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THE EFFECT OF THE SEPARATION OF OWNERSHIP FROM CONTROL
ON ACCOUNTING POLICY DECISIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Emmett Daniel Smith, B.B.A., M.Acc.

* * * * *

The Ohio State University
1974

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CHAPTER I

INTRODUCTION

An Introduction to the Problem to be Investigated

Surely it is significant that the second and third chapters of Genesis record that where discretion exists it is apt to be exercised, and that merely to charge someone to be a good and faithful servant is not adequate to secure his performance. And clearly even a casual examination of the history of mankind reveals the substantial accuracy of these observations (104, p. 3).

Oliver Williamson
The Economics of Discretionary Behavior

My chief objective is to build a steady growth in our earnings per share (77, p. 46).

John G. McClean
In the New York Times, Upon Becoming President of Continental Oil Company, 1970

The theories of managerial enterprise found in the economics literature are concerned with the behavior of management in large firms, where management has secured for itself a considerable degree of latitude in directing the affairs of the corporation. In their discussion of managerial enterprise, the economists have carefully maintained the distinction between firms which are controlled by their owners and firms which are controlled by managers. Some of these
economists have argued that the maintenance of a relatively smooth income stream is in the best interest of the management of the latter group of firms.¹

The accounting profession, in granting to management the primary responsibility for financial reports, has provided management one means by which they may generate a relatively smooth income stream. The wide variety of reporting alternatives which are considered to be acceptable representations of the events of any particular period provides management with a range of possible profit figures for any one period. The range of procedures available for adoption by management is bounded by the rules and methods which are included in "generally acceptable accounting principles." These principles, however, are sufficiently general that they present management with the opportunity to achieve any number of favorable effects on reported income.

The accounting profession's decision to leave the choice of the particular reporting alternative to be used to the discretion of management makes the investigation of which criteria management uses in exercising this discretion very important to anyone who is concerned with the quality of external disclosure of financial information. Though there are many criteria which management might use in selecting

¹Throughout this study the phrase "owner firms" will be used to indicate owner controlled firms, and "manager firms" will be used to indicate managerially controlled firms.
accounting procedures (25, pp. 9-10), accountants have failed to provide any theoretically justifiable criteria to aid management in selecting among procedures. Professor Charles Johnson has expressed his belief that this "lack of unequivocal criteria for judging the merits of varying accounting policies undoubtedly weakens the CPA's ability to exercise what authority he has (52, p. 700)." Since the accounting profession has failed to develop definitive criteria for selecting accounting procedures, it is at least possible that management chooses among the available alternatives on the basis of which alternative creates the most favorable income effect.

The accounting literature contains several anecdotes which indicate that managers who find it possible to select accounting procedures on the basis of the effect which the procedures have on reported earnings, do, in fact, make policy decisions on this basis. For example, Barry Cushing speaks of a "company whose earnings have been destined to take a sharp dip until several changes and adjustments were made in its accounting policies, after which earnings display their n-th consecutive increase over the prior year, reflecting a continued pattern of growth, etc. (25, p. 1)." Similarly, Maurice Moonitz indicates that one particular manager has stated his objective is "to report the same earnings per share as last year, plus five cents, and I will attain that objective if the independent accountants let me (75, p. 121)." Finally, Michael Schiff, after observing the behavior of a firm listed on the New York Stock Exchange, expressed his belief that "if there is a
conflict between the managers' and owners' interests in corporations with diffuse ownership (emphasis added), the opportunity to choose the accounting method gives an important advantage to the manager (86, p. 62)."

After analyzing the several accounting changes made by this corporation, Schiff states that:

"It is difficult to avoid the conclusion that a concerted effort on the part of management was made to examine various accounting methods and select that one which makes for happy, though confused, stockholders. Some years ago, Boulding referred to the "homeostasis of the balance sheet--that there is some desired quantity of all the various items in the balance sheet, and that any disturbance of this structure immediately sets in motion forces that will restore the status quo." It can be suggested that we now have a "homeostasis of earnings per share" and that the application of generally accepted accounting principles facilitates the reporting of earnings per share in a constant or rising pattern to give the effect of "pseudo" profit maximization (86, p. 66).

There have now been several empirical studies which have gone beyond the citing of the isolated incidents mentioned above and have attempted to determine whether or not accounting policy changes are used to smooth income. Without exception, these empirical studies have failed to maintain the distinction between owner and manager firms--a distinction which several economists, and two accountants, Schiff and Gordon (35), have carefully sought to preserve. In each of these empirical studies, hypotheses which are consistent with manager control have been tested with samples drawn uncritically from populations which contain many
owner firms.

In failing to maintain this distinction, none of the previous studies have attempted to determine whether or not manager firms have used accounting manipulations to smooth income, or if these firms have, by manipulation, smoothed income to a greater extent than owner firms. This study deals with the question have managers in manager firms used the discretion which they have in making accounting policy decisions to facilitate their manipulation of firm activities for personal objectives, in the same way that "servants" in the past have, according to Williamson, exercised other forms of discretion?

**The Purpose of This Study**

The purpose of this study is to determine what effect, if any, type of control has upon the pattern in which accounting policy decisions are made and upon the particular set of accounting alternatives which result from such decisions. Since type of control, when used as an independent variable in economics, has apparently been significant in explaining differences in firm behavior (72) (104), and because so little is known about the choice criteria which are used in selecting accounting procedures, the effect of type of control upon the making of accounting policy decisions warrants an investigation.

This empirical research is designed to determine (1) whether manager firms are more likely to make accounting policy decisions which smooth income than are owner firms, and (2) whether tax minimization, rather than income smoothing, appears to be an alternative explanation for
a policy decision made by owner firms. The extended discussion in Chapter II will indicate that many theories of management behavior in manager firms consistently argue that a gradually rising performance measure is in management's best interest. Gordon (35), among others, has hypothesized that management will use accounting policy decisions to achieve desired effects upon performance measures. Since the small stockholder in the manager firm is less likely to be aware of the existence and the significance of an artificial manipulation in earnings, management might attempt to smooth income by the use of accounting policy decisions.

The large stockholders in an owner firm appear to have less reason to expend great effort to avoid fluctuations in reported profit. Large owners' access to more complete information, their knowledge of the decision making process and their superior financial advice would appear to place a constraint upon the amount of artificial manipulation that owners would allow or that management might attempt.

Owners in an owner firm might be concerned with the acceleration of expense deductions for tax purposes, and perhaps, for reporting purposes, in order to influence labor's bargaining position. Since the existence of a pressure to record expenses on the same basis for both book and tax purposes has been empirically demonstrated (90) (91), owner firms which are sensitive to this pressure will adopt accounting methods which minimize reported and taxable income. The management of a manager firm, striving to keep earnings per share steadily rising, may hesitate to allow matters to look worse by switching to an accounting alternative
which reduces taxable and reported income. Thus it is expected that owner firms will not make accounting policy decisions which smooth income, but are inclined to adopt that particular set of reporting alternatives which minimize taxes and reported income.

The Possible Significance of This Study

Since ownership has been effectively separated from control in so many of the large corporations in this country, an understanding of what effect, if any, this separation has had upon the manner in which management communicates financial information should be of interest to the stockholders of the firm and to the financial community in general. If type of control does cause reporting biases among firms, knowledge of this bias should aid the potential stockholder or financial analyst in making judgments about possible investments in firms subject to differing types of control.

If this study provides any knowledge about the criteria which seem to govern the making of accounting policy decisions, it should have some bearing upon the uniformity-diversity debate which accountants have been engaged in for some time. If it can be shown that creating a desirable effect on income appears to be the motivation for making accounting policy decisions in manager firms, this evidence would indicate the existence of one very undesirable result of the flexibility of choice among alternative accounting practices that managements now enjoy. If evidence of this type of manipulation is not found, then the use of the manipulation argument as the primary reason for limiting management's choice of reporting alternatives should be discontinued.
The failure of firms to use accounting procedures consistently through time is an important problem for accountants. The financial community frequently complains that not only is inter-firm comparability impossible, but even the comparison of a firm's current results with its past performance is frequently impossible. A financial analyst, Douglas Hayes, has affirmed the importance of consistency to investment analysis when he said:

If inconsistencies in accounting procedures produce arbitrary distortions in the pattern of reported earnings through time, the task of the investment analyst becomes considerably more difficult (42, p. 752).

William Cary, a past chairman of the Securities and Exchange Commission, expressed his concern with the lack of consistency, and its possible connection with manipulation, as follows:

It must be recognized that in some cases there are still alternative accounting procedures, but there is no excuse for inconsistency from year to year for short-run appearance. Consistency may not always be a virtue, but if it is not observed, then there are no other principles to fall back upon. What would become of the concept of reliability and integrity of financial statements?

Consistency must be emphasized more fully. I am not suggesting that management be frozen into position, obviously a change from a less generally acceptable accounting principle to a more generally acceptable one (accounting principles do develop and refine) should not be deferred. But I would suggest that a change in treatment should ordinarily not occur except for sound accounting and business reasons (18, pp. 48-49).

If this study provides some further evidence that policy decisions, some of which violate the consistency principle, are made by managers as a function of reported income, this evidence should provide additional pressure on the accounting profession to reconsider the degree of latitude
which they have given to management in reporting on their own performance.

The results of this study might also make the interpretation of the results of certain economic studies clearer. A number of the investigations of the effect of type of control upon firm behavior in the economics literature use as measures of performance and size numbers which are generated in annual reports (49) (58) (72). If a tendency to understate income is discovered among owner firms, this finding would be of some use in interpreting the significant results, or lack thereof, which have been reported in the afore-mentioned studies. Knowledge of whether or not a reporting bias exists is surely of some importance in assessing the evidence which currently exists concerning the effect of type of control on firm behavior.

The Method of Investigation

This research is an empirical investigation of the accounting policy decisions which were made by one hundred ten firms during the nine year period, 1954-1962. The firms considered for inclusion in this study were those listed on the New York Stock Exchange in December, 1954, as reported in the U.S. Senate Staff Report, Factors Affecting the Stock Market, 1955 (97).

Fifty-seven manager and fifty-three owner firms were randomly selected from this population for inclusion in this study. A firm, randomly selected, was included in this research if it could be classified as either manager or owner controlled on the basis of the criteria for control specified in the second chapter of this study. Firms which were subject to government rate regulation were eliminated from consideration since their choice of accounting method may frequently be constrained or
influenced by regulatory agencies.

The published annual reports for the fiscal years 1954 through 1962 were examined for each of the one hundred ten firms; the annual reports filed with the Securities and Exchange Commission on Form 10-K were also examined for most of these firms. For each of these years the data collected for each firm included in this study was: (1) the reported earnings per share, (2) the type of accounting change, extraordinary charge or credit, (3) the dollar effect of the accounting change or extraordinary item on reported earnings per share in the year of the change, and (4) the depreciation accounting methods used for tax and financial reporting purposes (where available) during this interval.

Using this data, the behavior of owner and manager firms is compared to determine if manager firms are more likely to smooth income, and less likely to adopt reporting alternatives which decrease reported income than are owner firms. Several targets, which are discussed at length in chapter three, are employed to determine if manager firms use any of them as goals toward which they adjust income. An attempt is also made to determine if the firm's decision not to make a manipulative change in any period is compatible with the income normalization hypothesis being considered in this study.

The following chapter will deal with the nature and measurement of control as used in this study. It will include a discussion of the possible constraints on manager control and of the implications of control by managers for firm behavior. The third chapter will develop several targets toward which management might smooth income, operationally define smoothing and explicate the nature of the policy decisions which
are included in this study. The fourth chapter will present the specific hypotheses to be tested and report the results of these tests. The results will be interpreted in chapter four with the fifth chapter containing a summary and a statement of any possible further implications of this study.
CHAPTER II
THE SEPARATION OF OWNERSHIP FROM CONTROL
AND THE BEHAVIORAL IMPLICATIONS OF THIS SEPARATION

The Definition of Control

In this study control refers to the power to direct the affairs of the corporation or to determine the broad policies guiding the corporation (98). Control, used in this sense, does not necessarily imply active involvement in routine decision making of the firm, but does imply involvement in the making of more fundamental decisions such as the selection of management. Though the individuals possessing sufficient power to control the corporation may not actively exercise control for periods of time, the existence of strong minority holding keeps management mindful of the owner's welfare, and exercises at least a passive form of control (72, p. 437) (73, p. 226). The control of the firm, therefore, is determined by the distribution of the firm's voting securities, with the ability of the stockholder group to force its goals upon management being dependent upon how closely the stock of the corporation is held.

Manager Control

The separation of ownership and control has been recognized at least since 1932 when Berle and Means observed that "economic and financial power was becoming progressively concentrated in the hands of a limited number of management groups without significant ownership interest and essentially free of the classical constraints which in earlier days had presumably ensured the best possible satisfaction of
the owners' legitimate rights and interests (98, p. 168)." Berle and Means saw this change in the economic system as a continuing process. In their estimation:

Economic power, in terms of control over physical assets, is apparently responding to a centripetal force, tending more and more to concentrate in the hands of a few corporate managements. At the same time, beneficial ownership is centrifugal, tending to divide and subdivide, to split into even smaller units and to pass freely from hand to hand. In other words, ownership continually becomes more dispersed; the power formerly joined to it becomes increasingly concentrated; and the corporate system is thereby more securely established (13, p. 9).

Berle and Means assumed that a firm might reasonably be considered manager controlled when no individual or small group of individuals held a significant proportion of the firm's voting securities. In the absence of any majority or strong minority shareholding, control of the proxy machinery was assumed to enable management to select the board of directors and thus allow management to effectively determine the broad policies which will guide the firm.

The theories of managerial enterprise which have followed Berle and Means have maintained this notion of manager control since their distinguishing assumptions have been the central role of managers in determining the purposes for which the widely owned corporations are operated, and the relatively unhindered power of managers to make decisions necessary to carry out their purposes (8, p. 239).

One of the major contributions of The Modern Corporation and Private Property was that it introduced as the criterion of control the proportion of shares held by the largest shareholder, which has since been the most important index used in empirical investigations of the
relationship between ownership and control. Several studies using this
criterion have now confirmed Berle and Means' prediction that effective
voting control of many of the country's large enterprises would pass
into the hands of management (58) (59) (97) (98) (99). The most recent
of these studies is that of Larner and the most comprehensive is the U.S.
Senate Staff Report, Factors Affecting the Stock Market (97). Taken
as a group, these studies indicate that a significant majority of the
large publicly traded firms in the United States are no longer subject
to the control of a shareholder holding a significant proportion of the
firm's stock. Since the dispersion of stockholdings over holders with
smaller proportionate amounts is such a pervasive phenomenon in the
economy, any systematic differences in behavior which might be associated
with this dispersion should be of interest to many.

The expression "separation of ownership from control" has come to
be identified with far more than a degree of stock ownership dispersion.
Indeed, beginning with Berle, the proponents of manager control have in
essence been concerned with a body of theory about business structure
and behavior. Managerial theorists have always gone beyond the observed
dispersion of shareholding to assert that this separation of ownership
from control has resulted in changes in the behavior of business firms.

Many of the economists concerned with manager control believe that
changes in behavior are expected merely by applying the self-interest
axiom of the traditional theory of the firm to a new type of firm in which
ownership is separate from management (21) (49) (58) (73) (84) (104).
Larner is representative of such a position when he remarks that once
management has gained a measure of discretion in determining policy,
"under the usual assumption that every economic agent strives to maximize his self-interest, there is no longer any a priori reason to believe that managers in control will use this discretionary power in the same way and will direct it toward the same ends as would controlling owners (58, pp. 4, 5)."

Sociologists interested in the separation of ownership from control also believe that the separation will result in changes in behavior. For instance, the position of a British sociologist, Dahrendorf, has been summarized as follows:

The separation of ownership and control involved both a change in the structure of social positions and a change in the recruitment of personnel to these positions, so that the roles of owner and manager, originally combined in the position of the capitalist, have been separated and distributed over two positions, those of stockholder and executive. The positions, roles and outlooks of the managers and of the stockholder are far from identical. Thus, for Dahrendorf, the joint stock company brought about a complete break with earlier capitalist traditions: by separating ownership and control, it gave rise to a new group of managers who are utterly different from their predecessors . . . . These managers are bureaucrats who owe their position to their managerial ability instead of property ownership. Their different social background, training, and experience, make them both think and act differently from their predecessors, the owner-managers or capitalists (78, pp. 42, 43).

There is, then, the suggestion in various disciplines that changes in business behavior might be expected as a result of the change in the distribution of the firm's voting securities.

Some Possible Constraints Considered

As stated previously, several economists share the view that the individual self-interest seeking of managers who are in effective control of the organization is likely to lead to behavior that is less than
optimal from the owners' viewpoint. The suggestion usually made is that managers who are free from the control of owners do not pursue profits as diligently as they might if the owner were in control.

For example, Keynes questioned the importance of the profit objective when he observed that when stockholders are "almost entirely dissociated from the management, . . . the direct personal interest of the latter in making a profit becomes quite secondary (56, p. 316)."

Berle and Means have inquired:

... have we any justification for assuming those in control of a modern corporation will also choose to operate it in the interest of the stockholder? The answer to this question will depend upon the degree to which the self-interest of those in control may run parallel to the interest of ownership and, insofar as they differ, on the checks on the use of power which may be established by political, economic or social conditions (13, p. 121).

In economics, the defenders of the traditional theory of the firm are convinced that there is ample justification for assuming that managers will pursue policies which do little harm to stockholder interests. Firm behavior is not expected to vary with manager control for one of two reasons. Either controlling managers, pursuing their own self interest, will have goals congruent with owner goals because of the method of compensation, or constraints exist which narrowly circumscribe the range of choice that management possesses. The purpose of this section is to briefly examine the potential effectiveness of those asserted constraints which are most prominently mentioned in the literature.

Competition in the Product Market

Williamson has called the economic natural selection argument, which relies on competition in the product market for its efficacy, the
first line of defense for the profit maximization hypothesis. In
the introduction to his dissertation he observes that:

Within the domain of perfect competition, there is
general agreement that the classical theory of the firm
is an exceptionally parsimonious and accurate description
of behavior. It is not always appreciated, however,
that the theory achieves its power because of the
constraints on the "opportunity set" of choices that
are open to the firm under these circumstances rather
than because of the inherent accuracy of its behavioral
assumptions. Where competitors are numerous and entry
is easy, persistent departures from profit maximizing
behavior inexorably lead to extinction. Economic
natural selection holds the stage (104, p. 2).

Thus, with competitive pressure, profits are depressed to a level
which is the minimum tolerable, and even managers in a manager
controlled firm are constantly compelled to react to actual or
potential reductions in profits, "so much so that the firm will not
be able to pursue any objectives other than the maximization of profits
(106, pp. 18, 19)." All parties to the argument over the implications of
manager control for firm behavior concede that when pure competition
exists, manager control will not alter behavior.

The difficulty with relying on economic natural selection to constrain
management behavior is that the conditions under which this argument
implies profit maximization are not "ubiquitous, and to extend the
argument uncritically to firms which operate in conditions not clearly
embraced by the theory runs the risk of serious error (105, p. 295)." It
is generally conceded, even by those who fail to see the relevance of
manager control for firm behavior, that competition is not sufficiently
effective to reduce the area of managerial discretion to an insignificant
amount (3) (8) (51) (65). For instance, Horowitz describes oligopolistic
or differentiated competition situations as precisely the situations which
are prevalent in our economy today (51, p. 54), and Machlup admits that:

There can be no doubt about the fact that competition is not effective in many industries, and that many, very many, firms are not exposed to vigorous competition. It follows that managerial discretion can have its way in a large enough number of firms to secure wide applicability of well-designed managerial discretion models . . . . (65, p. 19)."

Furthermore, it seems likely that the kind of behavior which is of interest in this study might be observed even if effectively competitive conditions were observed. Under heavy pressure to generate a profit figure which is only the "minimum tolerable," a manager who has either mismanaged or has exercised his discretion in a particular reporting period, might resort to an accounting change to secure the acceptable minimum amount of profit for the period.

It appears, then, that pure competition is not pervasive enough to compel management to follow a maximizing set of actions; and even if it were so pervasive, it does not appear to necessarily rule out the possibility of an accounting change as a method of improving the firm's performance measures.

Stock Option Plans

Lewellen has argued that the use of stock related compensation has served to ensure a high probability of a continuing close identification by managers with the interests and profit objectives of shareholders (61, p. 301). He has shown that the existing links between company success and executive income are stronger than they were previously thought to be by including stock related benefits in the measure of executive compensation.
In criticizing Lewellen's study, Bower has suggested that several factors have probably caused Lewellen to exaggerate the significance of firm performance on compensation (61, pp. 339-40). In particular, Bower believes the sample used, the way capital gains are recognized and the failure to deal with the managers' other investments and income considerably exaggerate the importance of firm performance on managers' salary. More important is the omission of any measure of expense account spending from the estimate of executive remuneration. This omission could be of crucial importance since Williamson has shown that management is likely to indulge heavily in exactly this type of expense, and because Karr (55), using specific case studies, has shown that expense account benefits are a very material proportion of executive compensation in some cases.

Even if one accepts Lewellen's data, there are many who believe that the stock option is, at best, likely to produce only an imperfect coincidence between stockholder and manager interests (11, 41, 61, 104). For example, Gynther believes that the executive becomes so psychologically involved in his role as manager that:

For instance, Baumol (11) has shown that the coincidence of interest between managers holding options and shareholders is likely to be incomplete with respect to dividend policy and Bower (61) has pointed out the obvious result of an option—management avoids the downside risk associated with stock price movements. Robin Marris (68) also presents a lengthy argument to show that in his theory of managerial capitalism the use of stock options will not "enforce profit maximization in the ordinary understood sense." Nichols, (78), among others, is in agreement with Marris.
Even the fact that they might be small to medium-sized stockholders in a corporation seems to make little or no difference to the entity viewpoint held by such executives. It is also hypothesized, therefore, that the issue of stock options to executives will not alter the view that their welfare is dependent on and secondary to the survival and success of the entity. They will not see themselves as "owners." (41, p. 284).

Every major theory of firm behavior under manager control has argued against the efficiency of options in establishing what Henry Ford II calls a proprietary interest which aligns the executives' personal interests closely with those of stockholders, and thus affects favorably his day to day business actions. Both Baumol and Williamson admit that for the manager who has been thrust into the role of stockholder, profit will be more highly valued than it will be in the role of manager alone, but not necessarily to the extinction of all other objectives. "That is, a shift in the manager's preference function towards profit could be expected, but not necessarily domination by the profit component (104, p. 24)."

That a manager who has been pursuing his personal goals through internal absorption of resources will increase the level of profit by releasing these resources seems unlikely. The resulting gains in profit occur one time only and raise the standard of performance to a level that might be difficult to maintain. Williamson has argued that the management would prefer, and will find it possible, to enjoy both the stock option benefits and the benefits of corporate personal consumption. In arguing that both types of benefits can be enjoyed simultaneously, he has used the following simple model:
Let $P = KE$, where $P$ is the stock price, $K$ the price earnings ratio, and $E$ the earnings per share. Let $E = \theta E^*$, where $E^*$ is the maximum attainable earnings per share (which obtains when the firm is operated strictly as a neoclassical profit maximizer), and $\theta$ is the ratio of actual to maximum earnings per share. Now assume the $E^*$ is a function of the condition of the environment; namely, $E^* = f(Z)$, where $Z$ is exogenous. It follows that the ratio of stock prices between any two points in time will be independent of the value of $\theta$ (assuming only that whatever value $\theta$ takes on is identical at both points in time under comparison). Thus subject to the condition that the value of $\theta$ selected is sufficiently high to avoid displacement, relative stock prices will fully reflect environmental change, whatever the value of $\theta$, while the management that has selected a value of $\theta$ less than unity will simultaneously have access to opportunities for corporate personal consumption as well (105, p. 300).

Some comments from Sweeney's extensive historical review of early stock option plans seem to indicate that the development of a proprietary interest in the managers of the firm was neither very important, nor very likely to occur. For example:

The relatively short option periods used in these early option plans are a good indication that the bargaining parties were relying primarily on anticipated market movements to develop value in the options, rather than looking to continued executive effort to produce future market results (92, p. 19).

Allowing the optionee to dispose of the option quickly for immediate cash gain without the formality of acquiring the shares may indicate an absence of corporate concern for the optionee to have a "proprietary interest," but the same could be said of the almost universal absence of restrictions on the disposal of shares acquired under the option (92, p. 20).

It is probable that the first companies to use the stock option device were those having good prospects for growth in which a rapid stock rise might be anticipated. . . . The most opportune time for expectation of early price rise was used as the grant date. Each of these factors would tend to support the belief that an understood maximum of early gain to the optionee was contemplated and facilitated by the terms of the option contract (92, p. 57).
Sweeney also observes that following a Supreme Court decision which led to the issuance of regulations that taxed the pure differential at the exercise date as ordinary income, the use of stock options was drastically curtailed. "This fact in itself provides effective support for the argument that the 'proprietary interest' concept of the option was of minor importance. There is no reason why a proprietary interest should not have been as desirable during this period as in any other (92, p. 29)."

The arguments above as well as Sweeney's observations on the actual use of plans give some credence to the notion that the coincidence between stockholder and managerial interests is, at least, imperfect, even when stock options are in effect. That management will sacrifice its long run security, which we have hypothesized is tied to a relatively smooth income stream, to gain short run benefits from stock options is not obvious. In fact, if one accepts the findings of Gordon (36) that reduction in earnings variability leads to higher stock prices, one pattern of behavior that a manager with a stock option might pursue would be to attempt to reduce earnings variability.

Monsen, Chiu and Cooley (72) found that when firms which were marginally manager controlled were eliminated, stock options did not lead managers to behave as owner controlled firms behaved. Since essentially their control criteria will be used in this study and because there are no compelling arguments that a manager with an option will make the same decision (including choice of accounting methods) as an owner, the influence of type of control will be examined without regard to the existence of stock option plans.
Control by Displacement

As with the other constraints considered previously, the efficacy of the displacement argument as a restraint on managerial autonomy is open to question. Some maintain that the proxy machinery provides management with an effective means of control because they believe the small investors form a group of stockholders who, though well informed with respect to earnings, dividends and capital gains, apathetically ignore their voting rights (49) (63) (85) (105). When their stockholdings are small, the stockholders rarely attempt to seek representation on the board of directors, for it would require the cooperation of many thousands of such owners to obtain a significant voice in the selection of directors. Hindley believes that effectiveness of this type of constraint is small since:

the gain to the individual stockholder through any increase in the value of his shares will not be sufficient to justify the expense of taking action in the first place. Similarly, managers are unlikely to be greatly troubled by the possibility of co-operative action among stockholders, for when there are many owners it will seem to each one that the success of co-operative action will not depend upon his participation, and this will make it difficult, and perhaps impossible, to form a coalition of owners even should one of them think it worthwhile to initiate the attempt (49, p. 186).

Thus, for firms in which a significantly large shareholding does not exist, the corporate election is seldom meaningful, for the well-informed small investor would rather sell his stock than engage in lengthy and dubious battles to remedy management's shortcomings.

For others, corporate raiders and other acquisition minded firms, which may have many incentives for actively seeking control of another corporation, provide the leadership which is needed to turn the proxy
machinery into an effective constraint on managerial self-dealing.

Karr, for example, observes that:

The last two decades have seen an even wider distribution of ownership in major corporations, but the independence of management has been sharply curtailed. The change is the result of techniques (proxy fights) described in this book. By taking grievances and issues directly to the stockholders, insurgent groups have often unseated a complacent board of directors. By observing the fate of their displaced colleagues, members of management have come to realize the necessity of keeping the stockholders informed as to the company's plans and progress. For both groups a modern proxy fight is a gigantic effort to win the stockholders' confidence and support.

Karr's use of the word "often" in the preceding paragraph is, perhaps, inappropriate. Proxy fights do not occur often, nor are they often effective. During the five year period, 1956-60, there were only 28 proxy fights for control of firms listed on the New York and American Stock Exchanges, and only 9 of these were successful (45, p. 137). Yet, even when the prohibitive costs of a proxy fight are considered, one cannot conclude that the rarity of their occurrence necessarily implies that the proxy mechanism is an inefficient constraint. Nichols and Peterson have both maintained that the rarity of such occurrences may imply that intervention is not often necessary because shareholders are reasonably well satisfied that their interests are well served. Peterson, commenting on the effectiveness of proxy contests and stockholder derivative suits has said:

On the principle that legal prohibitions are to be judged not by guilt discovered but by guilt discouraged, these suits may, as has been said, "have accomplished much in policing the corporate system" (81, p. 21).

The cash tender offer, when the outsider offers a premium over the current market price provided that some minimum percentage response is
obtained, is judged to be a more efficient mechanism than a proxy fight because it is cheaper than a proxy fight (45, p. 137). Yet attempts to obtain control by this method are also rare—Hayes and Taussig record only 83 attempts in the United States during a ten year period and only 29 of these attempted takeovers have been successful (45, p. 137).

The real effect of the control by displacement argument probably lies somewhere between the extreme positions taken by Karr and Rostow. Peterson's description of the effect of the proxy machinery as providing "a milder sort of continuing pressure . . . plus reserve power to act when occasion requires" (81, p. 20) is an adequate statement of a more realistic position. Two leading proponents of theories of managerial enterprise both recognize the need to meet certain minimum performance standards to defuse the effectiveness of the potential displacement mechanisms. Williamson recognizes the need for maintaining a minimum acceptable level of profits to prevent stockholder unrest as a precondition to the exercise of managerial discretion. "Marris regards the rate of profit necessary to ensure an adequate degree of security against bankruptcy and take-over raids as a constraint on the growth rate when the profit rate associated with maximum growth is deemed too low to furnish such security (8, p. 249)."

The question which arises, then, is do we have any rough estimates as to the level or type of performance which will ensure against displacement? The measure of adequate performance appears to be found on the income statement and reported earnings per share figures. Manne argues that stockholder dissatisfaction with earnings is likely to cause
the start of displacement activities. Hayes and Taussig found that an income statement showing poor operating performance is more apt to signal a takeover than a balance sheet containing understated assets. They continue:

More specifically, upon examining the subject companies operating record, we found that earnings had either been trending downward, fluctuating widely, or there had actually been losses incurred in the five year period prior to the takeover bid. . . . These findings are consistent with the results of an earlier study which sought to distinguish characteristics of companies whose managements were confronted with proxy fights. The author of this study concluded that disappointing operating performance and general inefficiency were central causes of the outside takeover bid in 82% of the contests examined (43, p. 108).

Williamson, in what he describes as a "crude test" of how poorly management must do to be faced with a proxy fight, found that firms for which Form 14-B were filed, signifying an intention by an outside party to wage a proxy fight, had significantly poorer earnings than did the average firm. In 33% of the cases he considered, firms had a loss in the year in which a Form 14-B was filed (106). Finally, Karr cites increasing earnings per share figures following takeovers as evidence that a better management has been installed by successful takeovers in almost all of the case histories that he relates.

These empirical studies suggest that losses, wide fluctuations and downward trends are attributes of earnings per share figures that management might seek to avoid. Would management change accounting methods in an attempt to prevent a takeover? The answer is apparently yes. Following a switch to straight line depreciation which substantially increased earnings, Armco Steel president Bill Verity has been quoted as saying that
'... the move was a defensive play designed to get the stock up and out of the reach of the asset-hungry conglomerates and other acquisition-minded folk.'

Are investors sufficiently unsophisticated to believe that the stock of the company is suddenly worth more because of higher reported earnings due entirely to changed accounting methods. The answer is apparently "yes," as evidenced by the favorable response given the announcements by Armco and Inland (39).

The point to be made with respect to this study is not that the market did in fact respond; in fact, the favorable market response in such situations has been shown by Kaplan and Roll (54) to be a short run phenomenon. Their findings would indicate that the price of the stock probably resumed a level appropriate to the true economic status of the firm by the time the subsequent quarterly report was released. What is important with regard to this study is that the management of a large publicly traded firm said they believed that it could cause a favorable market response by increasing earnings per share through a change in accounting method.

**Some Behavioral Implications of the Separation of Ownership From Control**

Thompson has observed that "the behavior of people in organizations is purposive in two senses. First behavior must be minimally oriented to a common organizational purpose, or it would not be meaningful to speak of an organization. Secondly, behavior within organizations is oriented toward personal goals (95, p. 81)." The traditional theory of the firm has tended to emphasize the first of these and has generally ignored the importance of personal goals. This tendency to ignore personal goals becomes particularly troublesome when management controls the firm. Horowitz is representative of a number of economists when he characterizes
as a most vital failure of the traditional theory, its failure to deal adequately with the "coincident issues raised by the separation of ownership and control and with the conflicts arising through the many and varied interests of management in the modern firm not under the guidance of a single entrepreneur (51, p. 55)." Likewise, Hitch and McKean maintain that it is especially when management is separated from ownership that a multiplicity of goals develop (50, p. 149).

The purpose of this section is to consider some of the antecedents to the hypothesis that there is behavioral significance to be associated with manager as opposed to owner control. We shall consider arguments, suggestions, and assertions by both economists and accountants which lend support to the fundamental notion that managers in manager firms, pursuing personal goals, may seek to smooth measures of their performance. Many believe that these managers view profits as a constraint. Management will attempt to achieve a satisfactory level of profit, but will not necessarily attempt to maximize profit.

Some Suggestions From Economics

As a result of his study of business leadership in 1945, Gordon (38) observed that (1) the power and discretion of the management in the typical large corporation vastly exceeds that imputed to it by the classical theory and (2) rather than acting solely in a stewardship role of protecting the stockholders' interests, the management considers interests of its own. Gordon believes that to obtain an understanding of business behavior it is necessary to allow for the effects of a number of non pecuniary motives which managers may have. Specifically Gordon suggests that:
The development of the large corporation has obviously affected the goals of business decision making. Almost certainly the personal and group goals of higher and lower executives are a part of the total value system—the desires for security, power, prestige, advancement within the organization and so on. One result, almost certainly, is that the maintenance of satisfactory profits is a more accurate statement of the profits objective than is complete profits maximization. Perhaps it is not inaccurate to say that profits are viewed as the basic constraint subject to which other goals can be followed. Subject to this constraint, some profits will be sacrificed in pursuit of other goals (38, p. xii).

Papandreou perceives the small stockholders to be a relatively impotent member of the organizational coalition. Along with Gordon, Papandreou believes that management must generate only some satisfactory level of profit to meet the constraint imposed by the small stockholders. Papandreou has commented on this situation as follows:

With respect to the small stockholder, we are forced to the conclusion that his capacity to exert influence over the large corporation is insignificant. This is the result of the lack of interest in and/or ability to organize for the exertion of influence in stockholders' meetings. One sort of influence of the small stockholder over the corporation must be recognized, however. There are undoubtedly limits beyond which no management would care to go in disregarding the interests of the small stockholder. If these limits were transgressed management could well expect 'activation' of the passive small-stockholder group (possibly under the leadership of some small but powerful minority) and censure of its actions (79, pp. 196, 197).

Perhaps the most outspoken and persistent of the managerial economists is Oliver Williamson. That he is in essential agreement with Gordon and Papandreou concerning the efficacy of the small stockholders and the importance of satisfactory profits is indicated by the following:
... the stockholder may frequently lack sufficient information, organized power and determination to compel the management to maximize profits. However, they are not totally ignorant, completely fractionated or entirely passive. Thus they will ordinarily be in a position to mobilize their forces should profits fall below some minimum acceptable level (and in this they may be joined by the firm's creditors). The precise determination of this level involves the interaction of the relative performance of rivals, the historical performance of the firm, and special current conditions that affect the firm's performance. If it can be assumed that the stockholders will actively attempt to intervene in the affairs of the firm whenever the acceptable level is violated, then, by observing the magnitude of the changes in profitability required to stimulate general dissatisfaction, a crude estimate of the severity of the minimum profit constraint can be obtained. Since these changes generally appear to be large, it can be inferred that the acceptable level usually represents only modest attainment (104, p. 36).

Williamson strongly favors the construction of a theory of the firm that takes the individual self-interest seeking of those in effective control of the organization into account. He maintains that:

as long as it was plausible to assume that the ownership interests in the firm played the dominant role in determining the firm's activities, the profit maximization hypothesis could be supported on grounds other than competitive necessity--namely, on grounds of self interest seeking. But, given the conditions of absentee ownership characteristic of many of our major corporations, this basis also becomes suspect. . . . Whereas the logic of self interest requires that managers operate the firm in their self-interest, their effective control insures that this objective will be pursued (26, pp. 238-239).

Williamson develops the notion of "expense preference" in an attempt to indicate one way in which the management in manager firms may pursue their own goals at the expense of the stockholders. He argues that managers have positive tastes for certain types of expenses and that once a satisfactory profit has been generated for any period, management will exercise their discretion by increasing expenses through their consumption
of preferred items far beyond the point where marginal costs equal marginal benefits. He associates staff expansion with the quest for dominance, security and professional achievement, and considers increasing emoluments to be an indirect source of prestige and status. Furthermore, rewards and satisfactions obtained by managers in this way have the additional advantage of being less visible than other benefits such as salary.

Williamson's basic hypothesis, then, is that "classes of expenditures for which the management has a positive preference should be systematically related to conditions of competition in the product market and to the absence of stockholder control (104, p. 25)." His limited test of this hypothesis produced results which supported his hypothesis.

William Baumol has argued more directly that it may be in management's interest to eliminate fluctuations in their performance measures. He states that:

- the desire to keep the stockholders contented may not motivate management to seek to maximize the rate of rise in security prices. It may be far better strategy to maintain a steady rate of advance in stock prices, one which can easily be continued in the future rather than producing a spectacular rise in prices which can perhaps not be duplicated later and which may therefore disappoint the expectations to which the initial price increase gave rise (11, p. 81).

Baumol argues elsewhere that management control has increased managements' reluctance to take risks. He predicts that management will avoid extraordinary profits because an extraordinary but unrepeatable success, by raising stockholder expectations, will "cost him almost as dear as failure (10, p. 90)." Risk taking is also to be avoided because it can lead to low or negative profits, which both Williamson (106) and
Hayes and Taussig (44) have shown to be a condition which leads to proxy fights and takeover attempts. W. W. Cooper, in calling for the building of control considerations into the theory of the firm, has made the following pertinent observation:

After all, the manager is not interested in maximizing profits per se. It is his profits that he seeks to maximize. Loss of control in pursuit of profits may succeed only in maximizing someone else's profits (21, p. 1207).

Fluctuations, then, either up or down, are a very real problem for management.

Williamson has shown that:

utility maximizing managements (where the utility function reflects, in addition to profits, a positive managerial preference for hierarchial staff, emoluments, and leisure) will respond to changing environmental conditions in such a way to attenuate intertemporal variations in performance in comparison to a profits maximizing management (105, p. 299).

Referring to Baumol's concern with stock price stability which was mentioned above, Williamson continues by saying that:

the likelihood that the variation in stock prices will be reduced by such behavior follows directly. To the extent, therefore, that management assigns additional importance to stock price stability, this is apt merely to enhance its already natural incentives to attenuate earnings variability . . . . (105, p. 299).

Monsen and Downs (73) have developed some hypotheses about the behavior of management in manager firms. They are in essential agreement with Baumol and Williamson concerning management's desire for a smooth income stream, as is indicated below:

A managerial firm (a) is more likely to avoid risky decisions, (b) will have less variability of earnings, (c) may grow more slowly, and (d) will be less likely
to go bankrupt than it would be if the managers sought to maximize profits. Top management will avoid highly risky decisions because they might cause the earnings of the firm to fluctuate instead of growing steadily, even if total profits of the firm would be larger with fluctuating earnings (73, p. 232).

Monsen and Downs view steadily rising, non-fluctuating earnings stream as maintaining a public image of competence. It allows management to avoid controversy and public criticism. One of the justifications given for non-fluctuating performance measures rests upon the following assertion of what the small stockholder prefers:

Although every stockholder certainly prefers a rapid rate of advance in the price of his stock to a slow rate, most "small" owners prefer a small but steady rise to an erratic combination of rapid rises and equally rapid declines. This is probably true even if the total rise would be slightly higher in the case of erratic movement. A slow but steady rise preserves each owner's ability to get back his original investment plus a profit at any time, whereas up and down price movements create uncertainty in his mind about the future price of the stock, thereby creating an apparent risk that he might suffer a loss if he had to sell at a certain moment. Since stockholders typically know far less about the firm's situation than managers, such uncertainty can exist in the minds of stockholders even if the managers know the erratic short run movements of the stock price result from factors that will work out favorably in the long run (73, p. 225).

A second reason given by Monsen and Downs centers around their contention that the relation between managerial rewards and profits is often much less than explicit. They maintain that:

Although a very poor management performance may result in a rebellion, a very good one does not usually cause a powerful movement among stockholders to reward their managers with lavish bonuses. Hence the punishment for grievous error is greater than the reward for outstanding success (73, p. 226).
They conclude that due to this asymmetry between the consequences of success and failure, managers in manager firms are cautious and aim at an earnings pattern which grows steadily and experiences little variability. This emphasis on the organization overreacting to the underachievement of objectives has recently appeared in the accounting literature also (87, p. 265).

Another observation from Monsen and Downs which is of particular interest to this study is their characterization of the small stockholder as being removed from the firm's actual decision making and as having access only to management's official reports. Being removed from the decision making process, not possessing a thorough knowledge of available alternatives, and having only limited access to corporate records, the small stockholder is forced to act as a satisficer. He has little basis for determining whether management is pursuing a maximizing strategy.

Williamson also sees the control of information as being important to management as they attempt to represent discretionary actions defensibly. He believes that defensibility is obtained only when:

> the set of optimizing actions is difficult for surveillance agencies to determine. This will result if stockholders have imperfect or incomplete information, or if, in the nature of the task, there is a substantial amount of uncertainty over possible outcomes. Control over information disclosure and an environment with inherent uncertainties are essential conditions of defensibility (106, p. 13).

Since large owners have both the ability and the resources to be relatively well informed, their more complete access to information should retard both the diversion of resources to managers and any type of artificial
alteration (accounting change, exercise of expense preferences, organizational slack) of earnings variability.

Finally, let us conclude with a consideration of some observations made by Cyert and March (26). They view the firm as a coalition whose members are engaged in continual bargaining as to the fixing of objectives and the distribution of resources. Management is viewed as the most central and most powerful member of the coalition. Small owners are characterized as being relatively passive, with the demands they make on the corporation being of such a character that most of the time they can be met rather easily.

For profit maximization they substitute the concept of an acceptable-level profit norm. The objective of the firm is to obtain a level of profit which is satisfactory to the relatively passive members of the coalition. The possibility that management might attempt to artificially influence the profit number is raised when Cyert and March suggest that "one of the tactics of managerial control is the manipulation of perceptions held with respect to the organization (27, p. 53)."

The concept of organizational slack is introduced and is used to indicate that management frequently has resources available to use for their own discretionary purposes. Slack exists because there is often a disparity between the resources available to the corporation and the payments required to maintain the coalition. Slack consists in payments to members of the corporation in excess of what is needed to maintain the coalition. In favorable periods when the organization outruns the aspiration level adjustments of the coalition members, the organization
has the potential of securing resources in excess of their demands. Management will use their discretion to direct much of this slack to themselves in some form of side payment (26, p. 30). It is suggested in the following that when the environment becomes less favorable, organizational slack is said to represent a cushion:

The cushion provided by organizational slack permits the firm to survive in the face of adversity. Under the pressure of a failure (or impending failure) to meet some set of demands on the coalition, the organization discovers some previously unrecognized opportunities for increasing the total resources available. For example, M. W. Reder reports that after losses of about fifty million dollars for the first three quarters of 1946, the Ford Motor Company announced that it had found methods of reducing operating costs (on a given volume of output) by about twenty million dollars per year (26, p. 38).

In relating slack to aspiration levels, Cyert and March suggest that managers desire to use slack to smooth out fluctuations in performance, as they believe that:

Organizational slack absorbs a substantial share of potential variability in the firm's environment. . . . By absorbing excess resources it retards upward adjustment of aspirations during relatively good times; by providing a pool of emergency resources, it permits aspirations to be maintained (and achieved) during relatively bad times (26, p. 38).

Management, then, seeks to minimize the stockholder unrest by eliminating major fluctuations on either the up or down side.

The importance of an acceptable level of profit is emphasized by Cyert and March below:

As one peruses the literature, one is impressed by the extent to which rules for search behavior typically follow some introduction such as, "When net losses crop up or when profits are not satisfactory . . . " Such comments seem to assume (and frequently give evidence of) both the existence of organizational slack and the importance of the acceptable level of profits as a day-to-day working principle (27, p. 54).
Cyert and March, then, in attempting to develop a more realistic model of firm behavior, affirm that management will both divert resources to their own use and seek to eliminate fluctuations in profits, thereby increasing their ability to generate an acceptable amount of profit period after period. They provide a mechanism for eliminating unwanted fluctuations in profits, namely the absorption or creation of slack. They contend that search procedures to create or eliminate profit are undertaken only when the deviation of actual performance from expectations causes management to feel enough pressure (27, p. 54). This deviation is important in seeking to predict the periods in which management's search procedure might lead to accounting method changes.

In this study the classification of accounting decisions as smoothing or non-smoothing will depend only upon the short run effect of a manager's decision. Management is assumed to be reacting to the pressure of the current period. Therefore, this study utilizes only the decision effect on the income of the year in which the decision is made.

In certain instances, such as an extraordinary gain or loss, there is no long run effect; but in other cases, such as change in depreciation or inventory method, a long run effect clearly exists. It is, however, impossible to determine the long run dollar effects with the information available to outsiders.

The fact that the existing data forces a short run analysis should not be considered damaging. The description above of management's manipulation of slack and two additional descriptive statements below concerning management's actual behavior confirm the importance of the "short run." First, Cyert and March, in describing a widely held firm,
indicate that

It is clear that the organization described here devotes rather little time to long run planning, especially when that planning is dependent on long-run estimates. They move from one crisis to another (26, p. 102). They emphasize short run reaction to short run feedback rather than anticipation of long-run uncertain events. They solve pressing problems rather than develop long run strategies (26, p. 119).

Secondly, and more to the point, a practitioner, who was also a discussant of the Gordon, Horowitz, Meyer's paper, related that "it was his experience that managers were much more responsive and attentive to exigencies operating solely during the year in which changes in accounting policies are being considered. Long term effects did not, in his opinion, seem to be governing (108, p. 251)."

If Cyert and March have accurately described management behavior, then the short run emphasis is not limiting, but appropriate. Management will use accounting policy decisions to reduce the pressure caused this period by the intolerable relationship that exists between a satisfactory income target and actual income prior to the making of an accounting change. It seems reasonable that management would turn to manipulation through accounting change only when actual business activities have not produced a satisfactory result—management may choose accounting methods to react to this short run crisis.

Some Suggestions by Accountants

Carl Devine has suggested rather bluntly that businessmen "tend to bias their representations in the direction of making their performance look better to those who exercise control over their actions (31, p. 135)." He maintains that businessmen often bias their reports to favor immediate
as opposed to long run goals. Devine cites Schmalenbach as being an early advocate of maintaining a smooth income stream in an attempt to "look better" to those who control the firm. Schmalenbach recommended guarding against depreciation charges which were too low since it was important to avoid special supplementary charges. Apparently, Devine observes, "Schmalenbach feels that the revelation of a sudden unfavorable circumstance is more damaging than slowly matching the possibility of such a loss with revenue period by period (31, p. 134)."

Devine also maintains that accountants are in a position to appreciate certain consequences of Cyert and March's concept of slack. Specifically he points out that:

For a half-century some continental accountants have urged that the profession should provide hidden and secret reserves through a deliberate policy of understating optimistic prospects. The hidden fat (understated expectations) may be disclosed at strategic times to smooth unfavorable reports under the assumption that bad news should be softened to prevent expectations (aspirations) from fluctuating wildly. The relationship of slack to information--and therefore to accounting--is certainly obvious. Slack can be created by discouraging aspirations and the accounting doctrine of conservatism is designed specifically to manipulate aspirations in this direction (30, p. 207).

Devine is suggesting, then, the possibility that management might use reporting techniques to minimize fluctuations in stockholder expectations. Clearly downside fluctuations are to be avoided, while up-side fluctuations are also detrimental, since by raising the aspiration level of stockholders, they reduce the amount of slack (excess resources) available for management's discretionary use.

Another accountant, Bonini, has also utilized Cyert and March to predict the occurrence of certain changes in management behavior.
For Bonini, pressure within the organization is the opposite of organizational slack. The amount of pressure or slack in the organization is a function of performance relative to expectations. When an organization is failing to perform up to expectations, there is a tendency for pressure to build up within an organization and this pressure generally results in attempts to achieve better performance.

Bonini continues by saying that "it is in this fashion that we can tie the accounting information system into the behavioral pattern of the firm. Individuals react to information by feeling pressure. And this pressure causes them to act (17, p. 20)." For our purposes, then, Bonini would suggest that many changes, perhaps even accounting changes, can be expected when the difference between actual performance and expectations becomes large enough to cause sufficient pressure.

Accountants, like many of the economists cited previously, are aware of the pressure to produce an adequate income for the stockholder. For instance, Sidney Davidson, in arguing for some improvements in the methods of accounting for development costs, emphasizes the importance of low reported income as a constraint on manager behavior:

It seems unthinkable that a wise decision by management, based on a careful consideration of probable future consequences and proceeding precisely according to plan, should have the effect of reducing reported net income. It is scant comfort for management to be told that, if the program continues according to plan, reported net income will ultimately be higher, indeed higher by an amount that compensates for the earlier reported losses or understatements of income. Income measures effectiveness, and judgments on managerial effectiveness are made too frequently for managers to take much solace from the thought of compensating gains sometime in the future. It is bad enough to think of the danger of being replaced by a new management as a result of troublesome accounting reporting practices,
and worse to be told that the successor management will look especially good as the compensating effect for the losses charged against current management (28, pp. 118-119).

Davidson goes beyond this emphasis on the profit constraint and suggests that there is a willingness among stockholders in owner firms to accept fluctuations in reported income when there are future benefits to be derived.

The directors were able to get the few large stockholders together and inform them that the company was badly in need of a major overhaul if it was to survive. There were ample funds available to finance this renovation and management proposed to make substantial expenditures for redesigning plant production lines, training of employees in new techniques and installing control systems. Most of these would be charged to expense as they were incurred—under existing accounting procedures. This would result in a substantial loss during the modernization period. Management was able to persuade that the project would have a substantial future payoff. The stockholders agreed that the program was worthwhile and should be inaugurated despite the gloomy income statements that would emerge for the first few quarters (28, p. 123).

The implication of Davidson's paper is that managers in widely held firms would have found it extremely difficult to make the improvements, or to make any of the other decisions he discusses, if they reduced reported earnings substantially.

Sam Hepworth, perhaps the first to suggest that accounting techniques might be used to smooth income, gave a number of justifications for smoothing. One of these justifications was that the owners and creditors of an enterprise will feel more confident toward a corporate management which is able to report stable earnings than if considerable fluctuation in reported earnings exists (48, p. 33).

Besides Davidson above, few accountants have given explicit
consideration to the implications of manager control for firm behavior. Pondy, though not dealing with smoothing per se, expressed his belief that the extent to which stockholders can effectively enforce their goals on management is a function primarily of how closely or widely the stock is held (83).

Two accountants, Schiff and Gordon, were careful to maintain the distinction between owner and manager firms when they considered the possibility that accounting policy changes might be used to smooth income. It should be emphasized that this distinction was consistently drawn by all of the economists considered previously.

Schiff sees the small stockholder as being relatively uninformed and therefore being forced to satisfice, leaving managers free to pursue policies which are to their advantage (86, p. 62). As cited in Chapter I, it is in corporations with diffuse ownership that Schiff sees managers having the advantage by being able to choose among accounting alternatives. In attempting to keep stockholders happy, Schiff believes management should report "earning per share in a constant or rising pattern to give the effect of 'pseudo' profit maximization (86, p. 66)."

Studies dealing with managements' choice criteria in making accounting decisions invariably cite the work of Gordon. He suggested that corporate managers use alternative accounting methods to report income in the period of their choice. Gordon hypothesized that the goal of manipulating income is to smooth income.

Gordon's hypothesis concerning income smoothing is based on the following four assumptions:
1) The criterion which corporate management uses in selecting among alternative accounting reporting techniques is maximization of its utility.

2) The utility of management increases with its job security, the level and rate of growth in managements' income, and with the level and rate of growth in the corporation's size.

3) The achievement of the managerial goals in #2 is partially dependent upon the stockholder's satisfaction with performance. These goals are achieved in diminishing marginal amounts with stockholder satisfaction. In other words, when stockholders are highly dissatisfied with a management, an increase in their satisfaction greatly increases the management's job security, etc., and hence its utility. On the other hand, when stockholders are highly pleased with a management, a further increase in their satisfaction by the same amount will not materially increase job security, income and corporate size.

4) Stockholder satisfaction increases with the average rate of growth in the corporations' income (or with the average rate of return on its capital) and with the stability of its income (35, pp. 261, 262).

Gagnon has concluded that "Given these assumptions it becomes reasonable for an executive who wants to maximize his own utility over a given period of time to shift income from prosperous period where the marginal utility of reported income is low to lean periods where the marginal utility of additional income is high (34, p. 194)."

It is clear that when upward smoothing is carried out it is usually in an attempt to meet the minimum profit constraint and is clearly advantageous to management. Gordon maintains that downward smoothing is also in management's best interest since it allows for the creation of hidden reserves in good years; these reserves may subsequently be used to increase income in "lean" years. Gordon also sees management as seeking to avoid the payment of the higher dividends which may accompany high earnings. Sounding very much like Williamson and Cyert and March, Gordon speculates that the "marginal gain in stockholder satisfaction to
be had from showing the higher growth rate in income may benefit the management less than the alternative possible uses of funds (35, p. 262)."

Almost without exception accounting studies dealing with smoothing are based solely on Gordon's propositions. Therefore, it is important to note that Gordon explicitly states that his smoothing propositions relate to manager firms. Having considered the role financial statements play in an owner firm, Gordon begins to consider those firms, about which he eventually derives his smoothing hypothesis, in the following way:

With the separation of ownership and operating control that exist in the modern corporation, financial statements perform an analogous function for the stockholders, creditors and other persons who have an interest in and influence over the decisions of management. If the corporation is doing well, the stockholder supports the existing management. If the corporation is doing poorly, the stockholder sells his stock, votes for a new management, or takes any other action within his power to change the management (35, p. 257).

The Holding Necessary for Control

It is necessary in this study to establish some criteria as to how much stock is required to control a corporation. Obviously when any single voting interest holds a majority of the voting stock, it is in complete control of the corporation. There is agreement among several investigators that as the remainder of the stock becomes more widely and thinly held, a smaller proportion of the total share outstanding is required to retain control of the firm (59) (72) (93) (98).

Berle and Means assert that control by a minority interest can be obtained when only 15 percent of the stock is held by one group (13, p. 84), but they draw the dividing line between manager and owner control at roughly
20 percent (13, p. 93). Villarejo (99) has observed that financial analysts assume that a controlling interest can be obtained with a much smaller percentage holding than that which Berle and Means suggest. He cites the following comment about the Prince family holding in Armour and Co. as support for his position.

"In the Prince Trust today there are still 320,900 shares out of 5,158,305 outstanding, ample for control in a situation where the rest of the stock is well dispersed (99, p. 45)."

Thus a holding of 6 percent is viewed as being ample for control. Monsen used the holdings of Land of Polaroid (19 percent) and Simon of Hunt Food and Industries (15 percent) as examples of corporations known to be actively controlled by dominant interests of less than 20 percent (72, p. 438). In discussing the large holdings of the trust departments of major banks, the financial writer A. L. Kraus states:

At the same time the larger an institutional investor becomes the greater risk it runs that it will assume a controlling position in individual companies. . . . To avoid such a situation some banks now place a limitation on their holdings of a single company's shares at five percent of the total outstanding (99, p. 55).

Villarejo points out that:

Implicit in this statement is the fact that a holding of five percent or more may give a single interest working control irrespective of other interests in the large corporation in question (providing of course that the 5 percent position is the largest single interest) (99, p. 55).

Bank holding laws prohibit more than a 15 percent ownership in two or more banks in an attempt to limit the number of banks controlled by one interest (72, p. 438). The Civil Aeronautics Board views a 10 percent holding as constituting a controlling interest. The
Aviation Consumer Action Project recently maintained in a petition filed with the Board that "there were instances in which persons holding 5 percent of the voting securities effectively control and manage airlines (19, p. A-15)."

The Temporary National Economic Committee considered holdings of 10 to 30 percent to be adequate for control, and holdings of less than 10 percent to be large enough to establish control when the remaining stock is very widely held (98, p. 103). The Committee also felt that it would be almost impossible in practice to dispute the control over a large, heavily capitalized corporation, exercised by any interest group owning more than about one-quarter of the entire voting stock.

Villarejo used a 5 percent holding as "a useful yardstick" to separate owner firms from manager firms. Larner classified a firm as immediately controlled through stock ownership if any individual, family or group of business associates held 10 percent or more of the firm's voting stock. Monsen considered a firm to be owner controlled if "active control was known to exist in the hands of a party with more than 10 percent of the voting stock (73, p. 438)." Representation on the board of directors or in the management of the firm was taken to be evidence of active control. "In the cases where no representation or other obvious evidence of active control existed, a block of 20 percent or more held by one party was considered to constitute an owner controlled situation (73, p. 438)." Monsen classified a firm as manager controlled when no block of stock greater than 5 percent was held by any individual.

The criteria for control type employed by Monsen are more rigorous than those used by other investigators. Some firms obviously cannot be
classified as either owner or manager controlled with his criteria; the elimination of the marginal firms from both control classifications provides two groups of firms which are sufficiently different to determine if the type of control has any effect upon managerial behavior. The control type criteria used in this study are very similar to those employed by Monsen.

Firms will be classified as owner controlled if one party owns 10 percent or more of the voting stock and exercises active control, or if one party owns 20 percent or more of the voting stock. Representation on the board of directors or in the management of the firm is taken to be evidence of active control. A firm will be classified as manager controlled if no single block of stock greater than 5 percent is controlled by any party. A firm must meet the criteria for the same control type in each of the nine years during which its behavior is being observed to be included in this study.

The data available for classifying firms is such that an error in classification can be made. If a party owns more than five or less than 10 percent of the voting stock and is not represented either as an officer or as a board member for any of the years covered in this study, this holding would not be discovered unless it was incidentally mentioned in the annual report. The firm in which such a party held an interest would be classified incorrectly as a manager firm when, in fact, the firm should have been eliminated from the study.

"Party" as mentioned in the preceding paragraph will refer to the individual and his associates (defined by the S.E.C. to include wife and
family, business partners, and corporations or trusts of which the
individual is an officer, director, or large stockholder). In this
study the term party will also include corporations which hold at least
20 percent of another corporation. If the controlling corporation is
owner controlled, then the controlled corporation will be classified
as owner controlled. All of the controlling corporations discovered
in this study were personal holding companies. The question of how to
classify a corporation controlled by another widely held firm is a
complex issue. Though this situation did not arise in this study,
the problem might best be handled in other studies by eliminating
these firms from consideration. Clear-cut predictions concerning firm
behavior in this situation are difficult to make.
CHAPTER III

DISCRETIONARY ACCOUNTING VARIABLES AND INCOME MANIPULATION

Choosing a Surrogate of Performance

The purpose of this chapter is to develop several targets toward which management might smooth income, to operationally define smoothing and to explicate the nature of the policy decisions which are included in this study. Before beginning the discussion of the targets which are used in this study, it seems appropriate to specify the surrogate of management performance which will be used in this study.

The choice among the many measures of management performance which are available cannot be made by trying to determine which measure of performance is the theoretically superior surrogate for a manager's performance. The discussion in the prior chapter indicates that an attempt should be made to find that measure of performance which management is most likely to use in representing their actions defensibly to stockholders. What variable is management most likely to emphasize in attempting to satisfactorily meet the constraint imposed by stockholder demands? Earnings per share (EPS) was selected as the most appropriate surrogate due to the heavy emphasis placed on this measure of performance by financial news media, in traditional security analysis and in annual report presentation.

The literature of financial analysis is rich with statements which indicate the heavy emphasis placed on EPS. Indeed, one frequently finds
the suggestion that this variable is emphasized too heavily or to the exclusion of other variables. Frank Weston and Sidney Davidson, for instance, comment on the heavy utilization of EPS as follows:

In today's investor-oriented environment, earnings per share are used extensively--either alone or with other financial and statistical data--to aid investors in making judgments as to the relative attractiveness of various securities. While the board, and analysts as well, would agree that the use of per share data alone may well be meaningless, it is recognized that many investors tend to operate in just such a manner. Accordingly, the earnings per share data must be computed and reported in the most meaningful manner so that even the most unwary investor may not be misguided and so that experienced investors may conclude that the methods used are sound (101, p. 59).

Morton Backer, an accountant who deals extensively with financial analysts, believes that among analysts, there is a widespread belief that "the market reacts to published financial data, particularly earnings per share (12, p. 535)." A financial analyst, David Babson, has complained that, as a group, financial analysts place too much "accent on earnings growth, largely to the exclusion of all other appraisal factors (7, p. 130)." The following comments by another financial analyst concerning the process of security evaluation further emphasizes the importance of EPS to those evaluating the corporate management.

In the practical valuation of the underlying value of a common stock, financial analysts and portfolio managers often make the implicit or explicit assumption that companies with high past growth of EPS will also exhibit high future growth of EPS. On the basis of this assumption, companies with high past growth of EPS may be assigned higher future potential of EPS, awarded higher P-E capitalization ratios, given better quality rankings, or on the basis of expected superior earnings trends, awarded better prospects of price appreciation. . . . Several major statistical services list companies which have recorded high rates of growth in
Relatively high growth in EPS is commonly described (by analysts) as the result of superior management (81, pp. 73, 76). . . .

One final observation by a financial analyst concerning the relative importance of EPS follows:

Recently I received 72 reports on various corporations from five well-known investment firms . . . . Not one of these 72 reports had an underscored heading or prominent identification directing attention to the subject of management. Fewer than half of them have any reference at all to management and then only in two or three brief sentences. The conclusion usually drawn is that management is good if earnings per share have been increasing (47, p. 27).

The quotations above are indicative of the significant exposure given to the performance measure EPS by parties external to the firm. Due to this heavy exposure it seems reasonable to assume that management has an extreme interest in reported EPS and that manipulation of this variable might be the objective of managerial smoothing activity.

The choice of EPS rather than total reported net income is not based solely on the heavier emphasis the EPS receives in the popular finance literature. The use of net income as opposed to EPS could be misleading since it is possible to maintain constant or rising EPS even when income is falling. Periods of declining net income need not always signal the need for an accounting change in a manager firm if management can increase EPS by utilizing a non-accounting type of manipulation.

Standard text book expositions of the acquisition of treasury stock suggest to management a method for achieving rising EPS in the face of falling income. These text books list the increasing of earnings per share as one benefit arising from the repurchase of stock.
has observed that this phenomenon is not merely idle speculation on
the part of text book authors. Excerpts from an article, Why A Company
Buys Itself, follow:

When a company's business falters, one way to keep
up its earnings per share is simply to stop pouring
money into productive facilities and use it to buy its
own common stock. . . .

If North American Rockwell does, in fact, achieve
its objective by the time its offer ends May 11, it
will have reduced its outstanding shares by 2% and
boosted its primary earnings per share by 3.7¢ over
the 1969 figure of 2.20. North American Rockwell's
chairman and chief executive made no bones about his
company's motive in offering to buy the stock. 'The
stock tender,' he said, 'is part of our program to
improve our earnings per share (103, p. 35). . . .'

In a study of the performance of common stocks subsequent to
repurchase, Allen Young made the following relevant observation:

Thus it is not at all surprising that the
preponderance of tender offers have been issued by
corporations with declining net income. And in these
situations, the fact that tender offer might hurt or
reverse the decline in earnings per share which falling
net income had brought about seems to have played a
significant role in the decision to utilize the
reacquisition device. . . .

Thus it seems clear that most tender offers have
not been issued as a means of implementing a well
conceived and positive corporate financial policy, but
rather have been forced upon management as a means of
defending against a showing of poor performance (107, p. 120).

The use of EPS as opposed to net income, then, will not allow the
utilization by management of a "non accounting" smoothing policy decision
to distort the results of this study. By using EPS, the effect of this
type of non accounting manipulation is considered before an attempt is
made to classify either accounting policy decisions or the failure to make
accounting policy changes as being smoothing or non smoothing decisions.
Finally, the use of EPS seems preferable to the theoretically superior constraint of rate of return because management does not utilize return on investment extensively as a way to convey the results of their own performance to outsiders. Stephen Zeff, commenting on the work of Gordon, Horowitz and Meyers, expressed his belief that smoothing the firm's rate of return on common stockholders' equity is not useful for two reasons.

One, a rate of return on net assets is rarely found in corporation annual reports, suggesting that managers apparently do not intend to convey a notion of the success of operations in terms of that criterion. Two, financial analysts utilize a relationship between income and market value per share, not book value per share (37, p. 250).

I believe that the first of Zeff's reasons is germane to all types of return on investment: rate of return is simply not used as often or as extensively as EPS in reporting to outsiders.

Management's Target Earnings

When one begins to consider testing Gordon's theorem, at least one problem comes immediately to mind. Management's accounting policy decisions increase, decrease, or do not affect the level of income reported for a particular year. To conclude that a decision smooths reported income requires knowledge of whether income for the year is above or below the target or normal income. One problem that must be faced, then, is the definition of the income target toward which management directs EPS.

Gordon, Horowitz and Meyers see the definition of this income target as being "essentially subjective, but we believe it involves the consideration of income in prior years and possibly also a comparison with the average
rate of growth in income for the industry (37, p. 228)." Simon is somewhat in agreement. He suggests that management does not seek optimal profits, but only satisfactory profits. "A level of profit is said to be satisfactory if it meets some subjective criterion on the part of management (16, p. 173)." Likewise Cyert and March view the objective of the firm "as being the attainment of satisfactory profits." For them the satisfactory level is defined in terms of "past experience and outside standards of comparison (by which they mean other firms in the industry) (27, p. 47)." The emphasis on past performance is echoed by Julius Margolis when he states that the aspiration level of profits for future periods must be equal to or greater than current normal profits (67, p. 190)." This notion that the current aspiration be an optimistic extrapolation of past performance is consistent with a wide range of human goal setting behavior (26, p. 34).

Joel Dean's discussion of the criteria for setting the level of the profit standard gives some support to the use of both past performance and industry performance in determining an income target. He comments as follows:

A strictly autonomous standard such as the firm's own past earnings has, in some instances, more validity than might appear. If the past level of earnings has been sufficient to attract capital, and has not invited too much potential competition and has kept stockholders reasonably happy, it may really embody the economic rationale for the other criteria of reasonable profits discussed above. But the company's own past earnings are defensible as a criteria only when they rest on some rationale. A broader guage standard in terms of a group of companies with comparable products and risks is more likely to have a functional justification (29, pp. 36-37).
Before turning to the discussion of the particular targets that are used in this study, it should be emphasized that the targets were purposely chosen so that they do not involve an excessive degree of sophistication from the managerial point of view. The discussion immediately above points to the subjectivity of the profit standard. Since it seems doubtful that management uses an elaborate model in setting this subjective standard, an attempt was made to consider those targets which seemed realistic and possessed a suitable level of sophistication. The use of elaborate models to develop managerial smoothing objectives would seem to introduce a level of sophistication unwarranted in light of the subjective nature of the profit constraint. In an attempt to be consistent with the suggestions of Gordon, Cyert and March and Dean above, the targets introduced below rely solely on either the firm's own past performance or the performance of the firm's industry.

In this study I intend to use five different target EPS figures in an attempt to determine if any of the five appears to be more sensitive to the relationship among variables. The first target assumes zero growth. This is the model which has been used most frequently in other studies. The complete lack of consideration of either firm or industry growth in this definition of a target income can lead to errors in classifying firms as smoothers or non-smoothers when management is smoothing income with some growth rate in mind. In an attempt to improve upon the zero growth model, I propose to use the four alternative methods of calculating target income which are described below. In the following sections I will employ the following symbols:
\( Y_t = \) reported earnings per share in period \( t \)

\( pY_t = \) preliminary earnings per share (reported earnings per share in period \( t \) prior to any accounting manipulation)

\( \bar{Y}_t = \) target earnings per share in period \( t \)

\( \bar{R}_t = \) the rate of growth in industry earnings per share

The Zero Growth Model

Copeland, Copeland and Licastro, Gagnon, Archibald and Bird all defined completely smoothed income as an amount equal to reported income for the preceding period. Some support for such a model can be found in the fact that earnings reports for any given year invariably compare the current year's earnings with the earnings of the previous year. The target income for management under this model, when the prior periods' earnings are greater than zero, can be expressed as follows:

\[
(1) \quad \bar{Y}_t = Y_{t-1}
\]

for \( Y_{t-1} > 0 \).

The Individual Firm Growth Models

One referent that managers might use in determining an acceptable level of growth in earnings is the behavior of the firm's earnings pattern in the immediate past. Thompson has described the use of this type of referent for a group of firms, "which lacking an absolute or crystallized scale for evaluation, must find a relative one, and the reference group in this case is the organization itself, at an earlier period. In a
stable environment, acceptable performance in the past can be taken as evidence of preparedness for the future. Demonstrable improvement over the past lays the basis for even more satisfactory future performance . . . (94, p. 89)."

My own survey of recent earnings reports in the Wall Street Journal indicates that when the current year's earnings are very close to, or less than the prior year's earnings, managers usually go to great lengths to indicate why the anticipated increase in earnings was not realized. Some of the following statements recently made by the management of various firms will indicate that management's target can involve an increase over the prior period's earnings and that the acceptable rate of increase is partially dependent upon the firm's own past behavior.

Following IBM's announcement of a small decline in fourth quarter earnings from the year-earlier period, it was reported that the IBM chairman "repeatedly had warned in quarterly earnings statements to shareholders that earnings in 1969 had returned to a more normal growth pattern (emphasis added) following abnormally big gains in 1968 . . . (100, 19 January 1970, p. 6). In reporting on the earnings of Black and Decker for the first fiscal quarter, Mr. Decker said that "although the gains don't match the 21 percent jump in earnings achieved in the full year ended Sept. 28, the first quarter is traditionally slack, and a 10 percent gain in the period would be slightly better than our average first quarter increases during the past five years (emphasis added) (100, 11 December 1969, p. 8)." The president of Ramada Inns called a 15 percent increase in earnings "just about on target (100, 13 January 1970, p. 12)."
One model for calculating the target in this section is to let the target growth be equal to the amount of growth in earnings achieved by the firm in the preceding year. This model obviously places full emphasis upon the firm's immediate past. The target income in this model, assuming that earnings increased in the prior period and that the prior period's earnings are greater than zero, can be stated as follows:

\begin{align*}
(2) \quad \tilde{Y}_t &= Y_{t-1} + (Y_{t-1} - Y_{t-2}) \\
& \text{for } Y_{t-1} > 0, \\
& \text{and } (Y_{t-1} - Y_{t-2}) > 0.
\end{align*}

A second model for calculating the target in this section will allow for growth which is determined by the individual firm's most recent growth pattern. The desired increase in earnings per share for any period will be determined by a weighted average of the changes in earnings per share over the most recent four years. The use of a multi-year increase will prevent an abnormally high increase in earnings in t-1 from influencing the target to a great extent. The weights, arbitrarily chosen, place the greatest importance upon the most recent changes in earnings, thereby assuming that the most recent years' performance is of greatest importance in determining the standard used in assessing current performance. The target earnings per share, assuming the weighted change in earnings and the prior year's earnings are positive, can be stated in the following manner:
All three of the models presented thus far, if not qualified by assumptions, can produce a target which is a loss. Losses would seriously threaten the security of any management; and therefore, when past performance has been sufficiently poor that the prior period's performance resulted in a loss, I will assume that management's target earnings per share is 0. This constraint on all three models can be stated as follows:

\[ (4) \quad \bar{Y}_t = 0, \]

for \( Y_{t-1} < 0 \).

It is also possible for the second and third methods of calculating the target to predict a target earnings per share which is less than the earnings in \( t-1 \). For the management of a firm which is experiencing a decreasing trend in earnings, the termination of the downward trend would seem to be a goal that is consistent with management's goal of increasing stockholder satisfaction. Therefore, when the change in earnings predicted by either the second or third method of calculating the target is negative, I will assume that the target equals the reported earnings per share of the previous period. This assumption can be stated as:

\[ (3) \quad \bar{Y}_t = Y_{t-1} + .5(Y_{t-1} - Y_{t-2}) + .3(Y_{t-2} - Y_{t-3}) + .2(Y_{t-3} - Y_{t-4}) \]

for \( Y_{t-1} > 0 \),

and \( .5(Y_{t-1} - Y_{t-2}) + .3(Y_{t-2} - Y_{t-3}) + .2(Y_{t-3} - Y_{t-4}) > 0 \).
\[
(5) \quad Y_t = Y_{t-1},
\]
for \( (Y_{t-1} - Y_{t-2}) \leq 0 \) in equation (2)

and for \( 0.5(Y_{t-1} - Y_{t-2}) + 0.3(Y_{t-2} - Y_{t-3}) + 0.2(Y_{t-3} - Y_{t-4}) \leq 0, \)
in equation (3)

The Industry Growth Models

As indicated previously in this chapter, Gordon, Cyert and March, and Dean all have suggested that the rate of growth in industry earnings might be an important factor that management would consider in developing a target. The accounting and finance literature appear to offer ample evidence in support of the contention that industry averages are used as standards for assessing the adequacy of firm behavior. For instance, Baruch Lev indicates that the traditional literature in financial statement analysis often emphasizes the use of industry wide averages as predetermined targets (60, p. 290). Lev's empirical study confirmed that firms do adjust their financial ratios according to industry wide averages. Thompson observes that management, in attempting to favorably influence those who are assessing performance, "turns to social references (comparable organizations) to demonstrate that they are doing as well as, or better than, others in their league (94, p. 89)." In the accounting literature, arguments for consistency frequently include a proposal for uniform procedures within a particular industry so that comparability between firms within a particular industry can be increased. The appropriateness of industry comparisons was recently emphasized by the analysts of Forbes in this statement:
Yet the fact remains that the majority of the biggest U.S. Companies, while they've branched out in recent years, still are dependent upon one basic line of products or broad market. Companies still can, and should be compared with each other by industries (33, p. 82).

Recently the president of National Airlines (100, 15 January 1970, p. 17) and the chairman of TWA (100, 20 January 1970, p. 13) both used the performance of the airline industry as a standard against which their own firm's performance could be compared and rationalized. Following a takeover attempt in 1969, the chairman of B. F. Goodrich promised to improve profit margins in 1970, since the company had lagged behind its prime competitors (96, p. 48). Last year Goodrich earned only 3.9 percent on sales, compared with 6 percent for the industry's most profitable major operator. Jones and Laughlin Steel Corporation was judged to be a poor investment for Ling-Temco-Vought since "the earnings of J. and L. have plunged, dropping the company’s profitability to the lowest among the major steelmakers (100, 5 January 1970, p. 1)."

Reynolds Tobacco cited sharp increases in state taxes on cigarettes and "the continued barrage of anti-smoking propaganda" to have caused a decrease in domestic cigarette consumption, but assured their stockholders that Reynolds' brands continue to rank highest in the industry (100, 29 December 1969, p. 9). These few examples indicate that executives are aware that their performance can be, and frequently is, compared with the performance of other managers within their own particular industry.

The target income which allows for industry growth will be defined as the previous year's reported income plus the amount of growth from last year's reported income which will allow the firm to equal the rate
of growth in earnings for the industry. This target, assuming that income in \( t-1 \) and the industry growth rate are positive, can be represented as:

\[
(6) \quad \bar{Y}_t = Y_{t-1} (1 + \bar{R}_{t-1})
\]

for \( Y_{t-1} > 0 \),

and \( \bar{R}_{t-1} > 0 \).

The industry growth model, like the individual firm growth models, can produce targets which are not likely to be satisfactory to stockholders or managers. When the firm's income in \( t-1 \) is less than or equal to 0, I will assume that the target is 0. When the average industry growth rate is less than zero and earnings are positive, the target earnings per share is less than the previous year's earnings. In this situation the target is defined to be equal to earnings per share in the previous year. These assumptions can be stated as follows:

\[
(7) \quad \bar{Y}_t = 0
\]

for \( Y_{t-1} \leq 0 \), and

\[
(8) \quad \bar{Y}_t = Y_{t-1}
\]

for \( Y_{t-1} > 0 \), and \( \bar{R}_{t-1} < 0 \).

The rate of growth in industry earnings is determined by comparing EPS figures, fully adjusted for stock splits and dividends, for the ten largest firms in the industry as of 1961. The rate of growth for year \( t \)
is determined by the fraction which has as its numerator the difference between the ten largest firms' EPS in years (t) and (t-1), and which has a denominator equal to the absolute value of earnings in year (t-1). The denominator was positive for all cases observed in this study. This rate can be represented in the following manner:

\[
\bar{R}_t = \frac{\sum_{f=1}^{10} \text{EPS}_{f,t} - \sum_{f=1}^{10} \text{EPS}_{f,t-1}}{\sum_{f=1}^{10} \text{EPS}_{f,t-1}}
\]

The industry rate is determined by using the ten largest firms because these firms are highly visible. A manager of a particular firm would be more likely to use the larger and more visible firms as a reference group than smaller, relatively insignificant firms.

The last target used in this study is based upon an \( \bar{R} \) which is a multiple year growth rate. The target income will be defined as the previous year's reported income plus the amount of growth in last year's reported income which will allow the firm to equal a weighted average of the industry growth rates for the previous three years. This target, assuming that income in t-1 and the weighted average of the industry growth rates is positive, can be represented as:

\[
\bar{Y}_t = Y_{t-1}(1 + .5\bar{R}_{t-1} + .3\bar{R}_{t-2} + .2\bar{R}_{t-3})
\]

When the firm's income in t-1 is less than 0, I will assume that the target is 0. When the weighted average of the industry growth rates is less than zero and earnings are positive, the target will be defined to
be equal to earnings per share in the previous year. These assumptions can be stated as follows:

\[(11) \quad \bar{Y}_t = 0\]

for \(Y_{t-1} \leq 0\), and

\[(12) \quad \bar{Y}_t = Y_{t-1}\]

for \(Y_{t-1} > 0\), and

\[(.5\bar{R}_{t-1} + .3\bar{R}_{t-2} + .2\bar{R}_{t-3}) \leq 0.\]

**Classifying a Policy Decision as Smoothing**

Each policy decision made by the firms in the sample will be classified as smoothing or non-smoothing changes using each of the five targets previously mentioned. When preliminary income in period \(t\) is less than the target earnings per share, then an accounting variable is said to have smoothed income if it increases reported earnings. When preliminary income is greater than the target earnings, then smoothing requires that an accounting variable cause a decrease in reported income. The identification of smoothing changes by this method requires that the absolute difference between preliminary income and the target be greater than the absolute difference between reported earnings per share and the target. This constraint can be expressed as follows:

\[(13) \quad |p_t - \bar{Y}_t| > |Y_t - \bar{Y}_t|\]

For firms which make no changes during the current period, the preliminary income and the reported income for period \(t\) are equal.
In a year in which an individual firm makes more than one policy decision, the marginal EPS effects for all decisions made will be treated as one decision. The net marginal effect of all changes made will be classified as a single instance of smoothing or non-smoothing behavior utilizing the decision rule in equation (13) above.

**Methods of Smoothing**

Copeland draws a distinction between smoothing by choice of accounting method and smoothing by means of a real event.

A smoothing device ought to involve only accounting interpretation of an event, not the event itself. Accounting manipulation is a matter of form, not substance. To illustrate, the rejection of a sales order just to lower revenue involves a real event, but delaying revenue recognition until cash is received is only an accounting event; buying equipment in order to increase the depreciation base is a real event, but using an accelerated depreciation method is merely an accounting event (22, pp. 104-105).

Real events such as rejection of a sales order, failure to eliminate unprofitable branches, and purchase of equipment to increase the depreciation base will not be included in this study. Events such as gains and losses on non-subsidiary investments carried at cost will be included among the smoothing variables since their manipulative effect is large, dependent upon a particular accounting method, and identifiable. Other variables to be included are any change in accounting method, the revision of estimated pension needs, the extension of the life of depreciable assets, the write-off of intangible or fixed assets and any extraordinary charge or credit.

The accounting policy decisions which are the basic source data for this research include types of decisions which Cushing's study, the
broadest empirical work in this area, did not consider. Cushing's study dealt with policy decisions which resulted in consistency qualifications in the auditors report. As the previous paragraph indicates, the events which will be considered in the study include two types of decisions which do not require consistency qualifications. These two types of changes are what the AICPA classifies as a type B change and extraordinary changes and credits.

Events Requiring Consistency Exceptions

The Statement on Auditing Procedure No. 33 sets forth the rules governing qualification of opinion. Statement No. 33 states:

In general, comparability of financial statements as between years is affected by changes arising from: (a) a change in accounting principles employed, (b) changed conditions which necessitate accounting changes, but which do not involve changes in the accounting principles employed, and (c) changed conditions unrelated to accounting.

Only the first of these three classes involves the consistency standard and therefore only changes of consistency having a material effect on financial statements require recognition in the independent auditor's opinion as to consistency. Changes of the second and third classes having a material effect on the financial statement will not ordinarily be commented upon in the independent auditor's report (20, p. 43).

The first type of change, a change in accounting principles, was the subject matter of Cushing's study. Referring to this type of change, the AICPA has stated:

A characteristic of this type of change is that it involves a choice by management from among two or more accounting principles. The reason for the change need not be stated. Examples are a change from the straight line method to the declining balance method of depreciation, and a change from
the pay-as-you-go basis to the accrual basis of accounting (whether or not funded) for an existing pension commitment or plan (20, p. 47).

Events of this type will be included in this study, along with two other types of decisions which have high manipulative potential.

Accounting Changes Not Requiring Consistency Exceptions

With respect to accounting changes which are necessitated by changed conditions, Statement No. 33 comments in the following manner:

A characteristic of this type of change is that it is an accounting change required by altered conditions (rather than by the consummation of a business transaction). It involves no choice by management since the accounting principles employed have not changed; hence, although comparability may be affected, consistency is not involved. Examples are a change in the estimated remaining useful life of plant property arising from operation experience and obsolescence, and a changed provision for pension plan accruals arising from revisions in actuarial assumptions based upon experience of the plan. A change of this type having a material effect on the financial statements should be disclosed in a note to the financial statements. It would not ordinarily be commented upon in the independent auditor's report (20, p. 44).

It is important to note that the Securities and Exchange Commission requires that the type B change described above should be disclosed, and the auditor should express his opinion thereon. To comply with these SEC requirements, the AICPA recommends that for financial statements filed with the Commission, the auditor utilize a middle paragraph in his report to describe the change and to express his view thereon.

Two examples of type B changes which materially affected earnings and drew public criticism follow. Business Week commented on the annual report of Swift & Co. in the following manner.
Operating entirely within the framework of generally accepted accounting principles, Swift cut contributions to its pension plan to $1.1 million from $13.6 million the year before. The difference of $12.5 million amounted to over 90% of the net income Swift reported for 1957. Thus, the company was able to keep its earnings on an even keel, despite the "unfavorable" margins that prevailed in the meat packing industry that year (1, p. 56).

The following comment from Barron's indicated how another type B change boosted earnings.

The 1961 annual report of Pan American World Airways, for example, was certified by the auditors as being on a basis consistent with that of the previous year. A footnote reveals, however, that in the interval the airline extended the estimated useful life of its jet engines, thereby reducing depreciation charges. The change boosted last year's earnings by $1.3 million. Without it, profits would have been up only 7%, instead of 25% (82, p. 3).

Since a decision as to when to undertake a reassessment of the remaining useful lives of fixed assets or the changing experience of a firm under a pension plan is a policy decision which is subject to managerial discretion, type B changes will be included in this study. Since a change of this type requires at most footnote disclosure and can be made without the auditor qualifying his opinion, it might be expected that a type B change is a very popular method of manipulating earnings, one which should not be excluded in an investigation of possible income manipulation.

Extraordinary Gains and Losses

The third type of event or decision to be recognized in this study is the decision to recognize extraordinary gains and losses. This type of event has been ignored in all recent studies which are concerned with
income manipulation with the exception of White (102). The omission of this particular event is difficult to understand since there is such a large number of alternatives available from which management can choose. A description of over fifty types of transactions which were actually used in a two year period is provided by Harold E. Arnett (6, pp. 56, 57).

The use of historical cost to value assets frequently leaves management with a stockpile of assets from which they can choose to create a desired effect. In this regard it is interesting to note that over two thirds of the extraordinary gains appearing on the income statement in Arnett's study were the result of sales of plant equipment or marketable securities. Arnett's study revealed that management consistently closed a larger percentage of credits to income than debits.

E. A. Kracke writing in 1946 commented on the treatment of capital gains and losses as follows:

I have sought at various times to ascertain how the scales tipped in this matter of surplus direct debits and surplus direct credits, with the recurring conclusion that, on a fairly weighted basis and in more or less usual times, the debits predominated. On exchanging views with other accountants, I found that we shared a common impression on this point, namely that the net tendency of such direct entries was to lighten the load on the income account (57, p. 22).

Arnett's only concern was to determine whether or not capital gains or losses were closed directly to retained earnings or to the income statement, but he very clearly indicates the manipulative potential of this type of event in the smoothing context in the following quotation:
A bewildering maze of items, without limit as to source or effect, are reflected in the category of extraordinary. There does not seem to be any thread of consistency except that a larger percentage of credits is closed to income than debits. When one considers the pressure on management to maintain a constant or slightly increasing earnings per share, plus the recessions in the years covered by these annual reports, perhaps a partial explanation is found for the way in which the items were handled. There is no doubt, on the average, that such procedures resulted in a higher earnings per share as actually calculated and presented in the annual reports (emphasis added). However, any procedure should be condemned which places emphasis on the final effect or result of a transaction in determining the manner of accountability, rather on the nature of the transactions (6, p. 60).

Similarly, Bernstein, in his study of extraordinary gains and losses, states:

Although smoothing may be desirable for many reasons including even those of general economic stability, we must go forward on the assumption that the main aim of financial reporting is to report the facts as they are and disclose them fully rather than to rearrange them as some interested party may want them to look (14, p. 50).

Forbes recently attacked the use of this type of manipulation by Litton. "To be blunt, a nonrecurring capital gain was used to offset what is--or will be--an operating loss, and Litton will never have to reflect the ship yard loss in its operating statement (64, p. 26)."

The inclusion of extraordinary items and type B changes in this study is deemed to be necessary since both of these types of events are subject to management discretion, and since they do not carry the stigma of a qualified opinion, they are most attractive ways to manipulate reported income.

I recognize that it is possible that managers who desire to smooth may do so by using real events outside the scope of this study, since the
focus here will be primarily on accounting related variables. The only question being raised here is whether or not management sees accounting variables as a way to manipulate income in the short run.

Sources of Data

The sources of the data used in this study are summarized in the paragraphs which follow. The earnings per share data for the firms used in this study were obtained from the annual reports published by the respective companies. This series of figures was adjusted for all stock splits and for all stock dividends which were greater than or equal to 1%. Data concerning accounting policy decisions was obtained from the annual reports and from Form 10-K, filed by each of these companies with the Securities and Exchange Commission.

The determination of the ownership of firms was initially based upon a study for December 1954 appearing in the Committee on Banking and Currency, U.S. Senate Staff Report, Factors Affecting the Stock Market (97). To verify that the ownership position reported in 1954 was maintained through 1962, Form 10-K and the definitive proxy statements filed by each firm with the SEC were examined.

The determination of industry types was based on the three digit standard industry classifications of the Bureau of the Budget. This classification by major product was obtained from the Securities and Exchange Commission's Directory of Companies Filing Annual Reports with the S.E.C. (88). The earnings per share figures for the ten largest firms in each industry, provided that a firm was not one of the 110 firms observed in this study, were obtained from Moody's Handbook of Common Stocks (74). These figures were adjusted for stock splits and dividends.
CHAPTER IV
THE STATEMENT OF THE HYPOTHESES
AND THE REPORTING OF RESULTS

The First Hypothesis Relating to Income Smoothing

The basic hypothesis to be tested is that manager firms are more likely than owner firms to make accounting policy decisions which smooth income. Even when the motivation for an accounting change is something other than smoothing or manipulating income, management's choice of the period in which to make the change can still be influenced by the level of earnings per share to be reported in the period. The smoothing hypothesis, while allowing for manipulation being the prime motivating force, emphasizes the importance of trend in earnings per share as a constraint upon the decision to make a policy decision in manager firms.

Accounting literature has dealt only with firms which did make policy decisions; accordingly the first hypothesis in this study is concerned with making inferences about the manager and owner firms which did make policy decisions during the nine year period considered by this study. The null hypothesis to be tested is that the classification of a firm as a smoother is independent of the distribution of ownership within that firm. More formally stated, the null hypothesis is:

\[ H_0(1) \quad \text{There is no difference between the two groups (owner firms and manager firms) in the proportion of their members which are smoothing firms.} \]

The alternative hypothesis maintains that a firm is more likely
to be classified as a smoothing firm if it is a manager firm as opposed to an owner firm. The alternative hypothesis may be stated as follows:

\[ H_a(1) \text{ A greater proportion of manager firms are smoothing firms than is the case with owner firms.} \]

The test of the first hypothesis requires that a firm which made at least one decision during the nine year period can be classified as a smoother or non-smoother. The classification of a firm as a smoother is made by calculating for each firm a fraction which has as its numerator the number of smoothing decisions made during the nine year period, and which has a denominator equal to the total number of decisions made during the nine year period. A change will be defined as a smoothing change according to the decision rule specified in Chapter Three.

In the absence of smoothing manipulation, the probability of any decision being defined as a smoothing change is one-half. If, then, we observe values of the fraction (smoothing changes/total changes) which exceed one-half, we have some evidence of a smoothing tendency within a particular firm. Accordingly, firms included in the test of this hypothesis are classified as a smoothing firm if for that firm the percentage of smoothing changes to total changes exceeds .50. Firms which have a percentage which is less than or equal to .50 are classified as non-smoothing firms.

Clearly some classification errors may result if the single change firms were being drawn from a non-smoothing population, the 1/1 and 0/1 frequencies would be roughly equal. If, however, the one change firms are drawn from a population which contains many income smoothers, the relative frequency of the fraction 1/1 would exceed the 0/1 frequency,
and we would observe more smoothers than non smoothers. A similar argument would hold for any other number of changes and sets of fractions, such as 0/3, 1/3, and 2/3, 3/3 respectively.

Thus the misclassification of a single firm may occur, but if one population smooths income more than another, the values of the smoothing fraction greater than .50, should, in repeated sampling, occur more often for samples drawn from smoothing as opposed to a non smoothing population.

The procedure for testing this hypothesis is to examine the financial statements of the two groups of firms for each year in the nine year period covered by this study, to identify policy decisions and to classify each of these policy decisions according to the criteria specified in Chapter Three. Each firm which made changes will then be classified as a smoothing or non smoothing firm by the rule specified at the end of the previous paragraph. The classification of firms will be repeated for each of the five targets previously described.

Previous studies have employed a materiality adjustment in an attempt to focus on management's behavior when faced with their most critical or important decisions. This study will also employ such an adjustment. The first hypothesis will be tested twice for each target. First, firms will be classified as a smoothing or non smoothing firm based on all of the decisions which were made. A second test of the hypothesis will be made with the classification of each firm being dependent upon only the larger or more important decisions which the firm made. The second test serves to eliminate those decisions which are so insignificant that
management is not likely to be concerned with their income effect when making decisions. By considering only those items which are material it should be possible to obtain a clearer indication of a manager's concern, or lack of concern, with target income. A change will be considered material if the income effect of the change is greater than or equal to ten percent of preliminary earnings per share.

Tables 1 and 2 indicate the result of this classification procedure for manager and owner firms respectively. Table 3 compares the classification of firms for manager and owner firms in the form that they appear in the contingency tables used to test the first hypothesis.

**TABLE 1**

CLASSIFICATION OF MANAGER FIRMS AS SMOOTHING, NON SMOOTHING, OR NO CHANGE FIRMS

<table>
<thead>
<tr>
<th>Target</th>
<th>Materiality Adjustment</th>
<th>Smoothing</th>
<th>Non-Smoothing</th>
<th>No Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No Materiality Adjustment</td>
<td>34</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>10% Materiality Adjustment</td>
<td>26</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>No Materiality Adjustment</td>
<td>28</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>10% Materiality Adjustment</td>
<td>23</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>No Materiality Adjustment</td>
<td>28</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>10% Materiality Adjustment</td>
<td>25</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>No Materiality Adjustment</td>
<td>32</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>10% Materiality Adjustment</td>
<td>27</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>5</td>
<td>No Materiality Adjustment</td>
<td>31</td>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>10% Materiality Adjustment</td>
<td>25</td>
<td>14</td>
<td>18</td>
</tr>
</tbody>
</table>
**TABLE 2**

CLASSIFICATION OF OWNER FIRMS AS SMOOTHING, NON SMOOTHING, OR NO CHANGE FIRMS

<table>
<thead>
<tr>
<th>Target</th>
<th>Materiality Adjustment</th>
<th>Smoothing</th>
<th>Non-Smoothing</th>
<th>No Changes</th>
</tr>
</thead>
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<td>10% Materiality Adjustment</td>
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<td>21</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>No Materiality Adjustment</td>
<td>23</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>10% Materiality Adjustment</td>
<td>17</td>
<td>19</td>
<td>17</td>
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<td>3</td>
<td>No Materiality Adjustment</td>
<td>26</td>
<td>24</td>
<td>3</td>
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<tr>
<td></td>
<td>10% Materiality Adjustment</td>
<td>17</td>
<td>19</td>
<td>17</td>
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<tr>
<td>4</td>
<td>No Materiality Adjustment</td>
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<td>3</td>
</tr>
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<td>10% Materiality Adjustment</td>
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<td>17</td>
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<td>No Materiality Adjustment</td>
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<td>3</td>
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<tr>
<td></td>
<td>10% Materiality Adjustment</td>
<td>17</td>
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<tr>
<td>Target</td>
<td>Materiality Adjustment</td>
<td>Smoothing</td>
<td>Non-Smoothing</td>
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<tr>
<td>1</td>
<td>No Materiality Adjustment</td>
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<tr>
<td></td>
<td>Manager Firms</td>
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<td>22</td>
<td></td>
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<tr>
<td></td>
<td>Owner Firms</td>
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<td>31</td>
<td></td>
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<tr>
<td></td>
<td>10% Materiality Adjustment</td>
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<tr>
<td></td>
<td>Manager Firms</td>
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<td></td>
<td>Owner Firms</td>
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<td>2</td>
<td>No Materiality Adjustment</td>
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<td>Manager Firms</td>
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<td>Owner Firms</td>
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<td></td>
<td>Owner Firms</td>
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<tr>
<td></td>
<td>10% Materiality Adjustment</td>
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<td></td>
<td>Manager Firms</td>
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<td></td>
<td>Owner Firms</td>
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<td>19</td>
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<tr>
<td>4</td>
<td>No Materiality Adjustment</td>
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<tr>
<td></td>
<td>Manager Firms</td>
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<td></td>
<td>Owner Firms</td>
<td>18</td>
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<td>10% Materiality Adjustment</td>
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<tr>
<td></td>
<td>Manager Firms</td>
<td>27</td>
<td>12</td>
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<tr>
<td></td>
<td>Owner Firms</td>
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<td>20</td>
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<tr>
<td></td>
<td>Owner Firms</td>
<td>17</td>
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</tbody>
</table>
Chi-square tests using 2 X 2 contingency tables were employed to test hypothesis 1 for the data tabulated in Table 3. The calculation of $\chi^2$ was corrected for continuity, which makes the test, given the sample size involved in this study, conservative (89, p. 40). In testing Hypothesis 1 a parametric test utilizing a $t$ distribution was considered inappropriate since the two major assumptions underlying the use of $t$ distribution to test differences in means were not clearly met by the data obtained in this study. Hays, Siegel and Mendenhall all specify that the use of the $t$ distribution in problems involving a difference in means requires the following two assumptions: the scores used to compute the sample means must be drawn from normally distributed populations, and these populations must have equal variances (46, pp. 321, 322) (89, p. 96) (70, p. 23). Hayes adds that violations of normality are less critical when the populations are unimodal and symmetric.

The distributions of smoothing percentages used in testing Hypothesis 1, however, are not normally distributed, not symmetric and, in certain cases, are not unimodal. The variances, especially when firms were classified using material changes, were very different. In short, the major assumptions of the $t$ test appeared not to be met.

The decision to use the chi-square test was based upon the fact that it does not require any of the assumptions discussed above. It requires only that each of $N$ observations falls into one and only one category, that the outcome of each of the $N$ individual observations is independent and that the sample $N$ is large (46, p. 583). Siegel, (89, p. 110) among others, considers $N$ equal to 40 to be large so that even with a materiality adjustment the number of firms used in this study is sufficiently large.
to use this test. The calculated chi-square values which resulted from comparing the manager and owner firms appear in Table 4.

### TABLE 4

**CALCULATED CHI-SQUARE VALUES AND LEVELS OF SIGNIFICANCE FOR THE COMPARISON OF OWNER AND MANAGER FIRMS**

<table>
<thead>
<tr>
<th>Target</th>
<th>$x^2$</th>
<th>Level of Significance</th>
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</thead>
<tbody>
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<td></td>
<td></td>
<td><strong>Firm Classification Based on All Changes</strong></td>
</tr>
<tr>
<td>1</td>
<td>4.58</td>
<td>.025</td>
</tr>
<tr>
<td>2</td>
<td>.05</td>
<td>.45</td>
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<td>4</td>
<td>3.92</td>
<td>.025</td>
</tr>
<tr>
<td>5</td>
<td>1.91</td>
<td>.10</td>
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<td></td>
<td></td>
<td><strong>Firm Classification Based on Material Changes</strong></td>
</tr>
<tr>
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<td>3.76</td>
<td>.05</td>
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<td>1.53</td>
<td>.125</td>
</tr>
<tr>
<td>4</td>
<td>3.74</td>
<td>.05</td>
</tr>
<tr>
<td>5</td>
<td>1.53</td>
<td>.125</td>
</tr>
</tbody>
</table>

*The proportion of smoothing firms to total firms was larger for owner firms than for manager firms.*

When firms were classified on the basis of all changes made the results were in the predicted direction for all targets except target 3. The null hypothesis that the proportion of smoothing firms to total
firms is the same for owner and manager firms can be rejected at
\[ \alpha = .025 \] for targets 1 and 4 and at \[ \alpha = .10 \] for target 5.

When the materiality adjustment is made the results on all targets
are in the predicted direction. The \( \chi^2 \) values for targets 1 and 4
allow for rejection of the null hypothesis at \( \alpha = .05 \); the calculated
values for target 1, 3.76, and for target 4, 3.74, are very close to
the critical value for \( \alpha = .025 \) which is 3.84. The \( \chi^2 \) values for
targets 2, 3 and 5 are significant at \( \alpha = .25, .125 \) and .125 respectively.

Again, all of the results above employed Yates' correction for
continuity. That correction is particularly recommended when the
expected value of any of the cells is less than 5. In every case above
the expected values exceeded 5 by a considerable amount. The correction
was never the less applied to increase the strength of any significant
values discovered. It should be noted that in the absence of this
correction, all of the calculates \( \chi^2 \) values above would be higher, and
the reported results in each case considerably stronger.

A Second Hypothesis Relating to Income Smoothing

There is a second way of analyzing the data which tends to support
the results reported above. The second analysis is worthy of reporting
since it parallels a type of analysis used in many other studies and the
results will therefore be useful in commenting on the significance of
the results obtained in other research. This second analysis also
overcomes one difficulty associated with the first design; the first
design assigned equal importance to firms that made six smoothing changes
out of six changes and to firms that made one smoothing change out of
one change. If each change made is treated as an individual observation, the weakness in the first design can be eliminated.

The null hypothesis dealing with total changes made by each group of firms can be stated as follows:

\( H_0(2) \) There is no difference between the two groups of companies with respect to the proportion of the total changes made by each group which smooths income.

The alternative hypothesis may be stated as follows:

\( H_a(2) \) The proportion of smoothing changes to total changes will be greater for the group of manager firms than for owner firms.

Table 5 compares the smoothing and non-smoothing changes made by manager and owner firms in the form that they appear in the contingency tables used to test the second hypothesis. Table 6 reports the calculated \( \chi^2 \) values and the levels of significance for Hypothesis 2.

In all ten cases presented in tables 5 and 6, the results are in the predicted direction. The results obtained strongly suggest that the manager firms as a group make a higher percentage of smoothing changes than do owner firms. Targets 1 and 4, last years income and last years income increased by the industry growth rate, were the most successful in discriminating between owner and manager firms for both Hypothesis 1 and Hypothesis 2. These targets are both easy to calculate and frequently mentioned in the popular financial literature. They appear to be the targets that manager firms are most sensitive to in making accounting policy decisions.

Taken together the results of testing Hypotheses 1 and 2 seem to confirm the general hypothesis that manager firms are more likely to smooth income than are owner firms.
<table>
<thead>
<tr>
<th>Target</th>
<th>Smoothing or Non-Smoothing Changes</th>
<th>All Changes</th>
<th>.10 Materiality Adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Manager Firms</td>
<td>Owner Firms</td>
</tr>
<tr>
<td>1</td>
<td>Smoothing Changes</td>
<td>134</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Non Smoothing Changes</td>
<td>59</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>Smoothing Changes</td>
<td>121</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>Non Smoothing Changes</td>
<td>72</td>
<td>75</td>
</tr>
<tr>
<td>3</td>
<td>Smoothing Changes</td>
<td>122</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Non Smoothing Changes</td>
<td>71</td>
<td>69</td>
</tr>
<tr>
<td>4</td>
<td>Smoothing Changes</td>
<td>125</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>Non Smoothing Changes</td>
<td>68</td>
<td>82</td>
</tr>
<tr>
<td>5</td>
<td>Smoothing Changes</td>
<td>125</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Non Smoothing Changes</td>
<td>68</td>
<td>80</td>
</tr>
</tbody>
</table>
### TABLE 6

Calculated Chi-Square Values and Levels of Significance for Changes Made by Manager and Owner Firms

<table>
<thead>
<tr>
<th>Target</th>
<th>$\chi^2$</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Comparison Based on All Changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>8.27</td>
<td>.005</td>
</tr>
<tr>
<td>2</td>
<td>3.22</td>
<td>.05</td>
</tr>
<tr>
<td>3</td>
<td>4.43</td>
<td>.025</td>
</tr>
<tr>
<td>4</td>
<td>8.35</td>
<td>.005</td>
</tr>
<tr>
<td>5</td>
<td>6.61</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Comparison Based on Material Changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>12.66</td>
<td>.0005</td>
</tr>
<tr>
<td>2</td>
<td>2.74</td>
<td>.05</td>
</tr>
<tr>
<td>3</td>
<td>1.11</td>
<td>.15</td>
</tr>
<tr>
<td>4</td>
<td>8.22</td>
<td>.005</td>
</tr>
<tr>
<td>5</td>
<td>6.95</td>
<td>.005</td>
</tr>
</tbody>
</table>
Some Hypotheses Concerning No Change Years

One of the difficulties with the results obtained by testing Hypotheses 1 and 2 is that no information about firm behavior in no change years is obtained. Previous studies have ignored the issue of firm behavior in no change years, yet it is an issue that deserves attention if a complete test of the smoothing theorem is to be made. Gordon, Horowitz, and Meyers first stated the problem raised by no change years when they posed the following question:

Assume that a corporation has adopted some practice. Clearly a decision in a subsequent year to adopt an alternative practice is a discretionary action on the part of management. However, is the continued use of principles adopted in prior years a discretionary decision (37, p. 224)?

The lack of smoothing accounting changes in any particular period does not necessarily imply that a given firm lacks concern with the pattern of their income stream. Since changing accounting methods is only one of a number of ways in which income can be smoothed, in any particular period a large number of firms may have preliminary income which is so close to the target income that management is satisfied and, therefore, makes no policy change.

It seems reasonable to expect that if a firm is concerned with target income and if preliminary income is relatively far from the target, then the manager will feel pressure to make a policy decision. On the other hand, when preliminary income is very close to the target, there is no reason to expect the firm to make a policy decision—a decision need not be observed for the firm to be considered an income smoother.
One way to determine if the existence and timing of no change years is consistent with the notion of income smoothing is to compare the reported deviation from target income in no change years with the deviation of preliminary income from target income in smoothing change years. If it can be shown that the average deviation of preliminary income from target income in smoothing years is greater than the average deviation of reported income from target in no change years, then the existence of the no change years and the timing of their occurrence will appear to be consistent with the smoothing theorem.

Exploring the relative average deviations from target requires that the deviation from target be measured for each firm in each smoothing change or no change year. The deviation from target was measured by the following fraction:

\[
\frac{pY_t - Y_t}{\text{Market value per share at time } t}
\]

Preliminary income was not used as the denominator of the fraction immediately above, since meaningful comparisons become difficult when \(pY_t\) approaches zero or is negative. Archibald (5) has used the market value of the shareholders equity to solve a similar type of problem, and that is the alternative which was adopted here.

Green and Segall (40) have also discussed the use of market value per share to scale forecast errors and eliminate some of the weaknesses of the absolute error, Forecast EPS - Actual EPS, and the relative error,
(Forecast EPS - Actual EPS) / Actual EPS. Their discussion supports the alternative adopted here—the use of market value to deflate deviations.

Using the deviations for individual years, a single measure called the average smoothing difference was calculated for each firm. The average smoothing difference for each firm is defined as the average deviation in smoothing decision years minus the average deviation in no change years.

The hypothesis to be tested in this section can now be stated as follows:

\[ H_0(3) \] There is no difference in the number of firms for which the average smoothing difference is positive and the number of firms for which the average smoothing difference is negative.

\[ H_a(3) \] The number of firms for which the average smoothing difference is positive exceeds the number of firms for which the average smoothing difference is negative.

This hypothesis is tested below using a \( \chi^2 \) One Sample Test (89, pp. 42-47). The hypothesis was tested for each target using first the manager firms as a group, and then the owner firms. Table 7 reports the data used in the test, the calculated \( \chi^2 \) value and the level of significance in each case.

The results for both the manager and owner firms confirm the suggestion that smoothing change periods are significantly different from no change periods. Smoothing behavior apparently takes place in both groups of firms when it has the most utility to management. Smoothing decisions are made when preliminary income is substantially
### TABLE 7

**POSITIVE AND NEGATIVE AVERAGE SMOOTHING DIFFERENCES IN MANAGER AND OWNER FIRMS**

<table>
<thead>
<tr>
<th></th>
<th>Firms With A Positive Average</th>
<th>Firms With A Negative Average</th>
<th>$\chi^2$</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manager Firms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>33</td>
<td>18</td>
<td>4.41</td>
<td>.025</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>18</td>
<td>5.452</td>
<td>.01</td>
</tr>
<tr>
<td>3</td>
<td>37</td>
<td>13</td>
<td>11.52</td>
<td>.001</td>
</tr>
<tr>
<td>4</td>
<td>35</td>
<td>14</td>
<td>10.79</td>
<td>.005</td>
</tr>
<tr>
<td>5</td>
<td>33</td>
<td>18</td>
<td>4.41</td>
<td>.025</td>
</tr>
<tr>
<td><strong>Owner Firms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>33</td>
<td>13</td>
<td>8.694</td>
<td>.005</td>
</tr>
<tr>
<td>2</td>
<td>34</td>
<td>10</td>
<td>13.090</td>
<td>.001</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>17</td>
<td>3.13</td>
<td>.05</td>
</tr>
<tr>
<td>4</td>
<td>36</td>
<td>10</td>
<td>14.69</td>
<td>.001</td>
</tr>
<tr>
<td>5</td>
<td>31</td>
<td>14</td>
<td>6.42</td>
<td>.01</td>
</tr>
</tbody>
</table>
removed from the target. When income is closer to the target, managers evidently feel less pressure and therefore make fewer changes.

The results reported above were expected for manager firms. The owner firms, however, behaved in a manner that was not expected. Additional support for the contention that owner and manager firms behave differently would have been discovered if hypothesis 3 had not been rejected for owner firms. Hypothesis 4, stated below, is used to suggest that the difference between smoothing change and no change years does not depend on the type of control.

\[ H_0(4) \quad \text{The proportion of manager firms with positive average smoothing differences is equal to the proportion of owner firms with positive average smoothing differences.} \]

\[ H_a(4) \quad \text{The proportion of manager firms with positive average smoothing differences is not equal to the proportion of owner firms with positive average smoothing differences.} \]

Hypothesis 4 is tested using the chi-square tests for two independent samples (89, pp. 104-111). The data used to calculate the test and the calculated values of \( \chi^2 \) appear in Table 8.

None of the chi square values are significant at any reasonable level of significance. The largest calculated values, .985 and .877, allow for the rejection of the null hypothesis at only a .50 level of significance. One possible interpretation which might be placed on the results reported to this point follows. A conclusion that could be drawn from Hypotheses 1, 2, 3, and 4 is that the manager in a widely held firm is more concerned than the owner firm about the income target; because he is not in a strong control position, the manager firm makes frequent
adjustments to stay close to the target. A higher percentage of smoothing changes is therefore observed for manager firms, rather than for owner firms.

Owner firms also make smoothing changes; but it can be seen from Hypotheses 1 and 2, they make far fewer of them. These changes occur for owner firms, just as for manager firms, when the firm is relatively far away from the target. Thus, when they occur, these smoothing changes also appear to be in response to pressure caused by a substantial deviation from target. The need to make a policy decision to relieve pressure occurs far less often for the owner firms since the owner firm
can, with its block of stock, and therefore strong defensive position, ignore relatively minor fluctuations which compel the manager firm to take some action.

Since in most periods the owner firm is relatively free from the pressure to approach the target, the accounting policy decisions made may be in response to any number of other motivating influences. In responding to such influences, decisions do not necessarily direct income toward the target; hence, we observe that a lower percentage of owner decisions are target approaching, or smoothing decisions. At least one possible alternative motivating influence, a concern for taxes, will be explored in subsequent sections of this paper.

A Hypothesis Exploring One Possible Choice Criterion in Owner Firms

It has been hypothesized previously that an owner firm makes fewer attempts to artificially smooth reported earnings than a manager firm. The confirmation of this hypothesis suggests that owner firms act as if they are less likely to approach accounting alternatives with the reported income effect of their decision being foremost in their minds; this confirmation, however, fails to provide an alternative suggestion as to what does motivate the choosing of alternatives within owner firms.

One possible rationale for explaining the choice of methods within an owner firm is that the owner firm is generally more concerned than the manager firm with minimizing the present value of tax payments, regardless of how this affects the current period's reported profit. To examine this possible explanation of the behavior of owner firms, it is
necessary to formulate some additional hypotheses relating to the choice of depreciation methods by owner and manager firms.

I will use the symbols in Table 9 to designate the possible combinations of depreciation methods that firms may adopt.

TABLE 9
POSSIBLE DEPRECIATION COMBINATIONS

<table>
<thead>
<tr>
<th>Method For Taxes</th>
<th>Method For Financial Reports</th>
<th>Symbol For Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerated</td>
<td>Straight Line</td>
<td>A/S</td>
</tr>
<tr>
<td>Accelerated</td>
<td>Accelerated</td>
<td>A/A</td>
</tr>
<tr>
<td>Straight Line</td>
<td>Straight Line</td>
<td>S/S</td>
</tr>
</tbody>
</table>

For most firms the adoption of accelerated depreciation for tax purposes results in a lower present value of future tax payments, while straight line depreciation in the financial reports will generally lead to higher current reported profits. Firms seeking to minimize taxes and increase reported income would be expected to choose A/S. Lindhe (62) found that firms do not attempt to achieve both of these goals--only 36% of over 600 firms he investigated used A/S.

If the choice of depreciation method for owner firms is heavily influenced by the tax savings available through the use of accelerated depreciation, the combination of methods most likely used by owner firms would be A/S or A/A. The choice between A/A and A/S might depend upon the dimension of corporate personality that Sorter and Becker (91) have
called intolerance for ambiguity. When dealing with accounting methods, one way of interpreting the concept of intolerance for ambiguity is to say that it will cause the firm to use the same accounting inference for both book and tax purposes—the manager assigns the same number to each financial event, regardless of the purpose for which it is communicated.

Clearly manager firms are not unconcerned about tax benefits. It appears, however, that they are more concerned about reported income than owner firms; they are, therefore, less likely to be willing to accept the reduction in income (or the deviation from target) which could occur when switching to accelerated depreciation for financial reporting. Manager firms, then, are expected to use some combination of depreciation methods which has straight line depreciation for financial reporting. The choice between the combination S/S and A/S could possibly depend upon intolerance for ambiguity once again.

Two testable propositions which follow from this discussion are that:

1. Owner firms are more likely than manager firms to use A/A.

2. Manager firms are more likely than owner firms to use S/S.

These propositions can be expressed alternatively as follows:

1. \( \frac{A/A \text{ Manager Firms}}{A/A + A/S + S/S \text{ Manager Firms}} < \frac{A/A \text{ Owner Firms}}{A/A + A/S + S/S \text{ Owner Firms}} \)

2. \( \frac{S/S \text{ Manager Firms}}{A/A + A/S + S/S \text{ Manager Firms}} > \frac{S/S \text{ Owner Firms}}{A/A + A/S + S/S \text{ Owner Firms}} \)
The null hypotheses concerning the combination of depreciation methods used by each group of firms can be formally stated as follows:

\[ H_0(5) \] There is no difference between the two groups of companies with respect to the proportion of their members which use A/A.

\[ H_0(6) \] There is no difference between the two groups of companies with respect to the proportion of their members which use S/S.

The alternative hypotheses are:

\[ H_a(5) \] A greater proportion of owner firms are A/A firms than is the case with manager firms.

\[ H_a(6) \] A greater proportion of manager firms are S/S than is the case with owner firms.

The basic suppositions about firm behavior which are contained in this study do not lead to any predictions concerning the proportion of owner and manager firms which adopt the combination A/S. This combination is acceptable to both firms since it both minimizes taxes and provides a means to increase reported income. Therefore, there will be no hypothesis in this study concerning the proportion of owner or manager firms which are using A/S.

To test hypotheses 5 and 6 it is necessary to observe proportions at a given point in time. The observations are made as of 1959 since by that year over 90% of the depreciation changes I discovered had taken place. Table 10 reports the combination of depreciation methods used by manager and owner firms by number of firms and by percentage of firms using each combination. Table 10 also presents similar data for 1962, which is the last year covered by this study.
### Table 10

**The Choice Among Depreciation Combinations in 1959 and 1962**

<table>
<thead>
<tr>
<th>Depreciation Combinations</th>
<th>Manager</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>1959</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A/A</td>
<td>23</td>
<td>.4035</td>
</tr>
<tr>
<td>A/S</td>
<td>17</td>
<td>.2982</td>
</tr>
<tr>
<td>S/S</td>
<td>17</td>
<td>.2982</td>
</tr>
<tr>
<td>1962</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A/A</td>
<td>24</td>
<td>.4210</td>
</tr>
<tr>
<td>A/S</td>
<td>18</td>
<td>.3157</td>
</tr>
<tr>
<td>S/S</td>
<td>15</td>
<td>.2631</td>
</tr>
</tbody>
</table>

Table 10 includes only 50 observations for owner firms because I was not able to definitely determine the depreciation method used for the following three owner firms: Maytag, Outboard Marine Corp., and Plough Corporation.

Chi-square tests using 2 X 2 contingency tables were used to test the two hypotheses under consideration at the end of 1959. The data used to calculate these tests is arranged in the contingency tables which are presented in Table 11.
The calculated value of $\chi^2$ for hypothesis 5 is 2.025, which is significant at .10. The $\chi^2$ for hypothesis 6 is .21, which is significant at $\alpha = .35$. The decision to adopt the A/A combination seems to be related to type of control; there appears to be no significant difference, however, in the tendency of manager and owner firms to utilize the S/S combination.

One observation and qualification concerning the data used to test hypotheses 5 and 6 seems warranted. Let me acknowledge before beginning that I am fully aware that the exclusion of observations which bias against my hypotheses is improper. There are, however, eight observations which I believe ought to be excluded to obtain an alternative, and I believe, a more accurate test of the basic premise which underlies hypotheses 5 and 6.
Recall that it was argued that the owner firms might have a relatively greater concern with tax minimization (regardless of the reported income effects); this would lead owner firms to be more likely to use the A/A combination than manager firms. It was also anticipated that the S/S combination would be used more frequently by manager firms. The relative use of the depreciation combinations available was reported in Tables 10 and 11.

Keeping in mind that we were examining the possible rationale of tax minimization as a way to explain owner behavior, I would argue for the exclusion from the data of five owner firms which were classified S/S in 1959. Clearly these firms being classified as S/S lowered the level of significance of hypotheses 5 and 6.

The argument for the exclusion of three of these firms is based on the fact that in these cases no tax was paid during the interval 1954-1959. Clearly to accelerate depreciation in a period when losses are already being experienced and no tax is being paid would not minimize a tax liability and could result in depreciation deductions which had no tax benefit. To accelerate depreciation in such a circumstance clearly does not imply a lack of concern with taxes. The three firms which paid no tax from 1954 to 1959 are Checker Motors Corporation, Cudahy Packing Company, and Fawick Corporation.

Two other firms experienced very poor performance records during the interval 1954 through 1959 and were therefore not in positions to take full advantage of depreciation deductions. Collins and Aikman Corporation had losses in 1954, 1955, and 1957 with the 1957 loss being
substantial; they paid no tax in 1954, 1955, and 1957. Clopay Corporation had losses in each of the years 1952-1956. Clopay paid no tax from 1954-1958, and had a tax of only $3900 on income of $482,319 during 1959. It is questionable whether tax minimization implies the use of accelerated depreciation for taxes in any of the five cases mentioned above. Indeed, the maintenance of the S/S combination is consistent with having a primary concern with tax minimization.

None of the manager firms utilizing S/S in 1959 experienced a single loss year from 1954-1959; there are no S/S manager firms which are comparable in any way to the five owner firms cited above. However, three other firms are eliminated from the analysis which follow because they were in tax loss carry forward positions in 1959. The two manager firms removed, Bullard Corporation and Goebel Brewing, both were using the A/S combination. One owner firm, B. T. Babbit, which was using A/A also was eliminated. Though all three were using accelerated depreciation for taxes, judgments concerning their tax motivation are difficult to make because of their carry forward position. Therefore, they are removed from the analysis along with the five owner firms mentioned previously.

Because I believe the comparison is both interesting and relevant, Table 10 is recast below with the six owner firms and two manager firms mentioned above removed from the analysis. The data with these eight observations removed appears in Table 12.
TABLE 12

THE CHOICE AMONG DEPRECIATION COMBINATIONS IN 1959
WITH CERTAIN QUESTIONABLE FIRMS REMOVED

<table>
<thead>
<tr>
<th>Depreciation Combinations</th>
<th>Manager</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>A/A</td>
<td>23</td>
<td>.4181</td>
</tr>
<tr>
<td>A/S</td>
<td>15</td>
<td>.2727</td>
</tr>
<tr>
<td>S/S</td>
<td>17</td>
<td>.3090</td>
</tr>
</tbody>
</table>

Contingency tables that were used to test hypotheses 5 and 6 based on the data in Table 12 appears in Table 13.

TABLE 13

A SECOND GROUP OF CONTINGENCY TABLES
TO TEST HYPOTHESES 5 AND 6

<table>
<thead>
<tr>
<th>Depreciation Combinations</th>
<th>Manager</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hypothesis 5</td>
<td></td>
</tr>
<tr>
<td>A/A</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>A/S + S/S</td>
<td>32</td>
<td>17</td>
</tr>
</tbody>
</table>

|                           | Hypothesis 6 |       |
| S/S                       | 17      | 7     |
| A/A + A/S                 | 38      | 37    |
The calculated value of $\chi^2$ for hypothesis 5 is 3.001, which is significant at .05. The $\chi^2$ for hypothesis 6 is 2.24, which is significant at $\alpha = .10$. The improvement in the level of significance is interesting and seems worthwhile to report considering the circumstances that surrounded the firms in question when the original observations were made. The results seem to lend support to the proposition that the choice of A/A or S/S is not independent of the type of control exercised within the firm. This is particularly true with regard to the selection of the A/A combination which was significant at $\alpha = .10$ before the removal of the questionable firms, and at $\alpha = .05$ after their removal.

These results seem strong enough to at least justify further investigation of the possibility that tax minimization, rather than income smoothing, is a variable that is weighed heavily in decisions relating to choice of accounting methods in owner firms.
CHAPTER V
SUMMARY, CONCLUSIONS, AND SUGGESTIONS
FOR FUTURE RESEARCH

Summary and Conclusions

This dissertation was undertaken to ascertain whether or not the separation of ownership from control has produced different and distinct types of accounting behavior in large, publicly traded companies. Specifically, this research was designed to determine if manager controlled firms were more likely than owner controlled firms to use accounting policy decisions to smooth, or to direct income toward various income targets. A secondary aspect of this investigation was to explore the possibility that in the making of their accounting policy decisions owner controlled firms were more strongly motivated by tax considerations than manager controlled firms.

The methodology that has been used involved the creation of five income targets toward which firms might conceivably direct income. Taken in order the five income targets defined target income to be equal to last years income, last years income plus the amount of growth in earnings achieved by the firm in the preceding year, last years income plus a weighted average of the increases in income over the most recent three years, last years income plus the amount of growth that will allow the firm to equal the rate of growth in industry earnings, and last years income plus the amount of growth that will allow the
firm to equal a weighted average of the industry growth rates for the previous three years. For each of the years 1954-1962 a target income number was developed using each of the five target models incorporated in this study. This procedure has been followed for each of the 57 manager controlled firms and 53 owner controlled firms which are included in this study.

The annual reports for these companies were examined in each year of the period 1954-1962 to discover any discretionary accounting policy decisions which occurred. The aggregate marginal EPS effect of all observed decisions for a year became the variable of investigation for that particular year. This marginal EPS effect was analyzed to determine if it moved reported income closer to or further away from target income. The tendency of manager and owner firms to smooth income was then compared based on the relative percentage of policy decisions made by each group which were target approaching decisions.

Years in which no policy decisions occurred were then examined to determine if they were consistent with the general notion of income smoothing. This examination was accomplished by comparing for each firm the average deviation from target of the no change years with the average deviation in years in which a smoothing change occurred.

Finally, the choice of depreciation methods was examined to ascertain if the selection of the owner group possibly reflected a greater concern for taxes than the selection made by the manager group. The major findings of this analysis were as follows:
1. The policy decisions made by manager firms smoothed income significantly more often than the policy decisions made by owner firms. When the two groups of firms are compared after each firm has been classified as a smoothing firm or non smoothing firm, the proportion of smoothing firms to total firms is larger for the manager group than for the owner group. With or without a materiality adjustment the difference in proportions is significant at $\alpha = .05$ for targets 1 and 4. Targets 1 and 4 were last years income and last years income plus the industry growth rate. It should be mentioned that these targets, which are both the simplest and most frequently referred to in the financial media, were the targets that were most successful in discriminating between owner and manager firms.

When the two groups of firms were compared using the proportion of the total changes which smoothed income, stronger substantiation of a higher smoothing tendency among the manager firms is obtained. With or without a materiality adjustment the results are significant for all targets at $\alpha = .05$. Targets 1 and 4 again provide the strongest results, being significant at $\alpha = .005$. Both sets of results support the hypothesis that the tendency to use accounting policy decisions to smooth income is dependent on type of control.

2. For the first time in any smoothing study, explicit consideration was given to the no change years of the firms which made smoothing decisions. The results confirmed, for both manager and owner firms, that smoothing change periods are consistently different from no change periods. Smoothing changes occur in periods when the deviation from
target before the change is greater than the deviation from target in no change years. It was also shown that the difference between smoothing change and no change years does not depend on the type of control.

3. The decision to adopt accelerated depreciation for both financial and tax reporting was found to be dependent upon the type of control exercised within the firm. The proportion of owner firms adopting accelerated depreciation for both financial reporting and taxes was significantly greater than the proportion of manager firms making this decision. The level of significance before the exclusion of 8 questionable firms was .10; after exclusion of these firms the results were significant at $\alpha = .05$. One interpretation of these results is that owner firms are more concerned with taxes and less concerned with reported income than are manager firms.

The proportion of manager firms choosing straight line depreciation for both financial reporting and taxes was greater than the proportion of owner firms making this election. The difference in the proportions, however, is not significant unless the 8 firms paying little if any taxes are removed from the analysis. Even then the level of significance is only .10.

One further aspect of the choice among depreciation combinations, not previously reported, bears mentioning. A previous study by Archibald (5) dealt with the switchback from accelerated depreciation to straight line depreciation for financial reporting. It was Archibald's contention that firms would revert to straight-line depreciation for
financial reporting in periods when they were below target income and needed, therefore, to generate income. The results of Archibald's study and a follow up project by Bird (15) confirmed his hypothesis. Specifically, Archibald found that a disproportionate number of the switchback firms (40%) were experiencing lower book profits in the year of change than in the year prior to change.

Since the switchback decision has a high probability of being motivated by a concern with reported income, I would expect the occurrence of switchbacks to be a more frequent occurrence among manager firms than owner firms. This expectation is confirmed. Of the 34 manager firms which switched to accelerated depreciation for financial reporting, at some point between 1954 and 1962, 10 returns to straight line depreciation were observed. Only 2 of the 31 owner firms which adopted accelerated depreciation during the period under consideration returned to straight line reporting. The relative frequency of switchbacks is offered as additional evidence which confirms the relatively higher concern that manager firms have with reported income.

The results of this study extend the research previously reported in the accounting literature by empirically drawing the distinction between owner controlled firms and manager controlled firms for the first time. The distinction is viewed as being theoretically important because only by making this distinction is an adequate test of the notion of income smoothing, drawn originally from economics and the behavioral sciences, obtained. Those studies based on samples drawn from populations containing both owner and manager firms have not adhered
to the behavioral and economic assumptions which motivate hypotheses concerned with income normalization.

Some of the results reported above lend empirical evidence to the importance of distinguishing between owner and manager control. The results add support to studies in economics of Monsen, Chiu and Cooley (72) (71); employing control criterion similar to those used by Monsen, this study obtained some empirical evidence of policy decision differences among owner and manager firms. Monsen had previously reported operating performance differences between firms dichotomized by similar control criteria.

The results reported here add additional evidence confirming that the existence of alternatives leads to income manipulation. The results underscore the importance of the accounting professions attempts to construct statements which allow for valid comparisons to be drawn across firms through time. Flexibility which is used primarily in an attempt to manipulate the inferences of outsiders must be eliminated.

**Suggestions For Future Research**

The findings reported here seem to justify a reconsideration of many past accounting studies related to income smoothing. Since, without exception, these past studies were based on samples drawn from populations containing owner firms, the results previously reported might possibly be modified. Indeed, with owner firms removed from these studies, significant results might be obtained where none previously existed. Such a finding would lend support to the results reported in this study.
The pressure to make smoothing changes was viewed as arising from deviations from income targets in this study. A worthwhile extension would involve the consideration of other, non income, targets which management might consider to be important. Return on investment or dividends per share plus change in market value in the current year would seem to be targets worthy of consideration. Adequate performance with regard to this latter measure of performance could possibly contribute to a manager's failure to make a positive income smoothing change when he is substantially below the income target. Inadequate performance with regard to this variable might possibly explain a non smoothing change which increases income. Consideration of dividends plus the change in market price might, therefore, explain some of the non smoothing decisions or no change decisions which were observed in this study.

Coupled with the results of Monsen, Chiu and Cooley, this study would seem to warrant investigations into other sets of policy decisions in search of differences in behavior. For instance, one might expect lower earnings/pay-out and higher debt equity ratios among owner firms which are trying to grow, but which want to avoid new issues of voting stock. Manager firms would seek to avoid the riskiness involved with high debt equity ratios, while debt financing would be particularly popular in the owner firms. If owner firms are indeed more efficient it should be reflected in a higher return on investment in owner firms as opposed to manager firms drawn from the same industry. Finally the question of whether or not manager firms with stock options behave more
like owner firms than do manager firms with little or no option benefits seems worthy of exploration.

Though the accounting profession has done much to reduce the area of management's discretion since 1962, many alternatives for manipulation continue to exist. Some examples of alternatives recently exploited, as reported in the January 10, 1974, *Wall Street Journal* article on International Telephone and Telegraph Corporation, follow:

In 1972 ITT began disclosing in its reports to shareholders such transactions as a $4.8 million profit on sales of Sheraton hotels that it included in net income. In the past such a sum would have been included in ordinary income without revealing its size or source.

In 1970 ITT changed the inventory valuation policy of its Grinnell Corp. acquisition to FIFO from LIFO. The change boosted ITT's pretax profits by $13.8 million.

In fact ITT often sets aside large reserves, and spreads big profitable transactions, which hold down immediate income. Rather than rack up the biggest earnings increases it could manage, ITT simply appears to have been more interested in consistent earnings increases.

One component of ITT's earnings is allowed to swing up and down--its gains from certain capital transactions. Gains from these increases made up some 40% of the increase in earnings in 1971.

The quotations above serve to indicate the continued existence of alternative techniques which are frequently used to manipulate rather than inform. The failure to report factual observation free from the biasing inferences of managers continues to exist. A study similar to the current one, only with a more current time frame, is needed to determine if manager firms continue to exploit the current reporting alternatives to a greater extent than owner firms.
The purpose of this appendix is to list the firms included in this study and to indicate the type of decisions made by each firm. The numbers 1-10 are used as column headings in this appendix to indicate the following types of accounting decisions:

1. A change in the method of reporting inventories.
2. A change in depreciation methods.
3. A change in the estimated useful life of a fixed asset.
4. A change in the method of reporting long term investments.
5. A change in the method of reporting short term liabilities.
6. A change in the method of reporting deferred taxes.
7. A change in the method of reporting pensions.
8. Extraordinary gains and losses resulting from the disposal of plant, equipment or long term investments.
9. Other extraordinary gains and losses.
10. Other miscellaneous changes.

An X placed under a column heading indicates that the firm made at least one decision of that type during the period 1954-1962.
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