy is the most effective.

3. Investment policy is the most preferred policy for both strong and weak owner control groups. For the management control group, financing policy is the most preferred policy.

4. Dividend policy is the most active policy for the strong owner control group. In the weak owner control group, working capital policy and dividend policy are equally active. Investment policy is the most active policy for the management control group. (HVIII rejected.)

5. Financing policy is not active in the weak owner control group. However, it is active in the strong owner control and management control groups, and more active in the former than in the latter. (HXI rejected.)

VAR-EPSDD Specification

1. Sales maximization is the dominant goal for the strong owner control group, while shareholder wealth maximization is the dominant

goal for the weak owner control and management control groups. (HII and HIII rejected.)

2. Dividend policy is the most effective policy for the weak owner control group and management control group. For strong owner control group, financing policy is the most effective.

3. Investment policy is the most preferred policy for both strong and weak owner control groups. For the management control group, financing policy is the most preferred policy.

4. Dividend policy is the most active policy for the strong and weak owner control groups. Investment policy is the most active policy for the management control group. (HVIII rejected.)

5. Financing policy is active only in the strong owner control group. (HXI rejected.)

A Selective Comparative Test

A question one faces is: Should we compare the results across the three samples based on a common specification, as done above, or should we compare the results based on different specifications tailored according to the characteristics of each sample? The reseracher believes that the second approach would provide more meaningful results. Thus, in this part, different specifications will be used, which the researcher feels best suits each sample, to test the comparative hypotheses.

It seems logical to assume that owners would be concerned with total risk, as measured by the variance; whereas managers would be more concerned with the systematic risk, as measured by the beta. Furthermore, it seems reasonable to assume that owners would try to minimize only the downward deviations of EPS around the historical EPS regression line;

whereas managers would be concerned with absolute deviations. Given that these assumptions are realistic, the following should be used: (1) the variance adjusted return for the strong owner control sample and the beta adjusted return for the management control sample, and (2) downward deviations from the historical EPS line for the strong owner control sample and absolute deviations for the management control sample.

Insofar as the choice between annual-variance-adjusted return and monthly-variance-adjusted return, it is hypothesized that the choice will not affect the results. Thus, the researcher will carry out the comparative tests using VAR-EPSDD specification for the strong owner control sample and BAR-EPSD for the management control sample. Results so obtained will be compared to results obtained in a MVAR-EPSDD, BAR-EPSD test, for a test of this hypothesis.

VAR-EPSDD, BAR-EPSD comparision reveals that:

1. Sales maximization is the dominant goal for the strong owner control sample, while shareholder wealth maximization is the dominant goal for the management control sample. (HII and HIII rejected.)
2. Dividend policy is the most effective policy for the management control sample, and financing policy is the most effective policy for the strong owner control sample.
3. Investment policy is the most preferred policy for the strong owner control sample and financing policy is the most preferred policy for the management control sample.
4. Investment policy and dividend policy are equally active in the management control sample, but dividend policy is the most

active policy in the strong owner control sample. (HVIII rejected.)

5. Financing policy is more active in the management control sample. (HXI not rejected.)

MVAR-EPSDD, BAR-EPSD comparison obtains exactly the same conclu sions. Therefore, the choice between annual-variance-adjusted return and monthly-variance-adjusted return does not affect the results.

A Digression--Some Traditional Tests

It seems appropriate, at this point, to report some traditional tests performed on the data used in this work. This reporting would enable the researcher to compare the results of this study to those obtained by other authors. Much of the literature dealing with the effect of separation of ownership, reviewed in Chapter II, has studied the effect by looking for significant differences in profitability of owner controlled versus management controlled firms. The technique used most often has been the analysis of variance (ANOVA). ANOVA tests a number of samples against each other to discover if a significant difference exists.

The researcher used ANOVA to discover if significant differences exist among the three samples with respect to: (1) risk-adjusted rate of return, (2) rate of sales growth, (3) deviations from historical EPS line, (4) changes in the coverage ratio, (5) rate of growth in net fixed assets, i.e., investment policy, (6) percentage change in current ratio, i.e., working capital policy, (7) percentage change in dividends per share, i.e., dividend policy, and (8) percentage change in debt rate, i.e., financing policy. Results are reported in Appendix C. Since the

F value for 2,3665 degrees of freedom at the five percent level is 2.99, the null hypotheses of no difference, among the three samples, with respect to (1) any form of risk-adjusted return, (2) rate of sales growth, (3) deviations from the historical EPS line, either absolute or downward, (4) change in the coverage ratio, (5) working capital policy, and (6) financing policy, cannot be rejected. The null hypotheses of no difference, among the three groups, with respect to investment policy and dividend policy are rejected.

Summary

Six different specifications were used to test the hypotheses, using the model presented in Chapter III. Results can be summarized as follows:

1. BAR-EPSD specification: HI, HIV, HV, HVII, HX and HXI not rejected; HII, HIII, HVI, HVIII and HIX rejected.
2. BAR-EPSDD specification: HI, HV, HVII, HX and HXI not rejected; HII, HIII, HIV, HVI, HVIII and HIX rejected.
3. MVAR-EPSD, MVAR-EPSDD, VAR-EPSD and VAR-EPSDD specifications: HI, HV, HVII and HX not rejected; HII, HIII, HIV, HVI, HVIII, HIX and HXI rejected.

Additionally, in a selective comparative test, in which different specifications were used for different samples, HII, HIII and HVIII were rejected but HXI was not rejected. Finally, ANOVA was used to test whether significant differences exist among the three samples. Results indicate that there are no significant differences in the risk-adjusted return, rate of sales growth, deviations from historical EPS line, change in the coverage ratio, working capital policy and financing

policy among the three samples. However, the null hypotheses of no difference among the three samples, with respect to investment policy and dividend policy, were rejected.

CHAPTER VII

CONCLUSION

The purpose of this study was to derive a dynamic model of financial management and carry out a positive study of:

1. the priority scheme of firm goals,
2. the priority scheme of firm financial policies in achievement of goals,
3. the extent of activeness and effectiveness of financial policies, and
4. the effect of separation of ownership and control on 1, 2 and 3 above.

The objective was carried out by deriving such a model and applying it to pooled time series and cross-sectional data for 740 large U.S. firms over the period 1967 to 1975. The sample was then divided into three subsamples of strong owner control, weak owner control and management control, to carry out the comparative study of goal preference and policy preference of owner controlled and management controlled firms.

The model included: (1) four goal variables (shareholder wealth maximization, sales growth maximization, earnings smoothing and liquidity), (2) four policy variables (investment policy, working capital policy, dividend policy and financing policy) and (3) two exogenous variables (level of interest rates and investment tax credit). Three different proxies were defined for the goal of shareholder wealth,

and two different proxies were defined for earnings smoothing goal. This multiple proxy definition gave rise to six possible specifications. All possible specifications were estimated for the three control groups as well as the entire sample.

Regardless of the specification used, the following hypotheses could not be rejected:

HI: Large U.S. firms have two important competing goals of profit maximization and sales maximization.

HV: Investment policy is the most preferred policy of the firm.

HVII: Dividend policy is an active policy.

HX: Financing policy is an active policy.

The following hypotheses were rejected regardless of specification used:

HII: Regardless of type of control, profit maximization is the dominant goal.

HIII: The relative preference for sales maximization is greater for large management controlled firms than for large owner controlled firms.

HVI: Dividend policy is an ineffective policy in attainment of goals.

HVIII: Dividend policy is more active in management controlled firms than in owner controlled firms.

HIX: Financing policy is an ineffective policy in attainment of goals.

Reject, no-reject decision of two hypotheses were affected by the specification used. When the researcher used beta-adjusted return as a proxy for shareholder wealth maximization the following hypothesis

was not rejected:

HXI: Financing policy is more active in management controlled firms than in owner controlled firms.

For other specifications the hypothesis was rejected. When using beta-adjusted return as a proxy for shareholder wealth maximization, and absolute deviations from the historical EPS line as a proxy for earnings smoothing goal, the following hypothesis was not rejected:

HIV: Investment policy is the most effective policy of the firm.

For all other specifications the hypothesis was rejected.

An interesting phenomenon observed was that of the converse of HIII. To be specific, the researcher observed that sales maximization is the dominant goal for owner controlled firms and shareholder wealth maximization is the dominant goal for management controlled firms. A possible explanation of this phenomenon is that while management controlled firms always face the threat of a takeover, owner controlled firms are not under such pressure, or at least not by the same degree. Therefore, in order to thwart any takeover attempt, managers give shareholder wealth maximization goal top priority. Owner managers, on the other hand, being relatively immune from takeover threats, maximize sales growth subject to a minimum level of profits (6).

A second interesting phenomenon observed is the fact that while financing policy is neither the most effective, nor the most active, in the management controlled firms, it is the most preferred policy variable for this group of firms. A possible explanation of this phenomenon is the incentive-signalling model (77) which asserts that managers use financing policy to transmit and validate information about their firms. Managers, being remote from owners, have a

preference for financing policy for signalling purposes. Owner managers, on the other hand, do not have to follow such an approach.

Finally, it was argued, in Chapter IV, that it would be reasonable to assume that (1) owner managers would be concerned with total risk and only downward deviations from the historical EPS line, but (2) managers would be concerned with only the systematic risk and upward as well as downward deviations from the historical EPS line. When the researcher used different specifications, based on these assumptions, it was found that financing policy is more active in management controlled firms than in owner controlled firms. This conclusion further reinforces the explanation of the second phenomenon above, i.e., incentive-signalling model.

Further Discussion

The work presented herein is a unique work in the sense that it is a thorough analysis and not a partial one. By constructing a general dynamic model of financial management process the researcher was able to do a rather complete analysis of the interaction of firm goals and the firm's financial policies. An area was examined that had not been covered by previous researchers, i.e., priority ranking of firm goals and financial policies utilized in achieving firm goals.

However, by no means would the researcher claim that this is the end of the road. Rather, it is hoped that this will be the beginning of studies of this kind to shed some more light on the complex issue of interaction of firm goals and policies, and the financial management process as a whole.

This work and the testing of the hypotheses is, like any other empirical work, subject to one important critique that the researcher has, all the way, tested joint hypotheses. The hypotheses have been tested as stated and at the same time the researcher has implicitly tested the hypotheses that proxies used are efficient substitutes of goal, policy and exogenous variables. Therefore, there is plenty of room in this area to be worked on for improvements and refinements.

There should be comparative studies of this sort under different groupings of samples, e.g., by industries, by degree of regulation, by organizational structure, etc. There should be studies that incorporate further empirical refinements such as inclusion of nonfinancial firm goals and policies and better specification of variables to incorporate quality as well as quantity.

BIBLIOGRAPHY

(1) Albin, Peter S. and Roger E. Alcaly. "Corporate Objectives and the Economy: Systematic Shifts Between Growth and Profit Goals." Journal of Economic Issues, Vol. 10 (June, 1976), pp. 260-297.

(2) Ang, James S. "The Intertemporal Behavior of Corporate Debt Policy." Journal of Financial and Quantitative Analysis, Vol. 11 (November, 1976), pp. 555-566.

(3) Ang, J. S., J. H. Chua, and C. Chastain. "A General Framework for Positive Theories of Financial Management: The Interaction of Financial Policies and Firm Goals." Working paper, Department of Administrative Sciences, Oklahoma State University, 1977.

(4) Anthony, Robert N. "The Trouble with Profit Maximization." Harvard Business Review, Vol. 38, No. 6 (November-December, 1960), pp. 126-134.

(5) Baker, Samuel H. "Executive Incomes, Profits and Revenues: A Comment on Functional Specification." Southern Economic Journal, Vol. 35, No. 4 (April, 1969), pp. 379-383.

(6) Baumol, W. J. Business Behavior Value and Growth. New York: The MacMillan Company, 1959.

(7) Baumol, W. J., P. Heim, B. G. Malkiel, and R. E. Quandt. "Earnings Retention, New Capital and the Growth of the Firm." Review of Economics and Statistics, Vol. 52, No. 4 (November, 1970), pp. 345-355.

(8) Beedles, William L. "A Micro-Econometric Investigation of Multi-Objective Firms." Journal of Finance, Vol. 32, No. 4 (September, 1977), pp. 1217-1233.

(9) Berle, A. A. Power Without Property. New York: Harcourt, Brace and World, Inc., 1959.

(10) Berle, A. A. and G. C. Means. The Modern Corporation and Private Property. Revised Edition. New York: Harcourt, Brace and World, Inc., 1968.

(11) Boudreaux, Kenneth J. "Managerialism and Risk-Return Performance." Southern Economic Journal, Vol. 39 (January, 1973), pp. 366-372.

(12) Branch, Ben. "Corporate Objectives and Market Performance." Financial Management, Vol. 2, No. 2 (Summer, 1973), pp. 24-29.

(13) Breen, W. J. and E. M. Lerner. "Corporate Financial Strategies and Market Measures of Risk and Return." Journal of Finance, Vol. 28, No. 2 (May, 1973), pp. 339-352.

(14) Burch, P. H., Jr. The Managerial Revolution Reassessed. Lexington, Massachusetts: Lexington Books, 1972.

(15) Chevalier, Jean-Marie. "The Problem of Control in Large American Corporations." Antitrust Bulletin, Vol. 14 (Spring, 1969), pp. 163-180.

(16) Cohen, Kalman J. and Richard M. Cyert. Theory of the Firm. Second Edition. Englewood Cliffs: Prentice-Hall, 1975.

(17) Cox, S. R. and D. Shauger. "Executive Compensation, Firm Sales and Profitability." Intermountain Economic Review, Vol. 4 (Spring, 1973), pp. 29-39.

(18) Cyert, R. and C. Hedrick. "Theories of the Firm: Past, Present, and Future; an Interpretation." Journal of Economic Literature, Vol. 10 (June, 1972), pp. 398-412.

(19) Cyert, R. M. and J. G. March. A Behavioral Theory of the Firm. Englewood Cliffs: Prentice-Hall, Inc., 1963.

(20) Donaldson, Gordon. "Financial Goals: Management vs. Stockholders." Harvard Business Review, Vol. 41, No. 3 (May-June, 1963), pp. 116-129.

(21) Dyckman, Thomas R. and James C. Kinard. "The Discounted Cash Flow Investment Decision Model with Accounting Income Constraints." Decision Sciences, Vol. 4, No. 3 (July, 1973), pp. 301-313.

(22) Edwards, Franklin R. "Managerial Objectives in Regulated Industries: Expense-Preference Behavior in Banking." Journal of Political Economy, Vol. 85 (February, 1977), pp. 147-162.

(23) Edwards, F. R. and A. A. Heggestad. "Uncertainty, Market Structure and Performance: The Galbraith-Caves Hypothesis and Managerial Motives in Banking." Quarterly Journal of Economics, Vol. 87, No. 3 (August, 1973), pp. 455-473.

(24) Elliott, J. W. "Control, Size, Growth and Financial Performance in the Firm." Journal of Finance and Quantitative Analysis, Vol. 7, No. 1 (January, 1972), pp. 1309-1320.

(25) Fama, E., L. Fisher, M. Jensen, and R. O. Roll. "The Adjustment of Stock Prices to New Information." International Economic Review, Vol. 10 (February, 1969), pp. 1-21.

(26) Findlay, I. I., M. Chapman, and G. A. Whitmore. "Beyond Shareholder Wealth Maximization." Financial Management, Vol. 3, No. 4 (Winter, 1974), pp. 25-35.

(27) Findlay, M. and E. Williams. "Capital Allocation and the Nature of Ownership Equities." Financial Management, Vol. 1, No. 2 (Summer, 1972), pp. 68-76.

(28) Friedman, Milton. Essays in Positive Economics. Chicago: The University of Chicago Press, 1953.

(29) Gordon, R. A. Business Leadership in the Large Corporation. Berkeley: University of California Press, 1961.

(30) Grabowski, Henry G. and Dennis C. Mueller. "Managerial and Stockholder Welfare Models of Firm Expenditures." Review of Economics and Statistics, Vol. 54 (February, 1972), pp. 9-24.

(31) Grossman, S. J. and J. E. Stiglitz. "On Value Maximization and Alternative Objectives of the Firm." Journal of Finance, Vol. 32, No. 2 (May, 1977), pp. 389-402.

(32) Haley, Charles W. and Lawrence D. Schall. The Theory of Financial Decisions. New York: McGraw-Hill, 1973.

(33) Hall, Marshall and Leonard Weiss. "Firm Size and Profitability." Review of Economics and Statistics, Vol. 49, No. 3 (August, 1967), pp. 319-331.

(34) Handbook of Cyclical Indicators. Supplement to the Business Conditions Digest. Washington, D. C.: U. S. Department of Commerce, Bureau of Economics and Analysis, 1977.

(35) Hindley, Brian V. "Separation of Ownership and Control in the Modern Corporation." Journal of Law and Economics, Vol. 13 No. 1 (April, 1970), pp. 185-221.

(36) Holl, Peter. "Control Type and the Market for Corporate Control in Large U.S. Corporations." Journal of Industrial Economics, Vol. 25, No. 4 (June, 1977), pp. 259-273.

(37) Holl, Peter. "Effect of Control Type on the Performance of the Firm in the U.S." Journal of Industrial Economics, Vol. 23 (June, 1975), pp. 257-271.

(38) Jensen, Michael C. and William H. Meckling. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." Journal of Financial Economics, Vol. 3 (1976), pp. 305-360.

(39) Kamerschen, David R. "The Influence of Ownership and Control on Profit Rates." American Economic Review, Vol. 58 (June, 1968), pp. 432-447.

(40) Kaysen, C. "The Corporation: How Much Power? What Scope?" The Corporation in Modern Society. Ed. E. S. Mason. Cambridge: Harvard University Press, 1960.

(41) Koshal, R. K., S. B. Prasad, and R. K. Jain. "Executives' Remuneration Maximization Behavior: Some Further Evidence." Atlantic Economic Journal, Vol. 5, No. 1 (March, 1977), pp. 65-68.

(42) Larner, Robert J. Management Control and the Large Corporation. New York: Dunellen Publishing Co., 1970.

(43) Larner, Robert J. "Ownership and Control in the 200 Largest Nonfinancial Corporations, 1929 and 1963." American Economic Journal, Vol. 56 (September, 1966), pp. 777-787.

(44) Lerner, Eugene M. and Alfred Rappaport. "Limit DCF in Capital Budgeting." Harvard Business Review, Vol. 46, No. 5 (September-October, 1968), pp. 133-139.

(45) Lewellen, W. G. Executive Compensation in Large Industrial Corporations. New York: National Bureau of Economic Research, 1968.

(46) Lewellen, Wilbur G. "Management and Ownership in the Large Firm." Journal of Finance, Vol. 24, No. 2 (May, 1969), pp. 299-322.

(47) Lewellen, W. G. The Ownership Income of Management. New York: National Bureau of Economic Research, 1971.

(48) Lewellen, W. and B. Huntsman. "Managerial Pay and Corporate Performance." American Economic Review, Vol. 60 (September, 1970), pp. 710-720.

(49) Little, I. M. D. "Higgledy Piggledy Growth." Oxford Institute of Statistics, Vol. 24, No. 4 (November, 1962), pp. 387-412.

(50) Mabry, Benars D. and David L. Siders. "An Empirical Test of the Sales Maximization Hypothesis." Southern Economic Journal, Vol. 33, No. 3 (January, 1967), pp. 367-377.

(51) Machlup, F. "Theories of the Firm; Marginalist, Behavioral, Managerial." American Economic Review, Vol. 57 (March, 1967), pp. 1-33.

(52) McEachern, William A. "Corporate Control and Risk." Economic Inquiry, Vol. 14 (June, 1976), pp. 270-278.

(53) McGuire, J. W., J. S. Y. Chiu, and A. D. Elbing. "Executive Incomes, Sales and Profits." American Economic Review, Vol. 52 (September, 1962), pp. 753-761.

(54) McKean, John R. and John J. Kania. "An Industry Approach to Owner-Manager Control and Profit Performance." Journal of Business, Vol. 51, No. 2 (1978), pp. 327-341.

(55) Manne, Henry. "Mergers and the Market for Corporate Control." Journal of Political Economy, Vol. 72 (April, 1965), pp. 110-120.

(56) Marris, Robin. The Economic Theory of Managerial Capitalism. New York: The Free Press of Glencoe, 1964.

(57) Marris, Robin and Adrian Wood. The Corporate Economy. Cambridge, Massachusetts: Harvard University Press, 1971.

(58) Mason, Edward S. "The Apologetics of Managerialism." The Journal of Business, Vol. 31, No. 1 (January, 1958), pp. 1-11.

(59) Masson, Robert T. "Executive Motivations, Earnings and Consequent Equity Performance." Journal of Political Economy, Vol. 79 (November-December, 1971), pp. 1278-1292.

(60) Melcher, R. W., D. F. Rush, and D. N. Winn. "Degree of Industry Concentration and Market Risk-Return Performance." Journal of Financial and Quantitative Analysis, Vol. 11 (November, 1976), pp. 627-635.

(61) Miller, M. H. and F. Modigliani. "Dividend Policy, Growth and the Valuation of Shares." Journal of Business, Vol. 34 (October, 1961), pp. 411-433.

(62) Mingo, John. "Managerial Motives, Market Structures and the Performance of Holding Company Banks." Economic Inquiry, Vol. 13 (September, 1975), pp. 411-424.

(63) Modigliani, F. and M. Miller. "Corporate Income, Taxes and the Cost of Capital: A Correction." American Economic Review, Vol. 63 (June, 1973), pp. 433-443.

(64) Modigliani, F. and M. Miller. "Some Estimates of the Cost of Capital to the Electric Industry, 1954-57." American Economic Journal, Vol. 56 (June, 1966), pp. 333-391.

(65) Monsen, R. J., Jr. and A. Downs. "A Theory of Large Manager Firms." Journal of Political Economy, Vol. 73 (June, 1965), pp. 221-236.

(66) Monsen, R. J., J. S. Chiu, and D. E. Cooley. "The Effect of Separation of Ownership and Control on the Performance of the Large Firm." Quarterly Journal of Economics, Vol. 82 (August, 1968), pp. 435-451.

(67) Nantell, T. J. and C. R. Carlson. "The Cost of Capital as a Weighted Average." Journal of Finance, Vol. 30, No. 5 (December, 1975), pp. 1343-1355.

(68) Nerlove, Marc. "Factors Affecting Differences Among Rates of Return on Investments in Individual Common Stocks." Review of Economics and Statistics, Vol. 50, No. 3 (August, 1968), pp. 312-331.

(69) Osteryoung, Jerome S. "A Survey into the Goals Used by Fortune's 500 Companies in Capital Budgeting Decisions." Akron Business and Economic Review, Vol. 4, No. 3 (Fall, 1973), pp. 34-35.

(70) Palmer, John. "The Profit Variability Effects of the Managerial Enterprise." Western Economic Journal, Vol. 11 (June, 1973), pp. 228-231.

(71) Palmer, John. "The Profit-Performance Effects of the Separation of Ownership from Control in Large U.S. Industrial Corporations." Bell Journal of Economics and Management Science, Vol. 4 (Spring, 1973), pp. 293-303.

(72) Palmer, John P. "The Separation of Ownership from Control in Large U.S. Industrial Corporations." Quarterly Review of Economics and Business, Vol. 12 (Autumn, 1972), pp. 55-62.

(73) Peterson, Shorey. "Corporate Control and Capitalism." Quarterly Journal of Economics, Vol. 79, No. 1 (February, 1965), pp. 1-24.

(74) Pettit, R. R. "The Impact of Dividend and Earnings Announcements: A Reconciliation." Journal of Business, Vol. 49, No. 1 (1976), pp. 86-106.

(75) Radice, H. K. "Control Type, Profitability and Growth in Large Firms: An Empirical Study." Economic Journal, Vol. 81, No. 3 (September, 1971), pp. 547-562.

(76) Rees, R. "A Reconsideration of the Expense Preference Theory of the Firm." Economica, Vol. 41, No. 163 (August, 1974), pp. 295-307.

(77) Ross, Stephen A. "Some Notes on Financial Incentive--Signalling Models, Activity Choice and Risk Preferences." Journal of Finance, Vol. 33, No. 3 (June, 1978), pp. 777-792.

(78) Scott, David F., Jr. "Evidence on the Importance of Financial Structure." Financial Management, Vol. 1, No. 2 (Summer, 1972), pp. 45-50.

(79) Sharpe, W. F. and H. B. Sossin. "Closed-End Investment Companies in the United States: Risk and Return." European Finance Association, 1974 Proceedings. Ed. B. Jacqwillant. New York: North Holland, 1975.

(80) Simon, H. A. "Theories of Decision Making in Economics and Behavioral Science." American Economic Review, Vol. 49 (June, 1959), pp. 253-283.

(81) Smyth, David J., W. J. Boyes, and D. E. Peseau. Size, Growth, Profits and Executive Compensation in the Large Corporation. New York: Holmes and Meier Publishers, 1975.

(82) Sommerfeld, Ray M., H. M. Anderson, and H. R. Block. An Introduction to Taxation. New York: Harcourt, Brace, Jovanovich, Inc., 1977.

(83) Stekler, H. O. "The Variability of Profitability with Size of Firm, 1947-1958." American Statistical Association Journal, Vol. 59, No. 308 (December, 1964), pp. 1183-1193.

(84) Stewart, Douglas and William Love. "A General Canonical Correlation Index." Psychological Bulletin, Vol. 70, No. 3 (1968), pp. 160-163.

(85) Stonehill, Arthur, et al. "Financial Goals and Debt Ratio Determinants: A Survey of Practice in Five Countries." Financial Management, Vol. 4, No. 3 (Autumn, 1975), pp. 27-41.

(86) Sullivan, Timothy G. "Market Power, Profitability, and Financial Leverage." Journal of Finance, Vol. 29, No. 5 (December, 1974), pp. 1407-1414.

(87) Tatham, R. L. and R. J. Dornoff. "The Significance and Interpretation of Canonical Analysis." Decision Sciences, Vol. 4 (1973), pp. 343-349.

(88) Theil, Henri. Principles of Econometrics. New York: John Wiley and Sons, Inc., 1971.

(89) Turnovsky, Stephen J. "The Allocation of Corporate Profits Between Dividends and Retained Earnings." Review of Economics and Statistics, Vol. 49, No. 4 (November, 1967), pp. 583-589.

(90) Whittington, G. "The Profitability of Retained Earnings." Review of Economics and Statistics, Vol. 54, No. 2 (May, 1972), pp. 152-160.

(91) Williamson, John. "Profit, Growth and Sales Maximization." Economica, Vol. 33, No. 129 (February, 1966), pp. 1-16.

(92) Williamson, Oliver. "Corporate Control and the Theory of the Firm." Economic Policy and the Regulation of Securities. Washington, D. C.: American Enterprise Institute, 1968.

(93) Williamson, O. The Economics of Discretionary Behavior: Managerial Objectives in a Theory of the Firm. Englewood Cliffs: Prentice Hall, Inc., 1964.

(94) Williamson, Oliver E. "Managerial Discretion and Business Behavior." American Economic Review, Vol. 53 (December, 1963), pp. 1032-1057.

(95) Wong, Robert E. "Profit Maximization and Alternative Theories: A Dynamic Reconciliation." American Economic Review, Vol. 65, No. 4 (September, 1975), pp. 689-694.

APPENDIXES

APPENDIX A

ESTIMATED STRUCTURE, REACTION EQUATIONS

The key for the tables in this Appendix is given below. The same key applies to the tables in Appendix B.

G1: Shareholder wealth goal

G2: Sales goal

G3: Earnings smoothing goal

G4: Liquidity goal

P1: Investment policy

P2: Working capital policy

P3: Dividend policy

P4: Financing policy

Z1: Level of interest rates

Z2: Investment tax credit

SS: Sum of squares

d.f.: Degrees of freedom

MS: Mean square

d: Durbin-Watson statistic

f.d.a.: First degree autocorrelation

*: Significant at five percent level

TABLE II

BAR-EPSD SPECIFICATION--THE ENTIRE SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	1.265*	-0.032	-0.104*	-0.024	-0.060*	0.002	0.003	0.001	0.001
G2	=	0.115*	0.095*	0.040*	-0.023	-0.013	-0.013*	0.015*	0.000	-0.000
G3	=	0.335	-0.110	0.044	0.116	0.064	0.292*	0.367*	-0.004	-0.004
G4	=	0.565	0.072	0.153	0.239	0.053	-0.001	-0.006	-0.681*	-0.318*
P1	=	0.113*	0.101*	0.075*	0.057*	0.094	-0.010*	0.002	-0.002	0.001
P2	=	0.325*	-0.020	0.037*	0.014	0.034	0.001	-0.002	-0.001	-0.000
P3	=	0.329*	0.320*	0.059*	0.268*	0.004	-0.014*	0.018*	-0.001	-0.005*
P4	=	-0.127*	-0.002	0.018	-0.050*	-0.054*	0.000	0.005	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.050*	-0.032	0.131*	-0.029	-0.027	-0.007	-0.019	-0.007	-0.054*	0.042*
0.229*	0.004	0.029*	-0.045*	0.114*	0.013	0.054*	0.009	-0.038*	0.004
-0.496*	-0.119*	-0.007	0.638*	0.029	0.127*	-0.187*	-0.143*	0.054	0.089
-0.343	0.048	-0.313	+0.209	-0.231	+0.076	0.062	0.124	0.149	0.157
				0.069*	0.006	0.017	0.019	-0.001	-0.002
				-0.007	-0.017	-0.318*	-0.142*	-0.032*	-0.009
				-0.012	-0.046*	+0.018	0.023	0.110*	-0.056*
				0.052*	0.031*	0.082*	0.048*	-0.006	0.008

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.018	0.012	-8.110*	-2.450*	-5.960*	-40.249*	-14.469*	-28.830*	0.4341	2.0686	-0.0368
0.180*	0.010	0.358*	-0.123	-0.522*	+0.065	+0.337	-1.239	0.3179	1.9973	0.0013
0.024	0.004	-0.199	-0.344	-0.332	-1.658	-1.629	-2.804	0.3026	2.1522	-0.0762
0.269	-0.089	-2.749	-2.149	-2.165	-16.829	-10.040	-13.187	0.3251	2.1764	-0.0882
-0.050*	-0.059*	-0.072	-0.006	-0.246	-1.156	-0.328	-1.009	0.0654	1.9821	0.0089
-0.027	0.021	-1.905*	-0.468*	-1.528*	-9.373*	-2.827*	-7.142*	0.1251	1.9965	0.0017
-0.065*	-0.067*	-1.151	-0.616*	-2.292*	-8.905*	-3.051*	-8.451*	0.1784	1.9301	0.0345
-0.053*	-0.039*	1.198*	0.367*	0.610*	4.941*	1.915*	3.270*	0.0550	1.8950	0.0524

TABLE III

BAR-EPSDD SPECIFICATION--THE ENTIRE SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	1.254*	-0.025	-0.083*	-0.025	-0.055*	-0.032*	-0.025*	0.001	0.001
G2	=	0.107*	0.097*	0.048*	-0.030	-0.012	-0.007*	-0.022*	-0.000	-0.000
G3	=	-0.142	0.363*	0.094	0.102	-0.282*	0.202*	0.028	0.005	0.002
G4	=	0.572	0.080	0.150	0.245	0.050	-0.006	0.018	-0.681*	-0.318*
P1	=	0.105*	0.101*	0.075*	0.052*	0.091*	0.009	-0.004	-0.002	+0.001
P2	=	0.326*	-0.016	0.040*	0.016	0.034	-0.008	0.001	-0.001	-0.000
P3	=	0.309*	0.308*	0.062*	0.250*	0.005	0.016*	-0.033*	-0.001	-0.005*
P4	=	-0.124*	-0.003	+0.016	-0.050*	-0.053*	0.001	-0.002	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.056*	-0.036*	0.128*	-0.034	-0.009	-0.008	-0.021	-0.005	-0.041*	0.051*
0.232*	0.002	0.027*	-0.047*	0.125*	0.015	0.054*	0.011	-0.033*	0.009
0.680*	0.006	0.297*	-0.815*	-0.272*	-0.128*	0.123	0.156*	-0.053	-0.031
-0.341	0.047	-0.309	0.207	-0.232	0.072	0.064	0.124	0.147	0.154
				0.069*	0.008	0.017	0.019	-0.002	-0.001
				-0.005	-0.019	-0.318*	-0.142*	-0.030	-0.009
				-0.007	-0.038*	0.017	0.023	0.112*	-0.050*
				0.052*	0.032*	0.082*	0.048*	-0.007	0.007

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.038	0.006	-8.172*	-2.412*	-6.059*	-40.740*	-14.563*	-29.245*	0.4461	2.0661	-0.0335
0.169*	0.007	0.347*	-0.098	-0.547*	-0.071	+0.323	-1.347*	0.3257	1.9962	0.0018
0.136	0.126	-0.002	0.162	-1.932*	-3.623	0.485	-4.599	0.1373	1.9914	0.0062
0.267	-0.086	-2.771	-2.179	-2.203	-17.010	-10.141	-13.345	0.3251	2.1765	-0.0882
-0.050*	-0.060*	-0.044	-0.004	-0.207	-0.984	-0.282	-0.870	0.0650	1.9814	0.0093
-0.031	0.021	-1.926*	-0.472*	-1.560*	-9.526*	-2.878*	-7.274*	0.1256	1.9955	0.0022
-0.066*	-0.072*	-1.090*	-0.560*	-2.199*	-8.492*	-2.866*	-8.090*	0.1835	1.9388	0.0302
-0.052*	-0.038*	1.198*	0.366*	0.609*	4.941*	1.919*	3.277*	0.0546	1.8951	0.0524

TABLE IV

MVAR-EPSD SPECIFICATION--THE ENTIRE SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	160.378*	-0.202*	-0.020	6.220	-0.897*	-0.475	-0.676	-0.049	0.035
G2	=	0.053	0.001*	0.000	0.001	-0.011	-0.015*	0.015*	-0.000	-0.001
G3	=	0.319	-0.001	-0.000	0.126	0.080	0.294*	0.364*	-0.003	-0.004
G4	=	0.581	0.001	0.000	0.277	0.074	-0.002	-0.011	-0.681*	-0.318*
P1	=	0.062	0.001*	0.001*	0.091*	0.098*	-0.013*	0.002	-0.002	0.000
P2	=	0.258*	-0.001*	+0.000	0.031	0.040	0.000	-0.003	-0.001	-0.000
P3	=	0.271*	0.002*	0.001*	0.330*	-0.001*	-0.024*	0.022*	-0.002	-0.005*
P4	=	-0.139*	-0.000	+0.000	-0.046	-0.053*	0.000	0.005	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
4.320	2.051	14.031*	0.560	-4.249	-0.621	1.449	-3.096	-5.002*	0.959
0.244*	0.004	0.046*	-0.052*	0.115*	0.009	0.051*	0.005	-0.032*	0.002
-0.498*	-0.119	-0.017	0.641*	0.036	0.126*	-0.185*	-0.144*	0.064	0.096
-0.331	0.059	-0.310	0.210	-0.214	0.075	0.065	0.119	0.163	0.161
				0.073*	0.001	0.015	0.014	0.007	-0.005
				-0.006	-0.020	-0.318*	-0.145*	-0.024	-0.008
				-0.011	0.057*	0.010	0.015	-0.120*	-0.069*
				0.053*	0.031*	0.082*	0.048*	-0.005	+0.008

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
0.936	-3.366	-1051.569*	-331.427*	-715.924*	-5038.023*	-1871.524*	-3506.472*	0.4630	2.0816	-0.0413
0.179*	0.006	0.635*	-0.014	-0.127	+1.833*	1.008*	0.360	0.3017	2.0049	-0.0026
0.021	0.006	0.019	-0.430	-0.153	-0.952	-1.731	-2.170	0.3023	2.1528	-0.0765
0.256	-0.097	-2.717	-2.385	-2.153	-17.424	-10.798	-13.407	0.3250	2.1746	-0.0873
-0.054*	-0.066*	0.148	0.090	0.065	0.237	0.212	0.269	0.0543	1.9813	0.0093
-0.027	+0.020	-1.556*	-0.335	-1.115*	-7.300*	-2.070*	-5.400*	0.1262	1.9982	0.0008
-0.072*	-0.082*	-1.006*	-0.479*	-1.936*	-7.533*	-2.313*	-7.033*	0.1429	1.9921	0.0385
-0.054	-0.040*	1.253*	-0.403*	0.672*	+5.289*	2.064*	3.552*	0.0551	1.8949	0.0525

TABLE V

MVAR-EPSDD SPECIFICATION--THE ENTIRE SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	157.515*	-0.199*	-0.007	6.755	-9.673*	-2.722*	-1.569*	-0.065	0.018
G2	=	0.035	0.001*	0.000	-0.006	-0.010	-0.003	-0.023*	-0.000	-0.001
G3	=	-0.132	0.003*	0.002*	0.124	-0.303*	+0.209*	0.024	0.004	0.002
G4	=	0.587	0.001	0.000	0.285	0.068	-0.002	0.022	-0.681*	-0.318*
P1	=	0.050	0.001*	0.001*	0.084*	0.095*	0.013*	-0.005	-0.002	-0.000
P2	=	0.255*	0.001*	+0.000	0.034	0.040	-0.006	0.001	-0.001	-0.000
P3	=	0.241*	0.002*	0.001*	0.305*	-0.001	0.026*	-0.039*	-0.002	-0.006*
P4	=	-0.135*	-0.000	0.000	-0.047*	-0.053*	0.001	-0.002	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
5.268	1.755	13.938*	-0.197	-2.652	-0.847	-1.260	-2.936	-3.697*	1.807
0.247*	0.003	0.044*	-0.054*	0.126*	0.011	0.052*	0.007	-0.026*	0.008
0.706*	0.016	0.328	-0.824*	-0.269*	-0.126*	0.121	0.152*	-0.062	-0.045
-0.327	0.059	-0.304	0.208	-0.217	0.071	0.067	0.120	0.159	0.157
				0.073*	0.004	0.015	0.015	0.006	-0.003
				-0.004	-0.022	-0.328*	-0.145*	-0.022	-0.007
				-0.005	-0.046*	0.010	0.016	0.120*	-0.061*
				0.053*	0.032	0.083*	0.047*	-0.006	0.007

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-1.074	-4.113	-1050.208*	-325.216*	-716.038*	-5039.937*	-1866.729*	-3508.961*	0.4673	2.0795	-0.0402
0.168*	0.003	0.667*	0.028	-0.096	1.965*	1.085*	0.480	0.3076	2.0034	-0.0018
0.130	0.110	-0.311	0.259	-2.119*	-4.674	0.519	-5.316	0.1368	1.9908	0.0064
0.256	-0.093	-2.736	-2.418	-2.178	-17.551	-10.887	-13.522	0.3250	2.1746	-0.0873
-0.054*	-0.068*	0.195	0.105	0.128	0.522	0.291	0.500	0.0538	1.9802	0.0099
-0.031	0.019	-1.563*	-0.333	-1.128*	-7.364*	-2.088*	-5.455*	0.1265	1.9973	0.0013
-0.072*	-0.088*	-0.893*	-0.408*	-1.784*	-6.836*	-2.052*	-6.444*	0.1502	1.9931	0.0331
-0.053*	-0.039*	1.248*	0.399*	0.665*	5.263*	2.058*	3.535*	0.0547	1.8950	0.0525

TABLE VI

VAR-EPSD SPECIFICATION--THE ENTIRE SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	13.603*	-0.071*	0.094*	0.326	-0.847*	0.011	-0.105	-0.003	0.002
G2	=	0.041	0.003*	0.000	0.006	-0.011	-0.015*	0.015*	-0.000	-0.001
G3	=	0.317	-0.010	-0.007	0.122	0.081	0.294*	0.364*	-0.003	-0.004
G4	=	0.468	0.004	-0.006	0.303	0.079	-0.004	-0.011	-0.681*	-0.318*
P1	=	0.028	0.004*	0.006*	0.100*	0.099*	-0.013*	0.002	-0.002	0.000
P2	=	0.272*	-0.005*	-0.001	0.028	0.042	0.000	-0.003	-0.001	-0.000
P3	=	0.155*	0.015*	0.005*	0.362*	0.002	-0.025*	0.023*	-0.002	-0.006*
P4	=	-0.136*	-0.000	0.003	-0.047	-0.053*	0.000	0.005	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.181	0.414*	0.810*	0.297	-0.324	0.133	0.210	-0.268	-0.341*	-0.036
0.245*	0.004	0.048*	-0.053*	0.115*	0.007	0.050*	0.005	-0.030*	0.002
-0.497*	-0.120*	-0.018	0.641*	0.035	0.126*	-0.183*	-0.143*	0.063	0.097
-0.316	0.053	-0.294	0.202	-0.218	0.066	0.061	0.117	0.174	0.164
				0.072*	-0.001	-0.013	-0.012	0.011	-0.005
				-0.005	-0.020	-0.317*	-0.145*	-0.025*	-0.007
				-0.015	-0.065*	0.004	0.011	0.133*	-0.070*
				0.054*	0.032*	0.082*	0.047*	-0.006	0.008

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
0.023	-0.293	-85.877*	-28.591*	-62.713*	-421.219*	-157.964*	-301.240*	0.3794	2.0504	-0.0257
0.179*	0.007	0.698*	-0.007	-0.043	+2.180*	1.105*	0.673*	0.3013	2.0062	-0.0032
0.024	0.007	0.046	-0.412	-0.132	-0.780	-1.646	-2.042	0.3026	2.1530	-0.0766
0.260	-0.093	-2.115	-2.217	-1.388	-13.869	-9.566	-10.332	0.3250	2.1744	-0.0872
-0.055*	-0.068*	0.301	0.161	0.263	1.216	0.600	1.098	0.0535	1.9822	0.0088
-0.027	0.020	-1.603*	-0.385*	-1.182*	-7.681*	-2.275*	-5.699*	0.1259	1.9999	-0.0000
-0.072*	-0.083*	-0.451	-0.257	-1.221*	-4.087*	-0.992	-4.101*	0.1284	1.9191	0.0402
-0.054*	-0.040*	1.231*	0.401*	0.645*	5.171*	2.026*	3.450*	0.0554	1.8954	0.0522

TABLE VII

VAR-EPSDD SPECIFICATION--THE ENTIRE SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	13.400*	-0.069*	0.013*	0.406	-0.829*	-0.218*	-0.047	-0.004	0.001
G2	=	0.023	0.003*	0.001	-0.001	-0.009	-0.003	-0.023*	-0.000	-0.001
G3	=	-0.256	0.027*	0.019*	0.155	-0.299*	0.211*	0.021	0.004	0.002
G4	=	0.469	0.005	-0.007	0.309	0.073	0.001	0.021	-0.681*	-0.318*
P1	=	0.017	0.004*	0.006*	0.092*	0.096*	0.014*	-0.006	-0.002	0.000
P2	=	0.269*	-0.005*	-0.001	0.032	0.042	-0.007	0.002	-0.001	-0.000
P3	=	0.130*	0.014*	0.005*	0.333*	0.002	0.029*	-0.042*	-0.002	-0.006*
P4	=	-0.131*	-0.000	0.002	-0.049*	-0.053*	0.001	-0.002	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.250	0.393*	0.815*	0.240	-0.227	0.103	0.192	-0.263	0.246	0.016
0.249*	0.003	0.046*	-0.055*	0.126*	0.010	0.051*	0.006	-0.024*	0.008*
0.714*	0.015	0.345*	-0.832*	-0.271*	-0.131*	0.111	0.144*	-0.048	-0.044
-0.313	0.053	-0.288	0.199	-0.222	0.063	0.062	0.118	0.171	0.160
				0.073*	0.003	0.013	0.013	0.009	-0.003
				-0.003	-0.022	-0.317*	-0.145*	-0.023	-0.006
				-0.009	-0.053*	0.004	0.012	0.132*	-0.061*
				-0.053*	0.032*	0.083*	0.047*	-0.006	0.007

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.110	-0.342	-85.728*	-28.231*	-62.642*	-421.039*	-157.626*	-307.123*	0.3821	2.0505	-0.0208
0.168*	0.003	0.730*	0.032	-0.013	2.306*	1.175*	0.787	0.3071	2.0050	-0.0027
0.128	0.107	0.261	0.464	-1.355	-1.147	1.794	-2.266	0.1358	1.9911	0.0043
0.261	-0.090	-2.114	-2.242	-1.387	-13.868	-0.609	-10.344	0.3250	2.1744	-0.0872
-0.053	-0.070	0.340	0.175	0.319	1.462	0.666	1.296	0.0533	1.9812	0.0093
-0.031	0.020	-1.605*	-0.381*	-1.188*	-7.711*	-2.282*	-5.724*	0.1262	1.9991	0.0004
-0.071*	-0.089*	-0.363	-0.195	-1.097*	-3.531*	-0.788	-3.633*	0.1374	1.9317	0.0039
-0.053*	-0.039*	1.223*	0.396*	0.634*	5.127*	2.015*	3.417*	0.0550	1.8954	0.0522

TABLE VIII

BAR-EPSD SPECIFICATION--STRONG OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	-0.967*	0.021	-0.141*	+0.046	-0.150	+0.021	-0.016	0.002	0.002
G2	=	-0.007	0.103*	0.037	0.050	-0.042	-0.012	0.029*	-0.000	-0.001
G3	=	0.845*	0.104	0.114	0.029	-0.082	0.287*	0.371*	-0.003	-0.001
G4	=	4.232	0.911	-0.096	1.363	0.159	-0.354	0.127	-0.679*	-0.339*
P1	=	0.193*	0.071*	0.060*	-0.014	0.101*	-0.025*	0.004	-0.001	0.002
P2	=	0.101	-0.003	0.017	0.030	0.105	-0.007	-0.009	-0.007	-0.001
P3	=	0.655*	0.543	0.003	0.693*	-0.355*	-0.070*	0.104*	0.000	-0.007*
P4	=	-0.067	0.005	0.055*	-0.091	-0.089	0.009	0.025*	0.001	0.001

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
-0.043	-0.043	0.078*	0.041	0.078	0.025	-0.044	-0.006	-0.042	0.043
+0.136*	-0.006	+0.014	0.096*	0.095*	0.051	-0.042	0.034	-0.013	-0.004
-0.351	-0.237	0.135*	+0.458*	-0.063	-0.140	-0.159	-0.237	0.068	0.013
-1.983	+0.842	-0.526	0.758	-0.496	0.718	-0.310	0.915	0.227	-0.222
				0.225*	0.008	0.077*	-0.013	0.006	0.002
				-0.051	0.020	-0.358*	-0.296*	-0.012	-0.005
				0.004	0.028	-0.219*	0.272*	0.087*	-0.026
				0.080*	0.004	0.055	0.153*	-0.013	+0.013

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.071	-0.008	-6.032*	-1.632*	-4.580*	-30.440*	-10.240*	-22.830*	0.3359	2.0262	-0.0152
0.098*	0.079*	1.009*	0.014	0.088	3.450	1.540	1.153	0.4025	2.0128	-0.0092
0.175	0.066	-2.509	-1.471	-2.719	-15.180	-5.690	-14.141	0.3380	2.0256	-0.0130
+0.697	-0.293	-21.300	-16.690	-16.890	-129.860	-76.400	-91.200	0.3540	2.1568	-0.0784
-0.039	-0.002	-0.547	-0.361	-0.661	-3.010	-1.240	-2.370	0.2148	1.9349	0.0323
0.011	-0.043	-0.934	+0.018	-0.368	-3.640	-0.495	-1.985	0.2212	1.8947	0.0521
+0.070	-0.050	-2.749*	-1.456	-3.987*	-18.603*	-7.016*	-16.467*	0.2630	1.8759	0.0599
-0.163*	-0.004	+0.917	0.137	0.293	+3.373	+1.265	+1.630	0.1527	1.9440	0.0274

TABLE IX

BAR-EPSDD SPECIFICATION--STRONG OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	0.918*	+0.011	-0.124*	+0.110	-0.132	-0.104*	-0.003	+0.002	+0.002
G2	=	-0.030	+0.094*	+0.039*	+0.037	-0.023	-0.011	-0.043*	-0.000	-0.001
G3	=	-0.570	0.267*	0.005	0.263	-0.128	0.242*	0.036	0.005	-0.000
G4	=	3.990	0.942	-0.135	1.042	0.144	0.336	-0.123	-0.680*	-0.340*
P1	=	0.170*	0.070*	0.057*	-0.047	0.107*	0.030*	-0.015	-0.001	+0.002
P2	=	0.096	0.000	0.017	0.027	0.101	0.010	0.010	-0.001	-0.001
P3	=	0.612*	0.509*	-0.014	0.538*	-0.302*	0.104*	-0.151*	0.000	-0.007*
P4	=	-0.048	0.001	0.054*	-0.088	-0.087	-0.008	-0.014	0.001	0.001

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.003	-0.028	+0.086*	+0.026	0.088	0.027	-0.024	0.019	-0.035	0.048
0.143*	0.001	0.012	0.096*	0.109*	0.051*	-0.030	0.042	-0.009	0.000
0.496*	-0.004	-0.010	-0.780*	-0.040	0.103	0.037	0.181	-0.020	-0.100
-1.948	0.832	-0.539	0.715	-0.420	0.772	-0.262	0.928	0.207	-0.218
				0.235*	0.014	-0.076*	0.014	0.006	0.003
				-0.051	0.022	-0.359*	-0.296*	-0.013	-0.006
				0.041	-0.021	0.232*	0.268*	0.093*	-0.018
				0.075	-0.004	0.057	0.149*	-0.013	0.013

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.121	-0.026	-6.053*	-1.562*	-4.631*	-30.999*	-10.210*	-23.300*	0.3678	2.0327	-0.0186
0.090*	0.074*	1.017*	0.070	0.133	3.461	1.616*	1.266	0.4253	2.0134	-0.0097
-0.107	0.017	2.073	1.406	-0.330	8.642	4.325	4.470	0.1960	2.9118	0.0438
0.743	-0.266	-20.166	-16.427	-15.490	-123.068	-74.939	-85.680	0.3541	2.1562	-0.0781
-0.033	-0.002	-0.471	-0.339	-0.531	-2.444	-1.129	-1.860	0.2152	1.9437	0.0278
0.012	-0.042	-0.902	0.011	-0.333	-3.442	-0.475	-1.853	0.2214	1.8952	0.9519
0.108	-0.044	-2.624*	-1.315	-3.630*	-17.270*	-6.610*	-14.990*	0.2790	1.8616	0.0674
-0.162*	-0.002	0.875	0.413	0.225	3.080	1.241	1.417	0.1444	1.9373	0.0309

TABLE X

MVAR-EPSD SPECIFICATION--STRONG OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	113.909*	0.008	-0.029	3.046	-13.931	0.471	-1.889	0.028	0.066
G2	=	-0.045	+0.001*	+0.000	+0.084*	-0.037	-0.013	+0.029*	-0.001	-0.001
G3	=	0.711	-0.000	+0.000	+0.099	-0.048	0.286*	0.370*	-0.003	-0.001
G4	=	4.225	+0.010	-0.003	+1.527	0.179	-0.360	0.127	-0.681*	-0.339*
F1	=	0.166*	+0.001*	+0.001*	+0.019	+0.103*	-0.026*	0.005	-0.001	+0.002
P2	=	0.058	-0.000	-0.000	+0.055	0.122*	-0.008	-0.009	-0.001	-0.001
P3	=	0.463	0.003*	0.000	0.926*	-0.410*	-0.084*	0.119*	-0.002	-0.007*
P4	=	-0.094	-0.000	0.001*	-0.077	-0.088	0.009	0.025*	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
-7.118	7.112	0.424	9.014	4.218	-3.423	-4.670	-0.722	-4.273	+2.904
0.148*	0.006	0.026*	0.109*	0.097*	0.051	-0.049	+0.026	-0.011	-0.004
-0.324	-0.221	0.140*	0.476*	-0.054	-0.151	-0.153	-0.251	0.079	0.015
-1.926	0.897	-0.440	0.888	-0.482	0.716	-0.381	0.878	0.237	-0.214
				+0.230*	+0.009	-0.084*	+0.006	+0.001	0.001
				-0.044	+0.013	-0.356*	-0.300*	-0.006	-0.004
				-0.013	-0.018	0.170	0.248*	0.099*	-0.035
				0.081*	0.006*	0.053	0.148*	-0.013	0.011

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-5.257	4.983	-691.558*	-220.039*	-513.137*	-3424.909*	-1225.980*	-2534.793*	0.3170	1.9959	0.0020
+0.095*	+0.074*	1.140*	0.063	0.305	4.265*	1.832*	1.966	0.3909	2.0144	-0.0096
0.177	0.061	-1.817	-1.281	-1.893	-11.399	-4.490	-10.770	0.3369	2.0285	-0.0145
0.682	-0.316	-21.470	-17.010	-16.760	-131.600	-77.500	-91.700	0.3547	2.1565	-0.0783
-0.044	-0.008	-0.473	-0.311	-0.522	-2.472	-1.003	-1.830	0.2099	1.9484	+0.0254
0.011	-0.044	-0.668	0.059	-0.074	-2.319	-0.138	-0.799	0.2231	1.8969	0.0521
0.055	-0.086	-2.200	-1.049	-2.820*	-13.900	-4.600	-11.900*	0.1984	1.8830	0.0566
-0.165*	-0.008	1.004*	0.216	0.433	4.078	1.607	2.240	0.1576	1.9469	0.0259

TABLE XI

MVAR-EPSD SPECIFICATION--STRONG OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	108.370*	+0.005	-0.006	8.095	-13.030	-8.250*	0.620	0.003	0.068
G2	=	-0.070	+0.001*	0.000	-0.070	-0.018	-0.011	-0.043*	-0.001	-0.001
G3	=	-0.463	0.003*	0.001	0.260	-0.164	0.236*	0.043	0.004	-0.000
G4	=	3.974	+0.010	-0.004	1.211	0.154	0.345	-0.114	-0.681*	-0.340*
P1	=	0.142	0.001*	0.001*	-0.015	0.109*	0.030*	-0.016	-0.001	+0.001
P2	=	0.052	-0.000	-0.000	+0.049	+0.118*	+0.012	+0.008	-0.001	-0.001
P3	=	0.397	+0.003*	-0.000	0.741*	-0.342*	0.116*	-0.177*	-0.001	-0.008*
P4	=	-0.077	-0.000	0.001*	-0.074	-0.086	-0.010	-0.015	+0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
-2.594	8.460	5.690*	7.160	5.170	-2.950	-2.770	+1.660	-3.860	3.244
0.155*	0.012	0.024*	0.108*	0.111*	0.051	-0.036	0.034	-0.007	0.000
0.486*	0.014	0.014	-0.764*	-0.042	0.119	0.013	0.178	-0.033	-0.102
-1.884	0.883	-0.446	0.849	-0.415	0.769	-0.338	0.886	0.217	-0.211
				+0.240*	0.016	-0.082*	0.008	0.007	0.002
				-0.044	+0.016	-0.358*	-0.300*	-0.007	-0.005
				0.032	-0.011	0.190	0.246*	0.108*	-0.025
				0.076	-0.002	0.056	0.145*	-0.013	+0.012

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-1}$	R^2	d	f.d.a.
-9.770	3.410	-688.336*	-212.712*	-512.626*	-3445.823*	-1216.875*	-2559.839*	0.3377	2.0033	-0.0017
0.088*	0.069*	1.166*	0.127	0.368	4.379*	1.951*	2.162	0.4131	2.0158	-0.0106
-0.123	0.010	1.354	1.234	-1.064	4.794	3.143	1.264	0.1994	1.9153	0.0420
0.731	-0.287	-20.260	-16.750	-15.270	-124.370	-75.900	-85.800	0.3544	2.1563	-0.0782
-0.038	-0.008	-0.039	-0.288	-0.384	-1.878	-0.884	-1.300	0.2099	1.9551	0.0220
0.013	-0.043	-0.637	0.050	-0.035	-2.112	-0.123	-0.654	0.2235	1.8957	0.0517
0.098	-0.079	-1.977	-0.869	-2.330	-12.020	-4.020	-9.780	0.2195	1.8653	0.0659
-0.164*	-0.005	0.967*	0.226	0.370	3.815	1.599	2.054	0.1498	1.9409	0.0291

TABLE XII

VAR-EPSD SPECIFICATION--STRONG OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	9.395*	0.080	0.123*	0.072	-1.039	0.071	-0.305	-0.000	0.003
G2	=	-0.082	0.008*	0.002	0.100*	-0.037	-0.012	0.030*	-0.001	-0.001
G3	=	0.652	-0.009	-0.009	0.128	-0.035	0.283*	0.368*	-0.003	-0.001
G4	=	3.806	0.078	-0.045	1.720	0.126	-0.366	0.130	-0.683*	-0.339*
P1	=	0.118	0.003	0.007*	0.042	0.107*	-0.026	0.007	-0.002	0.001
P2	=	0.082	0.002	0.007*	0.048	0.121*	-0.008	-0.010	-0.001	-0.001
P3	=	0.275	0.017*	-0.002	1.031*	-0.416*	-0.089*	0.124*	-0.002	-0.007*
P4	=	-0.119	-0.004	+0.007*	-0.069	-0.078	0.009	0.026*	+0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
-0.640	0.926	0.266	0.820	0.332	-0.280	-0.197	-0.270	-0.259	0.010
0.154*	0.003	0.030*	0.109*	0.094*	0.048	-0.053	0.021	-0.009	-0.005
-0.302	-0.222	0.141*	0.483*	-0.060	-0.159	-0.145	-0.253	0.084	0.016
-1.798	0.827	-0.382	0.856	-0.573	0.659	-0.403	0.827	0.237	-0.233
				0.231*	0.008	-0.088*	0.001	0.012	0.001
				-0.044	0.012	-0.354*	-0.297*	-0.009	-0.004
				-0.027	-0.028	0.168	0.235*	0.110*	-0.041
				0.086*	0.004	0.052	0.145*	-0.009	0.012

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.282	0.280	-55.999*	-18.040*	-43.400*	-272.900*	-97.400*	-204.900*	0.2418	2.0476	-0.0244
0.096*	0.072*	1.276*	0.136	0.524	5.229*	2.216*	2.827*	0.3860	2.0105	-0.0078
0.182	0.061	-1.418	-1.185	-1.473	-9.352	-3.801	-8.959	0.3383	2.0326	-0.0166
0.703	-0.345	-19.789	15.914	-14.230	-119.700	-72.100	-81.000	0.3542	2.1581	-0.0791
-0.044	-0.010	-0.275	-0.233	-0.227	-1.143	-0.505	-0.653	0.2062	1.9621	+0.0184
0.012	-0.044	-0.753	0.015	-0.214	-2.986	-0.421	-1.377	0.2270	1.8955	0.0517
0.062	-0.096	-1.368	-0.652	-1.640	-8.420	-2.326	-7.001	0.1804	1.8815	0.0577
-0.166*	-0.007	1.139*	0.229	0.598	4.815	1.807	2.894	0.1573	1.9631	0.0277

TABLE XIII

VAR-EPSDD SPECIFICATION--STRONG OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	8.994*	0.080	0.139*	0.478	-1.012	-0.516*	0.204	-0.002	0.004
G2	=	-0.102	0.007*	0.002	0.083*	-0.017	-0.011	-0.045*	-0.001	-0.001
G3	=	-0.605	0.029*	0.015	0.315	-0.156	0.237*	0.033	0.004	-0.001
G4	=	3.575	0.082	-0.047	1.370	0.107	0.351	-0.143	-0.682*	-0.339*
P1	=	0.099	0.003	0.007*	0.003	0.114*	0.031*	-0.020	-0.001	0.001
P2	=	0.076	0.003	-0.007*	0.044	0.115*	0.013	0.010	-0.000	-0.001
P3	=	0.240	0.015	-0.004	0.812*	-0.342*	0.122*	-0.191	-0.002	-0.008*
P4	=	-0.101	-0.004	0.007*	-0.067	-0.075	-0.009	-0.016	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
-0.344	1.001	0.318	0.670	0.383	-0.232	-0.123	-0.121	-0.230	0.111
0.160*	0.010	0.027*	0.109*	0.109*	0.050	-0.039	0.030	-0.005	-0.001
0.502*	0.008	0.031	-0.765	-0.045	0.113	-0.002	0.158	-0.024	-0.105
-1.764	0.810	-0.395	0.806	-0.494	0.756	-0.359	0.844	0.217	-0.229
				0.242	0.015	-0.086*	+0.003	-0.012	-0.002
				-0.045	0.015	-0.356*	-0.297*	-0.010	-0.005
				0.024	-0.016	0.189	0.238*	0.118*	-0.029
				0.082*	-0.003	0.055	0.142*	-0.009	0.013

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.576	0.174	-55.560*	-17.700*	-43.000*	-272.700*	-96.800*	-205.500*	0.2491	2.0522	-0.0268
0.089*	0.067*	1.276*	0.187	0.554	5.177*	2.265*	2.886*	0.4107	2.0177	-0.0087
-0.119	0.002	1.855	1.503	-0.218	8.459	4.590	4.572	0.1971	1.9187	0.0404
0.752	-0.321	-18.798	-15.666	-12.914	-113.500	-70.830	-76.040	0.3539	2.1580	-0.0790
-0.037	-0.010	-0.221	-0.215	-0.120	-0.704	-0.436	-0.244	0.2079	1.9674	0.0157
0.014	-0.043	-0.721	0.007	-0.174	-2.764	-0.399	-1.225	0.2276	1.8969	0.0510
0.106	-0.090	1.320	-0.523	-1.359	-7.520	-2.135	-5.760	0.2070	1.8611	0.0682
-0.164*	-0.004	1.099*	0.237	0.530	4.530	1.790	2.690	0.1492	1.9368	0.0309

TABLE XIV

BAR-EPSD SPECIFICATION--WEAK OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	1.191*	-0.033	-0.073	-0.078	-0.050	0.004	0.024	0.002	0.019
G2	=	0.091	0.076*	0.040	-0.080*	-0.014	-0.020	0.013	0.001	0.003
G3	=	0.307	-0.011	-0.021	0.320*	-0.170	0.303*	0.344*	0.006	-0.040
G4	=	-0.150	-0.050	-0.030	0.180	0.062	0.090	-0.012	-0.922*	-0.474*
P1	=	0.050	0.110*	0.052	0.102	0.120*	-0.004	-0.020	-0.001	0.010
P2	=	0.093	-0.026	0.011	0.054	0.060	-0.009	0.029*	-0.003	0.002
P3	=	0.237	0.333*	0.060	0.220*	0.036	-0.006	0.029	-0.008	0.012
P4	=	-0.240	-0.011	-0.042	-0.020	-0.058	0.010	-0.018	0.002	0.003

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.097*	-0.095	0.143*	-0.056	0.001	0.011	-0.038	0.041	-0.070*	0.021
0.330*	-0.102*	-0.001	-0.229*	0.153*	0.016	0.022	0.025	-0.042	-0.028
-0.118	-0.099	-0.090	0.154	-0.240*	-0.035	0.025	0.061	-0.033	-0.010
-0.111	-0.410	-0.182	0.060	-0.140	-0.034	-0.020	0.080	0.041	0.950*
				0.064	-0.028	0.108	0.123	-0.015	-0.001
				-0.001	-0.046	-0.280*	-0.058	-0.030	0.021
				0.016	-0.034	0.123*	0.048	0.124*	-0.119*
				0.053	-0.036	0.255*	0.125	-0.002	-0.027

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.023	0.024	-8.098*	-1.588*	-5.903	-40.391*	-12.502*	29.450*	0.5256	2.0485	-0.0252
0.204*	0.006	0.350	-0.083	-0.247	0.526	0.460	-0.410	0.4653	1.9908	0.0038
0.180	0.143	0.334	-0.311	-0.030	0.450	-2.417	-2.102	0.3089	2.1542	-0.0801
0.160	0.032	1.820	0.322	0.061	5.154	4.191	0.820	0.4782	2.0554	-0.0278
-0.062	-0.025	+0.280	0.230	0.238	0.425	0.803	0.860	0.0567	1.9840	0.0079
-0.032	0.070	-0.691	-0.120	-0.323	-3.243	-0.714	-2.390	0.1321	2.0378	-0.0191
-0.096*	-0.050	-0.487	-0.180	-2.308*	-6.060	-1.680	-7.103*	0.2297	1.9799	0.0100
-0.080	-0.047	1.716	0.868	1.201	7.998	3.510	6.267	0.0440	1.9025	0.0486

TABLE XV

BAR-EPSDD SPECIFICATION--WEAK OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	1.171*	-0.030	-0.050	-0.060	-0.032	-0.070*	-0.060*	-0.000	0.020
G2	=	0.070	0.080*	0.050	-0.080*	-0.009	-0.007	-0.032*	0.001	0.002
G3	=	0.106	0.269*	0.132	-0.173	0.020	0.195*	0.080	0.007	0.024
G4	=	-0.096	-0.062	-0.022	0.192	0.080	-0.054	0.005	-0.922*	-0.472*
P1	=	0.040	0.116*	0.054	0.106	0.117*	-0.004	0.014	-0.002	-0.005
P2	=	0.086	0.040	0.012	0.046	0.058*	0.011	0.040*	0.003	0.001
P3	=	0.208	0.287*	0.061	0.188*	0.042	0.053*	-0.075*	-0.008	0.014
P4	=	-0.237	-0.002	-0.039	-0.012	-0.060	-0.018	0.019	0.002	0.003

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.102*	-0.111*	0.141*	-0.064	0.008	0.006	-0.040	0.045	-0.041	0.004
0.331*	-0.111*	-0.006	-0.234*	0.159*	0.020	0.020	0.028	-0.034	-0.020
0.150	0.111	0.361*	-0.162	0.097	0.042	-0.012	0.091	-0.062	0.030
-0.116	-0.408	-0.173	0.063	-0.147	-0.040	-0.020	0.074	0.051	0.940*
				0.064	-0.029	0.109	0.123	-0.016	-0.001
				0.003	-0.045*	-0.281*	-0.057	-0.027	+0.027
				0.025	-0.030	0.111	0.053	0.119*	-0.108*
				0.051	0.034	0.257*	0.125	0.001	-0.029

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.034	0.020	-8.170*	-1.550*	-6.032*	-41.031*	-12.703*	-30.012*	0.5476	2.0575	-0.0296
0.196*	0.004	0.374	-0.041	-0.227	0.602	0.482	-0.368	0.4698	1.9897	0.0070
-0.073	0.086	-2.040	-0.130	-3.130*	-12.464	-1.170	-9.370	0.1717	2.0176	-0.0091
0.173	0.032	1.642	0.281	-0.116	4.292	4.040	0.150	0.4775	2.0547	-0.0274
-0.064	-0.026	0.291	0.227	0.244	0.452	0.782	0.860	0.0561	1.9825	0.0086
-0.035	+0.070*	-0.674	-0.082	-0.274	-3.050	-0.604	-2.196	0.1357	2.0390	-0.0197
-0.100*	-0.050	-0.389	-0.070	-2.070*	-5.088	-1.202	-6.241*	0.2449	2.0296	-0.0148
-0.007	-0.050	1.692	0.851	1.150	7.774	3.413	6.060	0.0442	1.9029	0.0484

TABLE XVI

MVAR-EPSD SPECIFICATION--WEAK OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	118.360*	-0.083*	-0.063	-3.200	-3.979	1.380	1.240	-0.011	0.942
G2	=	0.036	+0.000	+0.000	-0.062	-0.015	-0.220*	0.015	0.002	0.003
G3	=	0.350	0.000	-0.000	0.310*	-0.166	0.310*	0.342*	0.010	-0.040
G4	=	-0.160	-0.000	-0.001	0.180	0.062	0.090	-0.013	-0.922*	-0.474*
P1	=	-0.025	0.000	0.000	0.130	0.120*	-0.010	-0.010	0.001	0.005
P2	=	0.075	-0.000	-0.000	0.057	0.057	-0.009	0.030*	-0.003	0.002
P3	=	0.240	0.003*	0.001	0.245*	0.031	-0.014	0.030	-0.008	0.012
P4	=	-0.243	-0.000	-0.000	-0.024	-0.060	0.009	-0.020	0.001	0.003

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
7.010	-8.900	+14.910*	-2.905	0.704	1.490	-3.460	-0.324	-6.910*	1.053
0.340*	-0.110*	0.012	-0.240*	0.154*	0.013	0.020	0.021	-0.040	-0.030
-0.122	-0.097	-0.094	0.160	-0.240*	-0.033	0.030	0.064	-0.040	-0.010
-0.113	-0.410	-0.182	0.060	-0.140	-0.034	-0.020	0.074	0.043	0.950
				0.070	-0.034	0.106	0.120	-0.002	-0.004
				-0.001	-0.046*	-0.280*	-0.060	-0.027	0.022
				0.026	-0.041	0.125*	0.050	0.130*	-0.125*
				0.050	0.035	0.253*	0.124	-0.001	-0.028

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-1.995	-1.263	-807.900*	-177.700*	-562.700*	-3950.000*	-1270.000*	-2839.000*	0.5225	2.0231	-0.0116
-0.205*	0.003	0.550	0.020	0.120	2.000	1.053	1.012	0.4592	1.9994	-0.0006
0.177	0.144	0.181	-0.391	-0.301	-0.684	-2.891	-3.170	0.3089	2.1521	-0.0789
0.161	0.033	1.930	0.323	0.641	5.681	4.280	1.260	0.4782	2.0558	-0.0280
-0.063	-0.030	0.574	0.352	0.735	2.472	1.586	2.820	0.0577	1.9821	0.0088
-0.031	0.070*	-0.583	-0.091	-0.200	-2.642	-0.540	-1.872	0.1323	2.0418	-0.0212
-0.104*	-0.053	-0.615	-0.183	-2.305*	-6.500	-1.720	-7.251*	0.2173	1.9795	0.0102
-0.006	-0.045	1.741	0.866	1.243	8.170	3.552	6.434	0.0442	1.9054	0.0471

TABLE XVII

MVAR-EPSDD SPECIFICATION--WEAK OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	115.190*	-0.090*	-0.050	-1.010	-2.162	-6.003*	-4.923*	-0.164	0.806
G2	=	0.005	0.002	0.003	-0.061	-0.010	-0.001	-0.037*	0.001	0.002
G3	=	0.021	0.002	0.001	-0.141	0.015	0.211*	0.066	0.008	0.024
G4	=	-0.109	-0.001	-0.001	0.189	0.080	-0.060	0.007	-0.922*	-0.472*
P1	=	-0.040	0.000	0.000	0.130	0.118*	0.006	0.006	-0.001	0.006
P2	=	0.068	-0.000	-0.000	0.050	0.060*	0.011	-0.040*	-0.003	0.001
P3	=	0.206	0.003*	0.001	0.208*	0.037	0.065*	-0.081*	-0.007	0.013
P4	=	-0.244	-0.000	-0.000	-0.014	-0.057	-0.018	0.017	0.002	0.003

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
7.637*	10.477*	14.887*	-3.740	1.290	1.024	-3.505	0.080	-4.307	2.574
0.341*	-0.116*	0.006	-0.242*	0.162*	0.013	0.015	0.024	-0.030	-0.020
0.172	0.103	0.382*	-0.180	0.108	0.037	-0.020	0.086	-0.060	0.030
-0.119	-0.408	-0.174	0.065	-0.150	-0.040	-0.020	0.072	0.054	0.940*
				0.070	-0.034	0.105	0.118	-0.005	-0.002
				0.002	-0.044*	0.280*	-0.060	-0.025	0.029
				0.035	-0.035	0.111*	0.053	0.121*	-0.119*
				0.048	0.033	0.255*	0.123	0.002	-0.030

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-2.876	1.793	-807.060*	-170.800*	-563.392*	-3959.274*	-1269.118*	-2846.405*	0.5398	2.0354	-0.0177
0.200*	0.002	0.612	0.080	0.193	2.322	1.170	1.264	0.4634	1.9938	0.0023
-0.080	0.080	-1.804	0.050	-2.590	-10.450	-0.240	-7.341	0.1664	2.0148	-0.0076
0.175	0.033	1.770	0.283	-0.008	4.871	4.131	0.625	0.4775	2.0551	-0.0276
-0.070	-0.030	0.613	0.369	0.787	2.691	1.643	2.980	0.0508	1.9801	0.0099
-0.034	0.068*	-0.560	-0.060	-0.154	-2.440	-0.440	-1.682	0.1357	2.0433	-0.0219
-0.109*	-0.048	-0.488	-0.060	-2.051*	-5.390	-1.212	-6.322*	0.2378	2.0377	-0.0189
-0.005	-0.047	1.725	0.855	1.211	8.013	3.488	6.293	0.0444	1.9052	0.0472

TABLE XVIII

VAR-EPSD SPECIFICATION--WEAK OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	8.070*	-0.031	-0.015	0.059	-0.495	0.123	-0.015	0.002	0.034
G2	=	0.005	0.000	0.002	-0.060	-0.014	-0.023*	0.020	0.002	0.003
G3	=	0.330	+0.000	-0.001	0.313*	-0.167	0.304*	0.344*	0.006	-0.040
G4	=	-0.180	-0.007	-0.013	0.170	0.066	0.090	-0.015	-0.922*	-0.473*
P1	=	0.007	0.007	0.015	0.132	0.114*	-0.009	-0.011	-0.001	0.005
P2	=	0.086	-0.003	-0.000	0.054	0.060*	-0.008	0.030*	-0.003	0.002
P3	=	0.150	0.035*	0.010	0.274*	0.020	-0.017	0.034	-0.009	0.010
P4	=	-0.192	-0.002	0.004	-0.030	-0.061	0.010	-0.015	0.002	0.003

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.462	-0.250	0.931*	0.086	-0.140	0.182	-0.360	0.150	-0.270	0.022
0.340*	-0.108*	0.017	-0.240*	0.153*	0.012	0.016	0.017	-0.032	-0.028
-0.121	-0.098	-0.090	0.160	-0.241*	-0.035	0.026	0.063	-0.040	-0.010
-0.108	-0.410	-0.180	0.058	-0.136	-0.034	-0.018	0.072	0.044	0.951*
				0.064	-0.033	0.102	0.121	-0.008	-0.007
				-0.001	-0.050*	-0.280*	-0.060	-0.030	0.022
				0.021	-0.050	0.114*	0.041	0.150*	-0.131*
				0.050	0.034	0.252*	0.130	-0.012	-0.030

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.040	0.050	-54.550*	-12.540*	-38.380*	-263.700*	-85.669*	-191.030*	0.4630	2.0305	-0.0155
0.207*	0.002	0.701	0.061	0.340	2.954	1.370	1.891	0.4580	2.0006	-0.0012
0.178	0.144	0.240	-0.347	-0.180	-0.180	-2.640	-2.680	0.3088	2.1528	-0.0793
0.162	0.039	2.067	0.328	0.294	0.364	4.403	1.850	0.4783	2.0558	-0.0280
-0.064	-0.040	0.300	0.343	0.480	1.170	1.361	1.690	0.0562	1.9806	0.0095
-0.031	0.067*	-0.630	-0.113	-0.280	-2.970	-0.670	-2.180	0.1316	2.0403	-0.0204
-0.107*	-0.060	-0.285	-0.004	-1.710*	-4.060	-0.730	-4.930	0.2005	1.9913	0.0042
-0.005	-0.050	1.392	0.831	0.860	6.381	3.174	4.850	0.0437	1.9027	0.0484

TABLE XIX

VAR-EPSDD SPECIFICATION--WEAK OWNER CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	7.801*	-0.041	0.001	0.218	-0.370	-0.390*	-0.272*	-0.008	0.029
G2	=	-0.028	-0.001	0.003	-0.060	-0.009	0.001	-0.040*	0.001	0.002
G3	=	-0.005	0.025*	0.021	-0.126	0.007	0.212*	0.066	0.008	0.022
G4	=	-0.130	-0.009	-0.013	0.184	0.083	-0.055	0.008	-0.922*	-0.471*
P1	=	-0.007	0.007	0.015*	0.132	0.114*	0.005	0.004	-0.001	0.005
P2	=	0.082	-0.004	-0.000	0.044	0.061*	0.009	-0.038*	-0.002	+0.001
P3	=	0.124	0.029*	0.010	0.231*	0.028	0.071*	-0.087*	-0.008	0.012
P4	=	-0.194	-0.002	0.005	-0.020	-0.060	-0.020	0.015	0.002	0.003

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.505	-0.363	0.929*	0.027	-0.103	0.149	-0.369	0.170	-0.100	0.110
0.342*	-0.119*	0.010	-0.244*	0.161*	0.012	0.014	0.020	-0.024	-0.017
0.167	0.099	0.384*	-0.181	0.105	0.040	-0.023	0.082	-0.046	0.030
-0.113	-0.408	-0.171	0.063	-0.148	-0.040	-0.020	0.070	0.055	0.941*
				0.066	-0.033	0.102	0.122	-0.010	-0.005
				0.003	-0.044*	-0.278*	-0.057	-0.027	0.030
				0.031	-0.038	0.101	0.050	0.135*	-0.114*
				0.050	0.033	0.254*	0.130	-0.008	-0.032

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.090	0.010	-54.293*	-12.011*	-38.100*	-263.924*	-85.085*	-190.431*	0.4768	2.0411	0.0208
0.198*	0.000	0.700	0.123	0.420	3.306	1.494	2.170	0.4622	1.9962	0.0011
-0.081	0.071	-1.725	0.098	-2.411	-9.843	-0.013	-6.742	0.1678	2.0129	-0.0067
0.176	0.038	1.921	0.288	0.136	5.619	4.271	1.267	0.4777	2.0550	-0.0276
-0.066	-0.036	0.337	0.360	0.525	1.376	1.416	1.842	0.0556	1.9790	0.0103
-0.033	0.068*	-0.615	-0.086	-0.251	-2.845	-0.600	-2.064	0.1347	2.0410	-0.0208
-0.112*	-0.054	-0.185	0.108	-1.499*	-3.134	-0.293	-4.186	0.2248	2.0543	-0.0272
-0.005	-0.050	1.384	0.824	0.840	6.272	3.130	4.753	0.0441	1.9025	0.0485

TABLE XX

BAR-EPSD SPECIFICATION--MANAGEMENT CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	1.340*	-0.055*	-0.093*	0.007	-0.033	-0.006	0.006	-0.009*	-0.005
G2	=	0.119*	0.076*	0.022	0.059*	-0.033	-0.011*	0.012*	-0.001	-0.000
G3	=	0.272	-0.167	0.082	0.082	0.120	0.278*	0.368*	0.001	-0.010
G4	=	-0.149	-0.120	0.270	0.111	-0.090	0.023	-0.019	-0.602*	-0.169*
P1	=	0.128*	0.104*	0.087*	0.048	0.071*	-0.010*	0.006	-0.002	-0.002
P2	=	0.442*	-0.032	0.033	-0.017	0.016	0.002	-0.006	0.000	0.001
P3	=	0.204*	0.203*	0.066*	0.182*	0.043	-0.011*	0.007	0.004	0.005
P4	=	-0.110*	0.001	0.033*	-0.030	-0.042*	-0.003	0.008*	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1.t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.033	-0.040*	0.204*	-0.162*	-0.081*	-0.072*	-0.015	-0.029	-0.080*	0.062*
0.273*	+0.057*	+0.079*	0.207*	0.035*	0.043*	0.050*	0.003	-0.069*	+0.041*
-0.736*	0.010	-0.241*	1.614*	0.252*	0.595*	-0.169	-0.192*	0.102	0.177
-0.073	-0.044	-0.540*	-0.051*	-0.111	0.154	-0.002	0.086	0.047	0.139
				0.028	0.052*	0.023	-0.004	0.005	-0.018
				-0.003	0.010	-0.330*	-0.143*	-0.040	-0.025
				-0.003	-0.094*	-0.019	-0.003	0.140*	-0.022
				0.001	0.020	0.046*	0.013	-0.003	0.037*

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.029	-0.003	-8.470	-2.870*	-6.140*	-41.820*	-15.880*	29.470*	0.4657	2.0943	-0.0478
0.094*	0.007	0.183	-0.076	-0.600*	-0.470	0.260	-1.491*	0.3204	1.9775	+0.0112
0.077	-0.336*	-0.447	-0.157	-0.495	-1.807	-1.170	-2.630	0.3331	2.1936	-0.0969
0.091	0.128	0.778	0.800	0.650	5.953	2.950	2.443	0.2350	2.1485	-0.0743
0.017	-0.114*	-0.155	-0.049	-0.380	-1.660	-0.682	-1.606	0.0933	1.9706	0.0145
-0.053	-0.011	-2.459*	-0.069*	-2.130*	-12.383*	-3.944*	-9.631*	0.1290	1.9970	0.0014
-0.082*	-0.068*	-0.619*	-0.352*	-1.438*	-5.176*	-1.572*	-5.158*	0.1819	1.9575	0.0208
-0.046*	-0.042*	1.122*	0.277*	0.544*	4.533*	1.636*	2.883*	0.1242	1.9539	0.0227

TABLE XXI

BAR-EPSDD SPECIFICATION--MANAGEMENT CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	1.340*	-0.045*	-0.071*	-0.005	-0.036	-0.019*	-0.022*	0.010*	0.005
G2	=	0.118*	0.082*	0.032*	0.049*	-0.034	-0.007*	-0.017*	-0.001	-0.001
G3	=	-0.126	0.414*	0.076	0.123	-0.402*	0.181*	0.038	-0.010	0.004
G4	=	-0.136	-0.116	0.272	+0.126	-0.084	-0.021	+0.018	-0.602*	-0.169*
P1	=	0.121*	0.102*	0.087*	0.041	0.067*	0.011*	-0.007*	-0.002	-0.002
P2	=	0.446*	-0.024	0.039	-0.014	0.016	-0.011	0.004	0.000	0.001
P3	=	0.193*	0.201	0.074*	0.170*	0.038	0.005	-0.017*	0.004	0.005
P4	=	-0.109*	-0.002	0.028*	-0.032	-0.040*	0.005	-0.003	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.037	-0.041*	0.200*	-0.161*	-0.060*	-0.076*	-0.020	-0.030	-0.062*	0.075*
0.276*	0.056*	0.076*	0.211*	0.050*	0.042*	0.050*	0.003	-0.060*	0.050*
0.981*	-0.147	0.810*	-1.981*	-0.611*	-0.664*	0.088	0.135	-0.143	0.116
-0.072	-0.050	-0.538*	-0.054	-0.113	+0.141	-0.005	0.085	+0.051	0.136
				0.027	0.058*	0.024	-0.004	0.003	-0.016
				0.001	0.002	-0.331*	-0.143*	-0.034	-0.023
				0.003	-0.087*	-0.020	-0.004	0.143*	-0.014
				0.001	0.023	0.047*	0.014	-0.005	0.034*

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.053	-0.017	-8.541*	-2.840*	-6.242*	-42.301*	-15.970*	-29.863*	0.4744	2.0915	-0.0464
0.078*	0.000	0.143	-0.061	-0.655*	0.754	0.200	-1.718*	0.3291	1.9725	0.0137
0.090	0.304	0.749	-0.046	-1.266	-1.248	0.738	-2.946	0.1994	2.0235	-0.0119
0.088	0.134	0.720	0.778	0.574	5.620	2.840	2.163	0.2350	2.1484	-0.0742
0.020	-0.118*	-0.123	-0.037	-0.338	1.468	-0.621	-1.450	0.0939	1.9692	0.0152
-0.063	-0.010	-2.498*	-0.676*	-2.200*	-12.650*	-4.031*	-9.850*	0.1298	1.9959	0.0020
-0.086*	-0.079*	-0.600*	-0.320	-1.415*	-5.071*	-1.505*	-5.076*	0.1848	1.9702	0.0145
-0.042*	-0.040	1.133*	0.274*	0.560*	4.596*	1.654*	2.942*	0.1223	1.0521	0.0236

TABLE XXII

MVAR-EPSD SPECIFICATION--MANAGEMENT CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	183.545*	-0.263*	-0.020	11.811*	-14.000*	-0.709	-0.666	-0.645	-0.348
G2	=	0.061	0.000	-0.000	0.078*	-0.029	-0.013*	0.012*	-0.001	-0.001
G3	=	0.345	-0.001	-0.001	0.087	0.157	0.282*	0.363*	0.001	-0.010
G4	=	-0.145	-0.000	0.001	0.129	-0.053	0.027	-0.025	-0.603*	-0.168*
P1	=	0.090*	0.001*	0.001*	0.078*	0.082*	-0.013*	0.005	-0.002	-0.003
P2	=	0.372*	-0.001*	0.000	-0.006	0.022	0.003	-0.006	0.000	0.001
P3	=	0.185*	0.001*	0.001*	0.218*	0.047	-0.016*	0.008	0.005	0.004
P4	=	-0.115*	0.000	0.000	-0.026	-0.038	-0.003	+0.007*	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
5.302	0.809	26.050*	-7.266	-9.880*	-1.231	1.955	-4.830	-7.039*	2.113
0.289*	0.057*	-0.096*	-0.205*	0.032	0.036*	0.047*	-0.002	-0.061*	0.036*
-0.741*	0.016	-0.258*	1.637*	0.274*	0.586*	-0.165	-0.193*	0.115	0.194
-0.067	-0.037	-0.550*	-0.031	-0.082	0.148	0.003	0.079	0.059	0.146
				0.030	+0.045*	0.020	-0.007	0.017	-0.028
				-0.003	0.004	-0.330*	-0.145*	-0.032	-0.023
				-0.006	-0.099*	-0.023	-0.006	0.149*	-0.041
				0.003	0.019	0.046*	0.012	-0.001	0.036*

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.273	-8.514	-1206.868*	-403.461*	-801.710*	-5721.873*	-2219.122*	-3913.829*	0.5118	2.1002	-0.0509
0.088*	0.006	0.463*	+0.022	-0.225	1.261	0.899	0.015	0.3090	1.9809	0.0094
0.082	-0.337*	-0.624	-0.589	-0.735	-3.843	-2.619	-4.010	0.3323	2.1931	-0.0967
0.086	0.110	0.801	0.734	0.592	5.620	2.563	2.219	0.2344	2.1457	-0.0729
0.006	-0.128*	0.023	0.019	-0.147	-0.598	-0.292	-0.643	0.0741	1.9580	0.0209
-0.053	-0.010	-2.101*	-0.496	-1.725*	-10.194*	-3.075*	-7.867*	0.1307	1.9957	0.0021
-0.099*	-0.085*	-0.573*	-0.306	-1.325*	-4.762*	-1.350	-4.700*	0.1624	1.9620	0.0285
-0.047*	0.045*	1.152*	0.286*	0.573*	4.675*	1.673*	3.010*	0.1227	1.9571	0.0211

TABLE XXIII

MVAR-EPSDD SPECIFICATION--MANAGEMENT CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	187.416*	-0.260*	-0.010	11.630*	-14.550*	-1.697*	-1.048	-0.682	-0.394
G2	=	0.050	0.000	-0.000	0.069*	-0.030	-0.004	-0.018*	-0.001	-0.001
G3	=	-0.240	0.002*	0.002*	0.153	0.433*	0.191*	0.031	-0.010	0.003
G4	=	-0.129	-0.000	0.001	0.150	-0.048	-0.023	0.027	-0.602*	-0.168*
P1	=	0.080	0.001*	0.001*	0.070*	0.077*	0.015*	-0.007*	-0.002	-0.003
P2	=	0.371*	-0.001*	0.000	-0.001	0.022	-0.010	0.004	-0.000	0.001
P3	=	0.166*	0.001*	0.001*	0.204*	0.041	0.011*	-0.019*	0.004	0.004
P4	=	-0.112*	0.000	0.000	-0.029	-0.037	0.005	-0.002	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
6.375	0.666	26.120*	-7.723	-8.346*	-2.313	1.499	-5.050	-5.272	3.507
0.294*	0.057*	0.095*	0.208*	0.045*	0.036*	0.046*	0.001	-0.052*	0.042*
1.019*	-0.145	0.852*	2.002*	-0.631*	-0.654*	0.082	0.131	-0.147	0.078
-0.065	-0.039	-0.548*	-0.036	-0.088	0.132	0.000	0.078	0.062	0.141
				0.028	0.053*	0.021	-0.007	0.013	-0.025
				0.001	-0.004	-0.331*	-0.145*	-0.026	-0.022
				-0.001	-0.090*	-0.023	-0.007	0.151*	-0.031
				0.003	0.022	0.047*	0.013	-0.004	-0.034*

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-3.035	-10.054	-1205.770*	-398.281*	-801.623*	-5720.902*	-2213.836*	-3912.116*	0.5131	2.0985	-0.0500
0.073	-0.003	0.474*	0.054	-0.220	1.278	0.942*	0.042	0.3147	1.9762	0.0118
0.066	0.279	1.012	0.451	-0.850	1.431	2.452	-0.794	0.1969	2.0265	-0.0134
0.084	0.116	0.730	0.702	0.504	5.225	2.423	1.889	0.2344	2.1454	-0.0727
0.010	-0.132*	0.071	0.032	-0.083	-0.313	-0.209	-0.414	0.0751	1.9557	0.0220
-0.064	-0.011	-2.119*	-0.493	-1.751*	-10.317*	-3.109*	-7.968*	0.1313	1.9947	0.0026
-0.101*	-0.098*	-0.514	-0.265	-1.252*	-4.430*	-1.219	-4.428*	0.1646	1.9549	0.0220
-0.043*	-0.042*	1.153*	0.279*	0.576*	4.685*	1.671*	3.023*	0.1213	1.9548	0.0223

TABLE XXIV

VAR-EPSD SPECIFICATION--MANAGEMENT CONTROL SAMPLE

Dependent Variable	Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	= 16.583*	-0.097*	+0.094*	+0.453	-0.938*	-0.007	-0.084	-0.040	-0.007
G2	= 0.063	0.002*	-0.001	0.078*	-0.029	-0.013*	0.012*	-0.001	-0.001
G3	= 0.352	-0.007	-0.007	0.082	0.153	0.282*	0.363*	0.001	-0.010
G4	= -0.198	-0.008	0.009	0.146	-0.036	0.027	-0.027	-0.603*	-0.169*
P1	= 0.055	0.005*	0.004*	0.087*	0.086*	-0.013*	0.005	-0.002	-0.003
P2	= 0.386*	-0.006*	0.000	-0.008	0.024	0.003	-0.007	0.000	0.001
P3	= 0.123*	0.011*	0.004*	0.233*	0.053	-0.016*	0.008	0.004	0.004
P4	= -0.107*	0.001	0.001	-0.025	-0.036	-0.003	0.007*	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.065	+0.200	1.674*	-0.408	-0.680	0.082	0.253	-0.493*	-0.637*	0.049
0.289*	0.057*	0.096*	0.204*	0.032*	0.036*	0.047*	0.002	-0.061*	0.036*
-0.742*	0.015	-0.258*	1.637*	0.273*	0.587*	-0.164	-0.192*	0.113	+0.195
-0.058	-0.035	-0.537*	-0.022	-0.081	0.136	0.002	0.076	0.070	0.150
				0.029	0.041*	0.018	-0.008	0.021	-0.028
				-0.001	0.003	-0.329*	-0.145*	-0.032	-0.022
				-0.007	-0.106*	-0.027	-0.006	0.158*	-0.042
				0.004	0.018	0.045*	0.012	-0.000	0.037*

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.212	-1.089*	-103.830*	-36.710*	-75.330*	-511.686*	-199.070*	-362.070*	0.4281	2.0428	-0.0221
0.088*	0.006	0.453*	0.010	-0.239	1.175	0.857	-0.058	0.3096	2.9810	0.0093
-0.084	-0.340*	-0.656	-0.573	-0.775	-3.961	-2.627	-4.194	0.3324	2.1934	-0.0968
0.082	0.110	1.125	0.727	1.020	7.340	2.961	3.825	0.2342	2.1453	-0.0727
0.004	-0.125*	-0.201	0.077	0.067	0.452	0.088	0.234	0.0703	1.9561	0.0218
-0.054	-0.012	-2.159*	-0.543*	-1.787*	-10.590*	-3.280*	-8.150*	0.1306	1.9974	0.0013
-0.101*	-0.079*	-0.262	-0.206	-0.954*	-2.944	-0.683	-3.195*	0.1551	1.9368	0.0311
-0.048*	-0.045*	1.120*	0.250*	0.540*	4.424*	1.533*	2.828*	0.1223	1.9580	0.0207

TABLE XXV

VAR-EPSDD SPECIFICATION--MANAGEMENT CONTROL SAMPLE

Dependent Variable		Intercept	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
G1	=	16.435*	-0.095*	0.101	0.484	-0.960*	-0.163*	-0.030	-0.040	-0.011
G2	=	0.052	0.002*	-0.000	0.070*	-0.030	-0.004	-0.018*	-0.001	-0.001
G3	=	-0.355	0.019*	0.017*	0.178	-0.421*	+0.193*	0.030	-0.010	0.003
G4	=	-0.186	-0.008	0.009	0.167	-0.032	-0.021	0.028	-0.603*	-0.169*
P1	=	0.046	0.004*	0.004*	0.078*	0.080*	0.015*	-0.008*	-0.002	-0.003
P2	=	0.383*	-0.006*	0.001	-0.001	+0.024	-0.010	0.005	-0.000	0.001
P3	=	0.107*	0.011*	0.005*	0.219*	0.047	0.013*	-0.020*	0.004	0.004
P4	=	-0.103*	0.001	0.001	-0.028	-0.035	0.005	-0.002	0.001	0.000

$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$	$P_{3,t-1}$	$P_{3,t-2}$
0.150	0.185	1.690*	-0.445*	-0.580	-0.030	0.214	-0.510*	-0.500*	0.137
0.294*	0.057*	0.094*	0.207*	0.046*	0.036*	0.046*	0.002	-0.052*	0.042*
1.032*	-0.146	0.867*	-2.008*	-0.634*	-0.665*	0.075	0.129	-0.135	0.080
-0.056	-0.037	-0.534*	-0.028	-0.089	0.120	-0.002	0.075	0.073	0.145
				0.027	-0.050*	0.019	-0.008	0.017	-0.025
				0.001	-0.005	-0.331*	-0.146*	-0.026	-0.021
				-0.003	-0.096*	-0.027	-0.007	0.159*	-0.031
				0.003	0.022	0.050*	0.013	-0.004	0.034*

$P_{4,t-1}$	$P_{4,t-2}$	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	R^2	d	f.d.a.
-0.421	-1.175*	-103.740*	-36.390*	-75.300*	-511.578*	-198.736*	-361.920*	0.4295	2.0436	-0.0225
0.073*	-0.002	0.464*	0.040	-0.232	1.192	0.896	-0.028	0.3154	1.9767	0.0115
0.064	0.290	1.616	0.629	-0.111	4.962	3.694	2.180	0.1959	2.0280	-0.0142
0.081	0.119	1.081	0.703	0.967	7.117	2.878	3.634	0.2342	2.1450	-0.0725
0.009	-0.130*	0.239	0.087	0.119	0.678	0.149	0.414	0.0719	1.9542	+0.0228
-0.065	-0.012	-2.165*	-0.540*	-1.800*	-10.644*	-3.288*	-8.200*	0.1312	1.9965	0.0017
-0.102*	-0.094*	-0.212	-0.171	-0.891*	-2.666	-0.580	-2.970*	0.1579	1.9505	0.0243
-0.044*	-0.042*	1.116*	0.239*	0.534*	4.401*	1.520*	2.812*	0.1209	1.9555	0.0219

APPENDIX B

ESTIMATED PREFERENCE EQUATIONS

TABLE XXVI

ESTIMATED PREFERENCE EQUATIONS--THE ENTIRE SAMPLE

Specification	$G_{1,t}$	$G_{2,t}$	$G_{3,t}$	$G_{4,t}$	$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$
BAR-EPSD	0.825	-0.520	0.166	0.014	-0.291	0.140	-0.050	-0.208	-0.278	-0.037	0.040	-0.141
BAR-EPSDD	0.842	-0.503	-0.171	0.015	-0.278	0.146	-0.079	-0.203	-0.255	-0.035	0.046	-0.138
MVAR-EPSD	0.874	-0.479	0.086	0.016	-0.255	0.191	-0.064	-0.208	-0.230	-0.025	0.060	-0.151
MVAR-EPSDD	0.878	-0.467	-0.155	0.015	-0.248	0.191	-0.086	-0.199	-0.213	-0.020	0.062	-0.150
VAR-EPSD	0.819	-0.575	0.098	0.016	-0.303	0.195	-0.091	-0.215	-0.285	-0.017	0.064	-0.157
VAR-EPSDD	0.824	-0.573	-0.153	0.018	-0.298	0.199	-0.109	-0.214	-0.275	-0.017	0.067	-0.155

Specification	$P_{3,t-1}$	$P_{3,t-2}$	$P_{4,t-1}$	$P_{4,t-2}$	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
BAR-EPSD	-0.042	0.074	-0.183	0.114	-0.275	-0.535	-0.088	-0.005	0.228	0.118	-0.017	0.021
BAR-EPSDD	-0.051	0.082	-0.174	0.101	-0.279	-0.532	-0.105	-0.001	-0.190	-0.006	-0.017	0.022
MVAR-EPSD	-0.029	0.058	-0.159	0.097	-0.353	-0.397	-0.041	0.000	0.148	0.018	-0.012	0.014
MVAR-EPSDD	-0.036	0.062	-0.151	0.089	-0.359	-0.397	-0.051	0.005	-0.136	0.051	-0.011	0.015
VAR-EPSD	-0.011	-0.051	-0.216	0.106	-0.275	-0.260	-0.058	-0.005	0.167	0.006	-0.008	0.014
VAR-EPSDD	-0.016	0.055	-0.215	0.097	-0.276	-0.258	-0.069	-0.002	-0.108	0.097	-0.008	0.015

Specification	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	Canonical Correlation
BAR-EPSD	-0.530	0.406	0.492	0.351	-0.017	-0.505	0.729
BAR-EPSDD	-0.542	0.412	0.519	0.355	-0.021	-0.514	0.729
MVAR-EPSD	-0.529	0.409	0.497	0.335	-0.038	-0.484	0.730
MVAR-EPSDD	-0.534	0.409	0.510	0.336	-0.042	-0.488	0.733
VAR-EPSD	-0.525	0.387	0.504	0.332	-0.040	-0.477	0.673
VAR-EPSDD	-0.529	0.389	0.519	0.331	-0.044	-0.479	0.673

TABLE XXVII

ESTIMATED PREFERENCE EQUATIONS--STRONG OWNER CONTROL SAMPLE

Specification	$G_{1,t}$	$G_{2,t}$	$G_{3,t}$	$G_{4,t}$	$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$
BAR-EPSD	-0.622	0.761	0.008	0.032	0.388	-0.180	0.143	0.281	0.298	0.085	-0.107	0.079
BAR-EPSDD	-0.631	0.752	0.205	0.034	0.392	-0.173	0.140	0.266	0.299	0.089	-0.103	0.081
MVAR-EPSD	-0.621	0.796	0.076	0.025	0.387	-0.237	0.196	0.308	0.300	0.094	-0.115	0.095
MVAR-EPSDD	-0.623	0.800	0.200	0.031	0.403	-0.226	0.185	0.290	0.314	0.110	-0.111	0.104
VAR-EPSD	-0.462	0.877	0.250	0.052	0.378	-0.240	0.279	0.343	0.305	0.079	-0.172	0.072
VAR-EPSDD	-0.441	0.914	0.121	0.060	0.421	-0.227	0.243	0.333	0.352	0.121	-0.168	0.094

Specification	$P_{3,t-1}$	$P_{3,t-2}$	$P_{4,t-1}$	$P_{4,t-2}$	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
BAR-EPSD	0.072	-0.085	0.165	0.051	0.317	0.562	0.239	0.008	-0.106	-0.148	-0.012	-0.052
BAR-EPSDD	0.076	-0.087	0.160	0.048	0.317	0.566	0.242	0.014	0.105	-0.242	-0.012	-0.052
MVAR-EPSD	0.072	-0.075	0.178	0.027	0.293	0.455	0.249	-0.007	-0.039	0.219	-0.015	-0.042
MVAR-EPSDD	0.072	-0.074	0.171	0.021	0.301	0.466	0.250	0.005	0.058	-0.293	-0.019	-0.043
VAR-EPSD	0.041	-0.059	0.220	0.071	0.220	0.259	0.293	-0.034	-0.073	0.376	-0.052	-0.035
VAR-EPSDD	0.031	-0.048	0.209	0.060	0.248	0.292	0.280	-0.013	-0.065	-0.412	-0.056	-0.036

Specification	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	Canonical Correlation
BAR EPSD	0.514	-0.437	-0.518	-0.356	0.080	0.502	0.743
BAR EPSDD	0.518	-0.430	-0.520	-0.362	0.073	0.503	0.746
MVAR EPSD	0.519	-0.421	-0.532	-0.335	0.086	0.473	0.718
MVAR EPSDD	0.523	-0.416	-0.526	-0.345	0.079	0.482	0.720
VAR EPSD	0.457	-0.392	-0.479	-0.263	0.115	0.368	0.669
VAR EPSDD	0.459	-0.401	-0.455	-0.281	0.113	0.383	0.675

TABLE XXVIII

ESTIMATED PREFERENCE EQUATIONS--WEAK OWNER CONTROL SAMPLE

Specification	$G_{1,t}$	$G_{2,t}$	$G_{3,t}$	$G_{4,t}$	$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$
BAR-EPSD	0.801	-0.545	0.250	-0.101	-0.205	0.116	-0.027	-0.084	-0.419	-0.027	0.076	-0.153
BAR-EPSDD	0.855	-0.482	-0.155	-0.107	-0.173	0.111	-0.071	-0.078	-0.364	-0.040	0.070	-0.143
MVAR-EPSD	0.815	-0.550	0.236	-0.086	-0.206	0.108	-0.023	-0.078	-0.406	-0.010	0.092	-0.168
MVAR-EPSDD	0.863	-0.502	-0.139	-0.092	-0.181	0.105	-0.050	-0.076	-0.359	-0.019	0.090	-0.161
VAR-EPSD	0.743	-0.638	0.261	-0.151	-0.215	0.119	-0.022	-0.056	-0.472	0.023	0.086	-0.162
VAR-EPSDD	0.771	-0.642	-0.116	-0.157	-0.209	0.120	-0.027	-0.063	-0.472	0.015	0.096	-0.157

Specification	$P_{3,t-1}$	$P_{3,t-2}$	$P_{4,t-1}$	$P_{4,t-2}$	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
BAR-EPSD	-0.031	0.060	-0.320	0.140	-0.232	-0.578	-0.088	-0.038	0.283	0.164	0.124	0.003
BAR-EPSDD	-0.039	0.078	-0.279	0.099	-0.230	-0.583	-0.115	-0.018	-0.276	-0.034	0.125	0.015
MVAR-EPSD	-0.032	0.058	-0.323	0.126	-0.223	-0.557	-0.065	-0.020	0.280	0.132	0.107	-0.008
MVAR-EPSDD	-0.033	0.075	-0.298	0.090	-0.223	-0.560	-0.085	-0.001	-0.239	-0.005	0.107	0.002
VAR-EPSD	-0.012	0.037	-0.393	0.165	-0.208	-0.473	-0.030	-0.045	0.284	0.129	0.170	-0.022
VAR-EPSDD	0.005	0.060	-0.418	0.130	-0.197	-0.465	-0.049	-0.024	-0.183	0.024	0.167	-0.010

Specification	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	Canonical Correlation
BAR-EPSD	-0.485	0.414	0.435	0.363	0.016	0.529	0.789
BAR-EPSDD	-0.508	0.437	0.491	0.368	0.010	-0.553	0.790
MVAR-EPSD	-0.506	0.407	0.448	0.376	0.017	-0.536	0.777
MVAR-EPSDD	-0.525	0.426	0.492	0.376	0.014	-0.552	0.774
VAR-EPSD	-0.503	0.361	0.416	0.372	0.030	-0.505	0.744
VAR-EPSDD	-0.512	0.374	0.445	0.357	0.032	-0.501	0.737

TABLE XXIX

ESTIMATED PREFERENCE EQUATIONS--MANAGEMENT CONTROL SAMPLE

Specification	$G_{1,t}$	$G_{2,t}$	$G_{3,t}$	$G_{4,t}$	$P_{1,t}$	$P_{2,t}$	$P_{3,t}$	$P_{4,t}$	$P_{1,t-1}$	$P_{1,t-2}$	$P_{2,t-1}$	$P_{2,t-2}$
BAR-EPSD	0.861	-0.488	0.062	0.049	-0.347	0.163	-0.103	-0.421	-0.120	-0.061	0.030	-0.140
BAR-EPSDD	0.865	-0.475	-0.115	0.047	-0.341	0.166	-0.124	-0.408	-0.107	-0.047	0.036	-0.142
MVAR-EPSD	0.907	-0.418	-0.012	0.034	-0.275	0.206	-0.095	-0.391	-0.079	-0.036	0.049	-0.140
MVAR-EPSDD	0.906	-0.412	-0.106	0.033	-0.278	0.204	-0.115	-0.373	-0.067	-0.017	0.051	-0.142
VAR-EPSD	0.863	-0.511	-0.034	0.042	-0.334	0.208	-0.127	-0.425	-0.097	-0.042	0.045	-0.141
VAR-EPSDD	0.861	-0.511	-0.101	0.041	-0.339	0.206	-0.144	-0.410	-0.087	-0.025	0.045	-0.144

Specification	$P_{3,t-1}$	$P_{3,t-2}$	$P_{4,t-1}$	$P_{4,t-2}$	$G_{1,t-1}$	$G_{1,t-2}$	$G_{2,t-1}$	$G_{2,t-2}$	$G_{3,t-1}$	$G_{3,t-2}$	$G_{4,t-1}$	$G_{4,t-2}$
BAR-EPSD	-0.041	0.047	0.002	0.157	-0.293	-0.462	-0.063	0.007	0.167	0.073	-0.041	0.008
BAR-EPSDD	-0.048	0.052	-0.001	0.154	-0.300	-0.461	-0.070	0.014	-0.153	-0.020	-0.037	0.008
MVAR-EPSD	-0.017	0.036	0.017	0.122	-0.390	-0.313	0.000	0.001	0.080	-0.037	-0.021	0.013
MVAR-EPSDD	-0.022	0.039	0.018	0.123	-0.399	-0.317	-0.003	0.012	-0.097	0.051	-0.017	0.012
VAR-EPSD	-0.010	0.033	-0.008	0.119	-0.285	-0.192	-0.039	0.002	0.078	-0.072	-0.024	0.021
VAR-EPSDD	-0.014	0.035	-0.006	0.120	-0.292	-0.197	-0.042	0.011	-0.079	0.092	-0.021	0.020

Specification	$Z_{1,t}$	$Z_{1,t-1}$	$Z_{1,t-2}$	$Z_{2,t}$	$Z_{2,t-1}$	$Z_{2,t-2}$	Canonical Correlation
BAR-EPSD	-0.539	0.394	0.507	0.321	-0.034	-0.463	0.736
BAR-EPSDD	-0.546	0.398	0.520	0.325	-0.038	-0.469	0.739
MVAR-EPSD	-0.517	0.402	0.497	0.297	-0.062	-0.439	0.753
MVAR-EPSDD	-0.519	0.404	0.503	0.301	-0.066	-0.443	0.754
VAR-EPSD	-0.508	0.391	0.529	0.292	-0.070	-0.444	0.701
VAR-EPSDD	-0.510	0.393	0.534	0.296	-0.073	-0.448	0.701

APPENDIX C

RESULTS OF ANALYSIS OF VARIANCE

TABLE XXX

RESULTS OF ANALYSIS OF VARIANCE

	SS	d.f.	MS	F Ratio
Beta-Adjusted Return				
Between Groups	.0621	2	.0310	.2213
Within Groups	514.1167	3665	.1403	
Total	514.1787	3667		
Monthly-Variance-Adjusted Return				
Between Groups	1918.0745	2	990.5371	.4683
Within Groups	7751376.0000	3665	2114.9729	
Total	7753357.0000	3667		
Annual-Variance-Adjusted Return				
Between Groups	49.5549	2	24.7775	1.8377
Within Groups	49414.1992	3665	13.4827	
Total	49463.7539	3667		
Rate of Sales Growth				
Between Groups	.0288	2	.0144	.4082
Within Groups	129.4899	3665	.0353	
Total	129.5187	3667		
Absolute Deviations from Historical EPS Line				
Between Groups	3.2897	2	1.6448	1.2600
Within Groups	4793.0780	3665	1.3078	
Total	4796.3677	3667		
Downward Deviations from Historical EPS Line				
Between Groups	1.3659	2	.6829	.6600
Within Groups	3782.0360	3665	1.0319	
Total	3783.4019	3667		
Change in the Coverage Ratio				
Between Groups	0.1523	2	.0761	.0000
Within Groups	57562.9870	3665	15.7061	
Total	57563.1393	3667		

TABLE XXX (Continued)

	SS	d.f.	MS	F Ratio
		Investment Policy		
Between Groups	.4203	2	.2102	3.3000
Within Groups	233.3250	3665	.0637	
Total	233.7453	3667		
		Working Capital Policy		
Between Groups	.5237	2	.2618	2.8600
Within Groups	336.1089	3665	.0917	
Total	336.6326	3667		
		Dividend Policy		
Between Groups	2.7010	2	1.3505	12.1500
Within Groups	407.3489	3665	.1111	
Total	410.0498	3667		
		Financing Policy		
Between Groups	.1120	2	.0560	.9600
Within Groups	214.3449	3665	.0584	
Total	214.4569	3667		

TABLE XXXI

MEANS AND STANDARD DEVIATIONS

	Strong Owner Control	Weak Owner Control	Management Control
	Beta-Adjusted Return		
Mean	0.0041	0.0345	0.0327
Standard Deviation	0.4101	0.4178	0.3480
	Monthly-Variance-Adjusted Return		
Mean	5.9562	4.5437	6.3797
Standard Deviation	38.9970	40.1243	49.4431
	Annual-Variance-Adjusted Return		
Mean	0.6401	0.3588	0.6417
Standard Deviation	3.2547	2.7472	4.0362
	Rate of Sales Growth		
Mean	0.1268	0.1356	0.1336
Standard Deviation	0.1670	0.2555	0.1640
	Absolute Deviations from Historical EPS Line		
Mean	0.6618	0.5635	0.6089
Standard Deviation	0.9214	0.7944	1.2890
	Downward Deviations from Historical EPS Line		
Mean	-0.3724	-0.3094	-0.3412
Standard Deviation	0.7654	0.7064	1.1544
	Change in the Coverage Ratio		
Mean	0.0022	0.0233	0.0128
Standard Deviation	8.5890	2.0288	2.1445
	Investment Policy		
Mean	0.1158	0.1306	0.1042
Standard Deviation	0.1832	0.4187	0.1811
	Working Capital Policy		
Mean	0.0152	0.0202	0.0425
Standard Deviation	0.2284	0.2254	0.3408

TABLE XXXI (Continued)

	Strong Owner Control	Weak Owner Control	Management Control
	Dividend Policy		
Mean	0.1127	0.0472	0.0373
Standard Deviation	0.5612	0.3503	0.2325
	Financing Policy		
Mean	0.0279	0.0386	0.0248
Standard Deviation	0.2028	0.4258	0.1431

APPENDIX D

LIST OF THE FIRMS IN THE SAMPLE

TABLE XXXII

THE STRONG OWNER CONTROL GROUP

Texasgulf Inc.
Cominco Ltd.
Hudson Bay Mining and Smelt-A
Campbell Rec. Lake Mines
North American Coal
Superior Oil Co.
Kellogg Co.
Hormel (Gec. A.) and Co.
Carnation Co.
Campbell Soup Co.
Staley (A.E.) Mfg. Co.
American Bakeries Co.
Michigan Sugar
Hershey Foods Corp.
Tootsie Roll Inds. Inc.
Anderson, Clayton and Co.
Schlitz (Jos.) Brewing
Heublein Inc.
Seagram Co. Ltd.
Chelsea Inds. Inc.
Cone Mills Corp.
Reeves Brothers Inc.
Riegel Textile Corp.
Brown Co.
Kroehler Mfg. Co.
American Seating Co.
Times Mirror Co.
Prentice-Hall Inc.
Donnelley (R.R.) and Sons Co.
American Greetings Corp.
Airco Inc.
Lilly (Eli) and Co.
Marion Laboratories
Searle (G.D.) and Co.
Alberto-Culver Co.
Standex Int'1. Corp.
Imperial Oil Ltd-Cl A
Getty Oil Co.
Murphy Oil Corp.
Shell Oil Co.
Standard Oil Co. (Ohio)
Crown Cork and Seal Co. Inc.
Norton Co.
Vulcan Materials Co.
Copperweld Corp.
Keystone Cons. Inds. Inc.
Northwestern Steel and Wire Co.
Penn-Dixie Inds.
Revere Copper and Brass Inc.
Kennametal Inc.
Copeland Corp.
Standard Pressed Steel Co.
Keller Inds. Inc.
Omark Inds. Inc.
Roper Corp.
Parker-Hannifin Corp.
Thomas and Betts Corp.
Sparton Corp.
Int'1 Rectifier Corp.
Ford Motor Co.
Fisher Scientific Co.
Foxboro Co.
Hewlett-Packard Co.
Coleco Inds.
SOO Line Railroad
Cooper-Jarrett Inc.
Leaseway Trans. Corp.
Yellow Freight System
Pacific Northwest Bell Telephone
Zayre Corp.
Caldor Inc.
Fisher Foods Inc.
Great Atlantic & Pacific Tea Co.
National Tea Co.
Pueblo Intl. Inc.
Mays (JW) Inc.
Cunningham Drug Stores Inc.
Drug Fair Inc.
Gordon Jewelry Corp.
Resorts Int'1.
Sonesta Int'1. Hotels Corp.
Burns Int'1. Security Service
Rollins Inc.
Metro-Goldwyn-Mayer Inc.
General Cinema Corp.

TABLE XXXIII

THE WEAK OWNER CONTROL GROUP

Eastern Gas and Fuel Assoc.
Dome Petroleum Ltd.
Helmerich and Payne
Greyhound Corp.
Fairmont Foods Co.
Amalgamated Sugar Co.
Wrigley (Wm.) Jr. Co.
Anheuser-Busch Inc.
Southdown Inc.
American Distilling Co.
Coca-Cola Co.
Chock Full O Nuts Corp.
Bayuk Cigars Inc.
Collins and Aikman Corp.
Hanes Corp.
Jonathan Logan Inc.
Manhattan Ind. Inc.
Masonite Corp.
Federal Paper Board Co.
Inland Container Corp.
New York Times Co.
Time Inc.
Grolier Inc.
McGraw-Hill Inc.
Hall (W.F.) Printing Co.
Stauffer Chemical Co.
Witco Chemical Corp.
Syntex Corp.
Richardson-Merrell Inc.
Baxter Travenol Laboratories
Becton, Dickinson and Co.
Avon Products
Faberge Inc.
Husky Oil Ltd.
Armstrong Rubber
Cooper Tire and Rubber
Firestone Tire and Rubber Co.
Monogram Inds. Inc.
U.S. Shoe Corp.
Wolverine World Wide
PPG Inds.
Brockway Glass Co.
Ideal Basic Inds. Inc.
Lone Star Inds.
General Refractories Co.
Florida Steel Corp.
Kaiser Steel Corp.
Owens-Corning Fiberglas Corp.
Wylain Inc.
Ceco Corp.
Hoover Ball and Bearing Co.
Signode Corp.
Massey Ferguson Ltd.
Gearhart Owen Inds.
Brown and Sharpe Manufacturing Co.
Dover Corp.
Outboard Marine Corp.
Mesta Machine Co.
U.S. Filter Corp.
Addressograph-Multigraph
RTE Corp.
Maytag Co.
Motorola Inc.
AMF Inc.
Fairchild Camera and Instrument
Burndy Corp.
CTS Corp.
Mallory (P.R.) and Co.
Texas Instruments Inc.
Budd Co.
Dana Corp.
McCord Corp.
Timken Co.
Beech Aircraft Corp.
American Ship Building Co.
United Industrial Corp.
Polaroid Corp.
Coleman Co. Inc.
Norfolk and Western Railway
St. Louis-San Francisco Railway
McLean Trucking Co.
Transcon Lines
National Airlines Inc.
Emery Air Freight Corp.
Metromedia Inc.
Duke Power Co.
Missouri Public Service Co.
Arkansas Louisiana Gas
AFL Corp.
Standard Brands Paint Co.
Mercantile Stores Co. Inc.
Vornado Inc.
Kings Dept. Stores
Borman's Inc.

TABLE XXXIII (Continued)

Colonial Stores Inc.	Macke Co.
Cook United Inc.	Tandy Corp.
Stop and Shop Cos.	American Investment Co.
Supermarkets General Corp.	Dial Financial Corp.
Winn-Dixie Stores Inc.	Automatic Data Processing
Melville Corp.	CLC of America
Host Int'l Inc.	Ryder System Inc.
Howard Johnson Co.	Columbia Pictures Inds.
McDonald's Corp.	MCA Inc.
Thrifty Drug Stores	

TABLE XXXIV

THE MANAGEMENT CONTROL GROUP

ASARCO Inc.	Abbott Laboratories
Dome Mines Ltd.	Merck and Co.
Homestake Mining	Pfizer Inc.
Pittston Co.	Bristol-Myers Co.
Fluor Corp.	Sterling Drug Inc.
Great Lakes Dredge and Dock Co.	American Hospital Supply
McDermott (J. Ray) and Co.	Unilever N. V.
Santa Fe Int'l	Chesebrough-Pond's Inc.
Quaker Oats Co.	Int'l Minerals and Chemical
Esmark Inc.	Purex Corp.
General Host Corp.	Gulf Oil of Canada
Iowa Beef Processors	Tesoro Petroleum Corp.
Castle and Cooke Inc.	Cities Service Co.
CPC Int'l Inc.	Continental Oil Co.
Holly Sugar Corp.	Kerr-McGee Corp.
Peter Paul Inc.	Marathon Oil Co.
Heileman (G.) Brewing Inc.	Standard Oil Co. (Indiana)
Walker (Hiram) Goodrhm and Wort	Union Oil Co. of California
Royal Crown Cola Co.	Exxon Corp.
American Brands Inc.	Gulf Oil Corp.
Philip Morris Inc.	Standard Oil Co. of California
Réynolds (R.J.) Inds.	Texaco Inc.
U.S. Tobacco Co.	Goodrich (B.F.) Co.
Dan River Inc.	Mohawk Rubber Co.
Graniteville Co.	Uniroyal Inc.
GENESCO Inc.	Richardson Co.
Munsingwear Inc.	Brown Group Inc.
Warnaco Inc.	Continental Group
Georgia-Pacific Inc.	National Can Corp.
Crown Zellerbach	Owens-Illinois Inc.
Hammermill Paper Co.	General Portland Inc.
Int'l Paper Co.	Kaiser Cement and Gypsum Corp.
Kimberly-Clark Corp.	Ameron Inc.
St. Regis Paper Co.	U.S. Gypsum Co.
Scott Paper Co.	Armco Steel Co.
Union Camp Corp.	Bethlehem Steel Corp.
Westvaco Corp.	Inland Steel Co.
Diamond Int'l Corp.	Republic Steel Corp.
Fibreboard Corp.	U.S. Steel Corp.
Simplicity Pattern Co.	Allegheny Ludlum Inds.
Western Publishing	National Standard Co.
Allied Chemical Corp.	Washington Steel Corp.
Celanese Corp.	Kennecott Copper Corp.
Dow Chemical	Phelps Dodge Corp.
Grace (W.R.) and Co.	Alcan Aluminum Ltd.
Hercules Inc.	Aluminum Co. of America
Dart Inds.	Kaiser Aluminum and Chemical Corp.

TABLE XXXIV (Continued)

Continental Copper and Steel Ind.	United Technologies Corp.
General Cable Corp.	Cessna Aircraft Co.
Fedders Corp.	Rohr Inds.
Trane Co.	Amsted Inds.
Babcock and Wilcox Co.	Gatx Corp.
Allis-Chalmers Corp.	GCA Corp.
Euoyrus-Erie Co.	Johnson Controls Inc.
Caterpillar Tractor Co.	Ranco Inc.
FMC Corp.	Robertshaw Controls
Dresser Inds. Inc.	Varian Associates
Halliburton Co.	Bausch and Lomb Inc.
Cincinnati Milacron Inc.	ITEK Corp.
Kearney and Trecker Corp.	Tonka Corp.
Warner and Swasey	AMF Inc.
Black and Decker Mfg. Co.	Brunswick Corp.
Emhart Corp.	Atlas Corp.
Ex-Cell-O Corp.	Insilco Corp.
Joy Mfg. Co.	Canadian Pacific Ltd.
Leesona Corp.	Kansas City Southern Inds.
Ingersoll-Rand Co.	Southern Pacific Co.
Peabody Galion Corp.	National City Lines
Eurroughs Corp.	American Airlines Inc.
Int'l Business Machines Corp.	Braniff Int'l Corp.
NCR Corp.	Continental Air Lines Inc.
Fitney-Bowes Inc.	Delta Air Lines Inc.
Memorex Corp.	Eastern Air Lines
General Electric Co.	Northwest Airlines Inc.
RCA Corp.	Pan American World Airways
Westinghouse Electric Corp.	Trans World Airlines
Emerson Electric Co.	Western Air Lines Inc.
UV Inds. Inc.	American Telephone and Telegraph
Singer Co.	General Telephone and Electronics
Tappon Co.	American Broadcasting
Whirlpool Corp.	Capital Cities Communication
White Consolidated Inds. Inc.	Allegheny Power System
Zenith Radio Corp.	American Electric Power
E-Systems Inc.	Arizona Public Service Co.
Harris Corp.	Baltimore Gas and Electric
Gulton Inds. Inc.	Central Hudson Gas and Electric
High Voltage Engineering	Central Maine Power Co.
Raytheon Co.	Cincinnati Gas and Electric
Sanders Assoc. Inc. Del.	Cleveland Electric Illum.
Microwave Assoc. Inc.	Columbus and Southern Ohio
American Motors Corp.	Consolidated Edison of New York
White Motor Corp.	Dayton Power and Light
Libbey-Owens-Ford Co.	Delmarva Power and Light
Boeing Co.	Duquesne Light Co.
Lockheed Aircraft Corp.	General Public Utilities
Martin Marietta Corp.	Long Island Lighting

TABLE XXXIV (Continued)

Nevada Power Co.
New York State Electric and Gas
Niagara Mohawk Power
Northeast Utilities
Ohio Edison Co.
Orange and Rockland Utilities
Pacific Gas and Electric
Pacific Power and Light
Pennsylvania Power and Light
Portland General Electric Co.
Potomac Electric Power
Public Service Co. of N. H.
Public Service Gas and Electric
Rochester Gas and Electric
Southern California Edison Co.
Tucson Gas and Electric
Union Electric Co.
United Illuminating Co.
Utah Power and Light
Virginia Electric and Power
Washington Water Power
Atlantic City Electric
Boston Edison Co.
Erascan Ltd.-Cl A
Carolina Power and Light
Central and South West Corp.
Central Illinois Light
Central Illinois Public Service
Central Louisiana Electric
Commonwealth Edison
Consumers Power Co.
Detroit Edison Co.
Eastern Utilities Assoc.
El Paso Electric Co.
Empire District Electric Co.
Florida Power and Light
Florida Power Corp.
Gulf States Utilities Co.
Hawaiian Electric Co.
Idaho Power Co.
Illinois Power Co.
Indianapolis Power and Light
Interstate Power Co.
Iowa Electric Light and FWR
Iowa-Illinois Gas and Electric
Iowa Power and Light
Iowa Public Service Co.
Iowa Southern Utilities Co.
Kansas City Power and Light
Kansas Gas and Electric
Kansas Power and Light
Kentucky Utilities Co.
Louisville Gas and Electric
Middle South Utilities
Minnesota Power and Light
Montana-Dakota Utilities
Montana Power Co.
New England Electric System
New England Gas and Electric
Northern Indiana Public Service
Northern States Power
Otter Tail Power Co.
Philadelphia Electric Co.
Public Service Co. of Indiana
St. Joseph Light and Power
Savannah Electric and Power
Sierra Pacific Power Co.
South Carolina Electric and Gas
Southern Co.
Southern Indiana Gas and Electric
Southwestern Public Service Co.
Tampa Electric Co.
Texas Utilities Co.
Wisconsin Electric Power
Wisconsin Power and Light
Wisconsin Public Service
El Paso Co.
Mountain Fuel Supply Co.
Panhandle Eastern Pipe Line
Texas Eastern Transmission
Texas Gas Transmission
Texas Oil and Gas Corp.
Alabama Gas Corp.
American Natural Resources
Atlanta Gas Light Co.
Brooklyn Union Gas Co.
Cascade Natural Gas Corp.
Columbia Gas System
Consolidated Natural Gas Co.
Enserch Corp.
Equitable Gas Co.
Houston Natural Gas Corp.
Indiana Gas Co.
Kansas-Nebraska Natural Gas Co.
Laclede Gas Co.
Michigan Gas Utilities Co.
Nicor Inc.
Northwest Natural Gas Co.

TABLE XXXIV (Continued)

Oklahoma Natural Gas Co.	Safeway Stores Inc.
Peoples Gas Co.	Walgreen Co.
Pioneer Corp.	Servomation Corp.
South Jersey Inds.	Gibraltar Financial Corp.
LGI Corp.	Great Western Financial
Federal Signal Corp.	Imperial Corp. of America
Unilever Ltd.-Amer. Shrs.	United Financial of California
Allied Stores	C.I.T. Financial Corp.
Carter Hawley Hale Stores	Aristar Inc.
Macy (R.H.) and Co.	Liberty Loan Corp.
May Department Stores Co.	XTRA Inc.
Penney (J.C.) Co.	Twentieth Century-Fox Film
Murphy (G.C.) Co.	Gulf and Western Inds. Inc.
Woolworth (F.W.) Co.	Int'l Telephone and Telegraph
Allied Supermarkets	Kidde (Walter) and Co.
Jewel Cos. Inc.	LTV Corp.
Kroger Co.	Litton Inds. Inc.
Lucky Stores Inc.	Trans Union Corp.

VITA [2]

Seyed Ali Mohammad Fatemi

Candidate for the Degree of

Doctor of Philosophy

Thesis: AN EMPIRICAL ESTIMATION OF INTERACTION OF FINANCIAL POLICIES AND FIRM GOALS

Major Field: Business Administration

Biographical:

Personal Data: Born in Tehran, Iran, April 14, 1949, the son of Mr. and Mrs. Hossein Fatemi.

Education: Graduated from Kharazmi High School, Tehran, Iran, in May, 1967; received Licentiate degree from College of Commerce, Tehran, Iran, in May, 1972; received Master of Business Administration degree from Oklahoma State University in August, 1975; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in December, 1979.

Professional Experience: Senior Accountant, Manjil Construction Company, Tehran, Iran, July, 1969 to February, 1973; Research Assistant, Oklahoma State University, September, 1974 to August, 1976; Graduate Teaching Assistant, Oklahoma State University, September, 1976 to August, 1978; Visiting Assistant P Professor of Finance, Oklahoma State University, September, 1978 to July, 1979.

Professional Organizations: Beta Gamma Sigma, Western Economics Association, Southwestern Finance Association.