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The effects of takeover threat on corporate performance: An analysis of the implications of the efficiency and myopia perspectives

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THE EFFECTS OF TAKEOVER THREAT ON CORPORATE PERFORMANCE

An Analysis of the Implications of
the Efficiency and Myopia Perspectives

A thesis presented to the Faculty of the Graduate Division of the Leonard N. Stern School of Business, New York University, in partial fulfillment of the requirements for the degree of Doctor of Philosophy

I, Hans Buchholtz,

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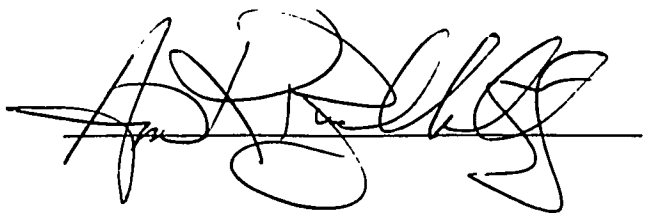

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ABSTRACT

This study examines the effects of an unsuccessful takeover threat on corporate performance. Two theoretical perspectives frame the problem. *Managerial Efficiency Theory* argues that takeover threat is a form of market discipline that penalizes managers who do not maximize shareholder welfare. *Managerial Myopia Theory* argues that takeover threat stems from the opportunism of raiders who take advantage of the market's imperfections, forcing managers to sacrifice long-term goals for short-term gains.

These two theories suggest hypotheses about how the threat of a takeover affects a firm's subsequent performance. Managerial Efficiency Theory argues that takeover threat leads to improved earnings per share, increased return to shareholders and greater use of debt. Managerial Myopia Theory contends that takeover threat causes firms to decrease capital investment and lower interest coverage. An integrative model of takeover threat is proposed and the relationships suggested by these two theories are tested.

One of the three Managerial Efficiency Theory hypotheses was unequivocally supported: The ratio of total debt to total assets of target firms increased significantly after the hostile takeover attempt. There was a significant interaction effect between hostile takeover attempt and earnings per share: The implications of that finding are discussed. There was no significant change in return to shareholders after the hostile takeover attempt.

The two Managerial Myopia Theory hypotheses were supported. After the hostile takeover attempt, capital expenditures of the target firms decreased significantly. Interest coverage, the cushion from which firms make debt payments, also decreased in the year following the hostile takeover attempt.

The results support Managerial Myopia Theory. They indicate that survivors of hostile takeover attempts are likely to come out of the experience with greatly increased leverage, a significantly reduced ability to service that debt, and a smaller investment in capital expenditures. These findings are discussed from the perspectives of both Managerial Efficiency Theory and Managerial Myopia Theory. Suggestions for future research are offered.

Chapter 1
INTRODUCTION

1.1. Overview

Publicly traded firms have always lived with the possibility that a hostile suitor would grab control by either purchasing a large number of shares or initiating a proxy contest. However, before the 1970's, hostile takeovers were relatively rare. In fact, they were generally regarded as *dirty business* (Brooks, 1987: p. 3).

Today, hostile takeovers are a ubiquitous part of the corporate scene; they have flourished because of the convergence of a variety of factors. First, they are now considered to be a part of respectable business practice. In 1974, Morgan Stanley became the first member of the investment banking elite to participate in a hostile takeover when they represented International Nickel Company (INCO) in their fight to acquire ESB, Inc. (Brooks, 1987). Other investment banks soon followed their lead.

Then, the political climate of the country changed: the federal government became a staunch supporter of the free market as the arbiter of takeover battles (Economic Report to the President, 1985). Regulators developed a laissez-faire attitude toward takeovers; and, anti-trust prosecution became rare. Tax reform soon followed. The tax code made it possible for a corporation to be worth more to an acquirer than to its current owners (Kuttner, 1986).

Firm level factors also contributed to the trend. Because of depressed stock prices, firms sometimes traded for less than the value of their liquidated assets. With the arrival of *junk bonds*, other creative forms of financing, and liquidated assets as collateral, even smaller firms completed major acquisitions (Coffee, 1988). In this environment, the market value of a firm took on added importance. Management could no longer afford to

have assets which were not reflected in current share prices because an undervalued firm would invite a hostile takeover attempt (Fleischer, Hazard, and Klipper, 1988).

Research has focused on the effects of a hostile takeover on acquirers, targets, and their respective stakeholders. Battles to thwart a hostile takeover attempt are also well-documented.[1] But, relatively little attention has been given to the effects of having survived a hostile takeover attempt on the firm that remains independent. Does exposure to a possible hostile acquisition affect a firm's subsequent behavior and performance? This study addresses that gap by examining the impacts of a hostile takeover attempt on the target firm that successfully wards off that bid.

1.2. Significance of the Present Study

1.2.1. Research Significance

Mergers and acquisitions form a central stream of strategy research. Considerable attention has been given to the determinants and financial consequences of merger activity.[2] With the rise of hostile takeovers, researchers have also been examining their effects on the acquirer, the target, and their respective stakeholders.[3] In most of these studies, a successful takeover is examined.

This study broadens these streams by switching the focus from the effects of an actual acquisition to the effects of a hostile takeover attempt on a firm that remains independent. In most studies, researchers have used event studies that rely on the efficient markets hypothesis to show that stock prices directly reflect true firm value. Because disagreement over the nature of capital markets is at the heart of the two competing theories, this study tests the two theories' implications with methodologies that are free of efficient market assumptions.

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[1]See Chapter Two.

[2]For reviews of this literature, see Mueller, 1980; Halpern, 1983, Jensen and Ruback, 1983; and Lubatkin, 1983

[3]See Chapter Two for an overview.

Managerial Myopia Theory asserts that managers cannot invest adequately in long-term concerns because takeover threat forces them to inflate earnings to keep share prices high. According to Myopia Theory, takeover threat creates instability and negates vision. Stein (1988) developed a formal model which asserted that myopia results from a combination of takeover threat, investor impatience, and managerial desire to retain control. He concludes that, even if managers are not opportunistic, their reactions to takeover threat can harm shareholders. The empirical evidence is limited and largely relies on market measures which provide a poor test of Myopia Theory (Stein, 1988). For instance, Linn and McConnell (1983) found that share prices rose when anti-takeover provisions were adopted. This could be interpreted as proof that the market negatively values takeover threat because it positively values protection from it. However, Managerial Myopia is based on a conceptualization of the stock market price as an imperfect measure of firm value: from that perspective, Linn and McConnell's findings could simply reflect a belief that protection enables managers to negotiate for a higher takeover premium. According to Managerial Myopia theory, stock prices can be driven by quarterly earnings which do not reflect long-term prospects. Therefore, market measures of performance do not provide a meaningful test of this research question.

Managerial Efficiency argues that takeover pressure keeps managers from shirking and forces them to efficiently use the company's resources, maximizing shareholder wealth. Jensen (1988), the leading proponent of Managerial Efficiency arguments, contends that hostile takeovers create an environment that promotes efficient management because inefficient managers know they can be replaced by a takeover. Derived from Agency Theory, Managerial Efficiency Theory is well represented in the Finance, and more recently Management, literature. There is considerable empirical support but it suffers from the same flaw. Advocates of the Efficiency perspective point to the studies which show that share prices drop once antitakeover provisions are adopted (e.g. Malatesta and Walkling, 1988). However, opponents argue that share price decrease could simply reflect shareholder disappointment at the loss of a potential takeover premium rather than a decrease in the firm's true value.

Because stock prices are subject to a variety of interpretations, this study tests the

model with methodologies that are free of capital market assumptions. Accounting data are used to measure firm performance.[4] Because the behaviors forecasted by Managerial Efficiency Theory and Managerial Myopia Theory can occur simultaneously, an integrative model of takeover threat is offered.

1.2.2. Significance to Management

For managers, takeover threat is a pressing concern that has changed the corporate environment. Current trends such as corporate restructuring and leveraged buyouts are often linked to the hostile takeover threat phenomenon (Coffee, 1988).

In a Business Week poll (Companies feel underrated by the Street, 1984), over 60% of CEO's claimed their companies were undervalued by the stock market. Whether they are correct is an empirical question. But, because an undervalued company is a ripe takeover target, these CEO's are likely to see themselves as vulnerable to hostile acquisition. By offering a systematic analysis of the effects of a successful takeover defense on subsequent performance, this study seeks to help managers to understand their own behavior and to make more informed takeover protection decisions.

How managers behave in the face of takeover threat is often debated but the theories have not been directly tested. One contribution of this study will be to aid managers in their introspection. Individuals are not always able to access the higher order mental processes that are used to initiate behavior (Mandler, 1975). Empirical evidence suggests that people are often unclear about the effects of a particular stimulus on their behavioral responses (Nisbett and Wilson, 1977). Given this, as well as the complexity inherent in a large corporation, this study may illuminate causal linkages of which managers may be unaware. An understanding of the subsequent behavior of other managers who successfully fought a hostile takeover attempt may clarify the decision process for managers faced with a hostile bid.

Anti-takeover provisions are a controversial option for managers who want a

[4]See Chapter 4 for a discussion of the relative merits of accounting and stock market measures of performance.

measure of protection from takeover attempts. One side argues that adoption of these measures will result in inefficiency and loss of value (e.g. Malatesta and Walkling, 1988). The other side argues that, with protection, organizations can afford to invest in long-term projects and maintain a cushion of stability (e.g. Linn and McConnell, 1983). Managers, as well as board members and shareholders, are caught in the middle.

A better understanding of the consequences of living with takeover threat would provide a better understanding of the costs and benefits of anti-takeover provisions. This could serve to inform the decision making of Chief Executive Officers who face this dilemma.

1.2.3. Significance to Public Policy

The rise in public concern over hostile takeovers has caught the attention of public policy makers. Scores of anti-takeover bills have been considered by Congress and several state legislatures have adopted anti-takeover provisions (Coffee, Lowenstein, and Ackerman, 1988; Jensen, 1988). As concern continues to mount, lawmakers try to sort through the costs and benefits of hostile takeovers and the environment they create.

Not surprisingly, their focus has been on the effects of a completed takeover. The impact of a hostile takeover bid on a target firm that survives the attempt has received less attention. This study should contribute to the body of knowledge from which policy makers may draw.

1.3. Problem Statement

This study focuses on the effects of takeover threat on corporate performance. Does an unsuccessful takeover attempt alter the target firm's subsequent behavior?

Two competing, but not contradictory, theoretical perspectives are used to frame the problem. *Managerial Efficiency Theory* argues that takeover threat encourages managers to be more efficient and more responsive to shareholders by using their funds more judiciously, thereby maximizing shareholder return. *Managerial Myopia Theory* argues that takeover threat forces managers to sacrifice long-term goals for short-term gains

because they are pressured into placing excessive emphasis on quarterly earnings in an attempt to keep stock prices inflated. These perspectives compete because they have different implications for research, management, and public policy. They are not necessarily contradictory because they could both be true. A matrix of possible findings from this study is shown in Table 1-1.

If neither the Managerial Efficiency hypotheses nor the Managerial Myopia hypotheses are supported, the findings would suggest that takeover threat has no effect on a target firm's subsequent performance. If only the Managerial Efficiency hypotheses are supported, takeover threat would be shown to improve a firm's performance without dysfunctional consequences for the firm's time horizon. However, if only the Managerial Myopia hypotheses are supported, the findings would indicate that takeover threat would be shortening the firm's time horizon without concommitant improvement in a firm's performance.

Because Managerial Myopia Theory and Managerial Efficiency Theory are not mutually exclusive, they may both tell a piece of the story. Takeover threat may force managers to pay increased attention to the bottom line, eliminating wasteful spending and obtaining greater returns from their investments. However, in pursuit of this increased efficiency, some positive net present value investments would have been foregone. In this instance, some true efficiency gains would be realized; but, some apparent efficiency gains would actually reflect a decrease in the firm's long-term investment.

Because the Efficiency and Myopia hypotheses may occur simultaneously, an integrative model of takeover threat is proposed. Accordingly, the empirical tests of Efficiency hypotheses control for Myopia behaviors and the empirical tests of Myopia hypotheses control for Efficiency behaviors.

Table 1-1: A Simplified Matrix of Possible Findings

	Myopia Hypotheses Not Supported	Myopia Hypotheses Supported
Efficiency Hypotheses Not Supported	Takeover Threat has no effect on firm performance.	Takeover Threat decreases long-term investment without increased efficiency.
Efficiency Hypotheses Supported	Takeover Threat increases efficiency without cost to long-term investment.	Takeover Threat increases efficiency at the cost of long-term investment.

1.4. Organization of the Dissertation

Building on the present chapter's overview, Chapter Two presents a review of the relevant literature. First, the general research on takeovers is examined. The next section discusses the research supporting Managerial Myopia and Managerial Efficiency theories.

Chapter Three presents the model, the propositions, and the specific hypotheses. First the different assumptions underlying the two theories are examined. These include assumptions regarding the nature of capital markets, the definition of a firm, the relevant measures of performance, the nature of managers, and the relevant academic disciplines. Then, the models are developed and specific hypotheses are offered.

In Chapter Four, the measurement issues are presented. First, the variables used to operationalize the Managerial Efficiency Theory and the Managerial Myopia Theory concepts are presented. This is followed by a discussion of the relative merits of stock market and accounting measures of performance. Chapter Five outlines the research methodology including the sample and the analytic technique. Chapter Six presents the results of the analyses performed. Lastly, Chapter Seven provides a discussion of the research findings and their implications for research and practice.

Chapter 2

LITERATURE REVIEW

2.1. Takeovers in General

The increase in takeovers seen in the business world has been mirrored by an increase in academic attention to the subject. In spite of this attention, many central questions remain unanswered. One of the few areas of consensus is the effect of acquisition on the target's shareholders.

Acquisitions occur in a seller's market. Multiple bidders often compete, resulting in an increase in the target firm's price. This increase (takeover premium) reflects a capital gain for the target shareholders, the only unequivocal winners in the takeover contest. Researchers differ on the size of the premium that target shareholders enjoy. For instance, Bradley (1980) found an average premium of 49% using a 41 day event window, Lubatkin (1987) found an average premium of 18% using a twelve month window, and Shelton (1985) found an average premium of 11% using a one day window. The size of the reported premium is the only difference noted: the finding that target shareholders gain is remarkably consistent across methodologies, samples, and takeover outcomes (Lubatkin, 1988).

However, the performance of the average acquiring firm is still in question. Some studies find that stockholders of bidding firms gain capital (e.g. Dodd & Ruback, 1977; Kummer & Hoffmeister, 1978; Bradley, 1980; Jarrell & Bradley, 1980; Asquith, 1983; Bradley, Desai, & Kim, 1983; Chatterjee, 1986; Lubatkin, 1987). Others find that the stock prices of bidding firms decline (e.g. Dodd, 1980; Firth, 1980; or, that bondholders gain at the expense of shareholders (Eger, 1983). Some researchers have noted that the choice of sample and methodology affect the observed outcome (Malatesta, 1983; Conn,

1985; Halpern, 1983). Part of the problem is that mergers are not homogeneous phenomena (Lubatkin, 1982). Their effectiveness can be associated with a variety of factors including relatedness (Shelton, 1985; Chatterjee, 1986) and form of payment (Jensen, 1988). Whatever the reason, the question of whether the acquiring firm's shareholders gain wealth remains unanswered. The results are so disparate that reviews of the same literature differ in their findings (e.g. Mueller, 1980; Halpern, 1983; Jensen & Ruback, 1983; Lubatkin, 1983; and Conn, 1985).

Most merger and acquisition studies approach the subject from the position of the shareholder and use economic and financial measures of performance. But, some researchers have begun to pay more attention to the impacts of acquisitions on other stakeholders. To this end, case studies and historical analyses of acquisitions have emerged (e.g. Auletta, 1986; Wojahn, 1988). Others have examined the impacts of acquisitions on cultures (e.g. Sales and Mirvis, 1984; Nahavandi and Malekzadeh, 1988) and human resources (e.g. Shrivastava, 1986). Like the financial studies, this research tends to focus on actual acquisitions rather than the unsuccessful attempts.

2.2. Managerial Efficiency versus Managerial Myopia

Managerial Efficiency Theory argues that hostile takeovers improve the economy by increasing the efficiency of organizations. When stock prices decline, a firm becomes a target for a hostile takeover because it can be purchased at a bargain price relative to the value of its assets (Fleischer et al., 1988). According to the Managerial Efficiency perspective, undervaluation of a firm's stocks signals that the firm is either inefficient, ineffective, or unwilling to share its proceeds with shareholders (Jensen, 1988). Hostile takeovers benefit the target by disciplining managers that do not act in the best interests of shareholders. From this perspective, takeover threat acts as a constraint on managers who might otherwise shirk their responsibilities.

However, according to Managerial Myopia Theory, the hostile takeover environment exacts a damaging toll. From this perspective, managers are forced to devote an inordinate amount of attention to annual and even quarterly earnings. Managerial Myopia theorists argue that concern about boosting stock prices keeps

managers from protecting the firm's long-term interests (Saul, 1985). In order to signal a high value to the market, firms sell assets and forego investments which do not earn a prompt and highly visible return (Spence, 1973). Myopia theorists also argue that managers are prompted to increase a firm's leverage to the point where it's survival is jeopardized (Kuttner, 1986).

Researchers have addressed these theories by testing their underlying assumptions. To date, that research has fallen into three general categories:

1. Target Performance
2. Shark Repellant Adoption
3. Market Myopia

Rather than explore the underlying assumptions that differentiate the two theories, this study directly tests the behavioral consequences of exposure to takeover threat. Unlike many of the current studies, it uses a methodology that is free from efficient capital market assumptions.

2.2.1. Target Performance

Not surprisingly, Managerial Efficiency theory has received the most empirical and theoretical attention. Jensen (1988), the leading proponent of the theory, bases his argument on the assumptions underlying the Efficient Markets Hypothesis. He contends that market valuation incorporates long term as well as short term considerations and that low stock prices are a sign of managerial inefficiency. If market value is low relative to a firm's assets, an acquirer may be able to increase that value through either new management or a reconfiguration of a firm's assets. Sometimes, market value falls below the liquidation value of a firm's assets: This represents an opportunity for an acquirer. Because stock price declines invite acquisition, hostile takeovers are an effective way to oust inefficent managers.

According to the Efficiency argument, targets are firms that have been performing poorly. In a study of 163 mining and manufacturing firms, Palepu (1986) found that targets evidenced lower growth, lower leverage, and lower prior performance (based on

market measures). Asquith (1983) studied targets of both successful mergers and targets in mergers that are subsequently abandoned. Although all targets showed positive abnormal returns at the press date, only the targets in successful mergers maintained the increase through the outcome date. This supports the contention that the abnormal returns reflect true value rather than a reaction to takeover premiums. Mandelker (1974), and Langetieg (1978) also reported that target firms exhibited below average performance in the period prior to a takeover bid.

However, other studies have found that target firms tend to be more profitable than their industry counterparts (e.g. Boyle (1970); Melicher & Rush (1973), Conn (1976)). Weston and Mansingkha (1971) found that acquirers were less profitable than their targets. The subsequent merger increased the acquirer's profitability; however, this increase disintegrated in the bear market that followed the study. Ravenscraft and Scherer (1988) found not only that targets were very profitable, but also that their returns deteriorated under the acquirers control. Herman and Lowenstein (1988) found that target performance differed with time frames of the study. Early buyers (1975-1978) found relatively inefficient targets. But, since 1980, targets have been relatively profitable concerns. They argue that efficiency arguments may have once been valid but that the situation has changed: efficient firms are now as likely to be targets as inefficient ones.

2.2.2. Shark Repellant Adoption

Some theorists point to event studies of shark repellant (anti-takeover provision) adoption as tests of Managerial Efficiency or Managerial Myopia theories. If Efficiency arguments are valid, one would expect stock prices to decrease when firms adopt anti-takeover provisions: the market would negatively value freedom from market discipline. Most studies do show a decline in returns corresponding to the adoption of a shark repellant. As previously discussed, Malatesta and Walkling (1988) found that prices declined significantly when poison pills (a special form of shark repellant) were adopted. Ryngaert (1988) found that the adoption of the most restrictive forms of pills was associated with moderate share price declines. Other anti-takeover amendments have also been studied. Jarrell and Poulsen (1987) found that fair price amendments had little

effect but supermajority amendments resulted in a significant negative price reaction. DeAngelo and Rice (1983) found anti-takeover amendments to be associated with small price declines. However, Myopia theorists point to an exception: Linn and McConnell (1983) found that share prices rose when anti-takeover amendments were adopted.

Other researchers examined management's response to a specific takeover attempt. When managers used targeted repurchases, stock prices declined (Bradley & Wakeman (1983); Dann and DeAngelo (1983)). Litigation had no significant effect on shareholder wealth (Jarrell, 1985). And, share prices increased when dual classes of voting stock were adopted (Partch, 1987).

Although the event study findings are mixed, there does seem to be more evidence supporting the Managerial Efficiency arguments. However, even if the findings were consistent, Myopia theorists would question their conclusions. Event studies rely on the assumption of efficient capital markets; in fact, they go beyond the general assumption that market prices reflect all available information by inferring that market prices reflect future performance (Ravenscraft and Scherer, 1988). The short-term fluctuations may simply represent shareholder belief about the shark repellant's effect on the potential takeover premium. An increase in stock price could indicate simply that shareholders believe the pre-offer protection or post-offer defense will enable management to bargain for a higher price. Or, an increase could be read by the market as a signal that insiders know the firm is undervalued and therefore a good target. If share prices decline, they could simply reflect shareholder disappointment at the loss of a potential control premium. Myopia theory argues that markets are not perfect; rather, they are quirky and too reliant upon short-term earnings. Therefore, to use stock market measures to distinguish between the theories is a loading of the dice: It denies a basic assumption of one of the competing theories.

2.2.3. Market Myopia

Myopia theorists argue that the takeover environment pushes firms to sacrifice long-term considerations for short-term gains: this could be the result of market myopia or management myopia. If markets are myopic, share prices would devalue investments in long-term projects. In this case, managers would respond rationally to the market's imperfection by focusing on the short term. However, it is also possible that markets are not myopic but managers still are. There are three possible explanations for myopic managers in a non-myopic market. The first is that managers' behavior flows from a mistaken belief that markets are myopic. The second is that managers use the market as a scapegoat, to justify their own short-term orientation. The third is that rational markets induce rational managers to behave myopically because of a signal-jamming equilibrium (Stein, 1989).

Managerial myopia has not been directly tested (Stein, 1988). However, several studies have been used to examine the concept of market myopia. In support of Efficiency arguments, McConnell and Muscarella (1985) did not find evidence of stock price decline when companies announced long-term investment projects; in fact, for the individual firms in the sample, announcements were associated with a price increase. However, Stein (1988) argues that this does not provide any information about which investments were chosen and whether the takeover environment necessitated accepting only those investments with a relatively larger NPV and a relatively shorter time frame.

If markets were myopic, one would expect that firms that invest more heavily in long-term projects would have a greater probability of being a hostile takeover target. However, an SEC study (Jarrell and Lehn, 1985) found that firms with high R&D expenditures were not acquired more often than those with low expenditures in R&D. But, as Stein's (1988) model suggests, R&D is only one factor that could affect takeover probability: one would only expect low R&D in firms with a higher likelihood of takeover. The SEC study did not control for other indicators of vulnerability to takeover attempts.

Lastly, Woolridge and Snow (1990) analyzed the market's reaction to

announcements of joint venture, R&D projects, and product/market diversification: They improved on previous studies by controlling for size and duration. Irrespective of the investment size or duration, there was a significant positive relationship between stock market returns and strategic investment announcements. Furthermore, there was evidence that the market did not react mechanistically. Some investment announcements resulted in negative stock market reactions.

The impatience of shareholders is a key component of Managerial Myopia Theory (Stein, 1988). If shareholders are not likely to ride out fluctuations in market value, managers are more motivated to place short-term earnings over long-term considerations. Institutional investors are often seen as being short-term oriented (Drucker, 1986; Mitroff, 1987). Because their performance is judged in the short term, they are not reinforced for holding investments which are long-term oriented (Hill, Hitt, and Hoskisson, 1988). This hypothesized behavior of institutional investors provides another test of market myopia.

The findings are mixed. In a study of computer manufacturing firms, Graves (1988) found that high levels of institutional investment were associated with low levels of R&D spending. However, Jarrell and Lehn (1985) found that greater institutional investment was associated with greater R&D investment; they researched 324 firms from 1980-1983. Lastly, Hill and Hansen (1989), in a study of 5 research intensive industries, found that R&D investment was higher in firms where institutional investment was higher. Each of these studies controlled for different factors, selected different samples, and utilized different analytic techniques. Therefore, it is difficult to draw a meaningful conclusion from these few studies.

Stein (1989) develops a model that suggests that both managers and markets may behave myopically, even when both are being rational and efficient. The basic concept is that the market uses a firm's earnings statement to create a rational forecast of firm value. Higher earnings today are considered a predictor of higher earnings tomorrow. Managers know this and, therefore, attempt to inflate their earnings in an attempt to increase their forecasted future value. The rational market recognizes that this practice exists and factors its effect into their future earnings forecast.

According to Stein (1989), a manager who does not behave myopically is penalized because of the market's conjecture that some earnings inflation has occurred: That manager's true earnings are discounted inappropriately. Although the ideal equilibrium would have no myopia from managers and no conjecture from the market, this state cannot be sustained. Should the market forego conjecture, opportunistic managers will be motivated to inflate their earnings. This stalemate, comparable to the prisoner's dilemma, leads to suboptimal managerial behavior in a rational market (Stein, 1989).

The present study explores whether managers display the behaviors myopia theory predicts; as such, it provides one of the first direct tests of managerial myopia. However, because its focus is on the content of the strategies managers implement, it does not differentiate between a manager's rational reaction to a myopic market and a manager's nonrational reaction to an efficient market. Nor does it determine whether managerial myopia is the result of a signal-jamming equilibrium.

Chapter 3

MODEL AND HYPOTHESES

Managerial Efficiency Theory and Managerial Myopia Theory differ in their cores of assumptions and their underlying disciplines. Table 3-1 outlines the two theories and their underlying assumptions.

3.1. Underlying Assumptions

3.1.1. Research Design

Economic analyses form the basis of Managerial Efficiency Theory arguments. These arguments lend themselves to parsimonious models whose predictive power is tested by statistical analyses. In economic analyses, strong core theories guide the research: Deductive reasoning from abstract concepts is preferred to inductive use of data (Camerer, 1985).

Conversely, Managerial Myopia is largely rooted in behavioral analysis which stress realism and complexity: Theory tends to be grounded in data and observation (Hirsch, Friedman, and Koza, 1990). In behavioral analysis, explanation is deemed more important than prediction; from this perspective, elegance becomes sterility (Hirsch, Friedman, and Koza, 1990).

The difference in the underlying assumptions results in a difference in the support each group presents for its theory (Kuttner, 1986). A wealth of quantitative empirical support is offered for the Managerial Efficiency Theory position. However, Managerial Myopia theorists are more inclined toward pointing out the the flaws in the research designs and offering anecdotal support for their contentions. This limits the comparability of their evidence. As a result, Managerial Myopia is largely untested (Stein, 1988).

Table 3-1: Underlying Assumptions

	Managerial Efficiency	Managerial Myopia
Research Design	Parsimonious model predictions tested by quantitative analysis	Complex explanations supported by qualitative analysis
Capital Markets	Reflect true value of firm	Quirky and manipulable
View of Firm	Bundle of Assets	Set of relationships
Primary Goal	Maximize shareholder wealth	Satisfy multiple constituencies
Organizational Survival	Irrelevant	Important
View of Manager	Opportunistic	Torn

This study simultaneously tests both theories using a methodology that is appropriate for an integrative model that encompasses the views of both theories. The research design employs the quantitative analysis necessary for the Managerial Efficiency Theory perspective while eschewing the market measures that complicate interpretation of previous studies. Although this integrative model does not preclude alternative explanations of findings, it provides better explanatory power than either the Managerial Efficiency Model or the Managerial Myopia Model would in isolation. This integrative model acknowledges that Managerial Efficiency Theory and Managerial Myopia Theory are not mutually exclusive; rather, they may operate simultaneously in the hostile takeover environment.

3.1.2. The Capital Market

The assumption of capital market efficiency is at the heart of Managerial Efficiency Theory arguments. Share prices serve as indicators of a firm's true value, including its long-term prospects and managerial performance. Market value is viewed as a representation of the discounted present value of the returns from both past and future investments (Rappaport, 1986). From this perspective, if a stock price drops, the management of the firm is at fault. Jensen (1988) suggests that this may occur because management is inefficient, ineffective, or unwilling to distribute returns to shareholders. Each reason implies that managers are not acting in the best interests of their shareholders. According to Managerial Efficiency theory, shareholders are the only true stakeholders of the firm and their wealth maximization is management's primary goal.

By contrast, Managerial Myopia theorists argue that there are a variety of stakeholders whose interests are relevant and whose satisfaction is part of the measure of managerial performance. They contend that capital markets are short-term oriented and that, to boost stock prices, managers must be overly concerned with short-term profits, neglecting long-term investments (Mitroff, 1987). Also, to prop up the stock's prices, managers take on too much debt, putting the firm's ultimate survival in jeopardy (Kuttner, 1986). Myopia could result from either managers' mistaken belief that markets are myopic or managers' scapegoating of the market to justify their own short-term orientation. However, most managerial myopia theorists argue that myopic managers are

rationally responding to a myopic market's requirements. Executives apparently agree. In a Business Weekpoll (Companies feel underrated by the Street, 1984), over 60% of Fortune 500 executives said that they felt their firms were undervalued. Because an efficient market would not undervalue a firm, a majority of CEOs apparently believe the market is inefficient; unless, they are blaming the market for their own shortcomings in performance.

The Efficient Markets Hypothesis is well represented in the Finance and Economics literature. Efficient markets can take three forms (Elton and Gruber, 1984):

1. Strong form - all information, public and private, is incorporated in stock prices.
2. Semi-strong form - all public information is reflected in stock prices.
3. Weak form - all historical information is reflected in stock prices.

In this study, as is the convention, the term *efficient markets* refers to the semi-strong form.

Market efficiency stems from the thousands of professionals that follow the market; because of their involvement, any new information is quickly absorbed in a stock's price (Elton and Gruber, 1984). There is a large body of empirical evidence that supports the concept of market efficiency.[5] For example, studies have consistently shown that stock prices are efficient with regard to the announcement of unexpected dividends (e.g. Pettit, 1972; Watts, 1973) as well as the announcement of securities transactions (e.g. Dodd and Ruback, 1977; Carey, 1977). Fama (1970) notes that the wealth of evidence in support of the Efficient Markets Hypothesis and the relative dearth of evidence contradicting the Efficient Markets Hypothesis is unique in economics: Few theories receive such strong support.

In spite of the wealth of available empirical findings, a consensus regarding market efficiency has not developed. This is partly because the results of many studies are

[5]For a detailed review of the empiricial evidence supporting the Efficient Markets Hypothesis, see Elton and Gruber, 1984.

difficult to assess: one problem is that transaction costs and taxes vary among investors. For instance, Davies and Canes (1978) used the advice from the "Heard on the Street" column of *The Wall Street Journal* to predict stock returns. Their earned residual was between one and two per cent. In a similar study, Dimson and Marsh (1984) found that brokers' advice netted a one to two per cent return. The interpretations of these results vary. Some researchers argue that whether investors can gain from this information depends on whether their transaction costs and taxes fall below a one to two per cent ceiling. If investors cannot gain, the market is efficient: if they can gain, the market is inefficient (Elton and Gruber, 1984). However, Shiller (1988) argues that, even if the transaction costs diminish the returns to shareholders, these findings support the contention that markets are not efficient.

Even if the markets quickly and efficiently incorporate all information, they may incorporate it in a way that focuses on short-term performance. Studies show that most individuals are risk averse: for instance, most investors purchase insurance that is greater than their expected loss (Elton and Gruber, 1984). Blume and Friend (1975) found that investors displayed constant relative risk aversion (i.e. they maintained a constant percentage of risky investments irrespective of their level of wealth). Cohn, Lewellyn Lease, and Schlarbaum (1975) also found that investors were risk averse, however they found decreasing relative risk aversion. Investors expect a risk premium that increases with increases in risk (Jensen, 1969). Risk adjusted discount rates build in the fact that more distant future cash flows carry more risk: because the discount rate adjusts for the risk borne per period, a larger number of periods results in a larger total risk adjustment (Brealey and Myers, 1984). Therefore, all else being equal, investors will devalue investments that are longer term (even after adjusting for the time value of money).

Shubik (1988) argues that even if all information is incorporated in a stock's price, different people's interpretation of that information will vary; otherwise, there would be no *contrarian* investors. Shiller (1979) found the last century's stock price trends were inconsistent with rational expectations. In a review of the literature and the empirical evidence, Shiller (1988) argues that the capital market is ruled by fads and fashions and fueled by gambling behavior and decision heuristics. In the same vein, Roll (1984) found

that weather news did not affect orange juice futures prices, even though weather forecasts dominate the news regarding orange juice futures.

Adler and Adler (1984) argue that there is momentum in the market. They contend that market participants not only act out of rational motivation; but, they also *often act out of fear motivation because they are afraid to get caught out of a collective trend* (p. 104). Furthermore, Kuttner (1986) notes that the high stock prices of mid-1929 were poor indicators of the strength of industry or the economy.

Foster (1986) acknowledges that the support for the Efficient Markets Hypothesis is extensive; but, he finds three areas of contradictory evidence worthy of note. These are:

1. Post-earnings announcement anomaly
2. Price-to-earnings announcement anomaly
3. The Briloff phenomenon

In the Post-earnings announcement anomaly, at least ten studies have found that the market can take as long as three months to assimilate the information from unexpectedly favorable or unfavorable quarterly earnings statements. In the Price-to-earnings ratio anomaly, studies have shown that firms with low price-to-earnings ratios outperform those firms with high price-to-earnings ratios in the period subsequent to the release of the earnings figures used to compute the price-to-earnings ratio. For instance, Basu (1983) found significant differences in the twelve months following the earnings announcement. Lastly, in the Briloff phenomenon, Foster (1985) found an average 8.11% drop in security prices on the day an Abraham Briloff critique of a firm becomes public. Foster (1986) argues that these three areas of contradictory evidence merit attention in spite of the considerable evidence in support of efficient markets.

The debate over capital market efficiency continues. Opponents point to anomalies that counter the Efficient Markets Hypothesis precepts. Proponents attack the anomalies on the basis of sample selection and research design. Because this debate is at the core of differences between Managerial Efficiency Theory and Managerial Myopia Theory, this study employs a methodology free from Efficient Market Hypothesis assumptions.

3.1.3. The View of the Firm

Organizations lend themselves to a variety of interpretations. Managerial Efficiency Theory, like most economic theory, views an organization as a bundle of assets. These assets should be broken apart and redistributed when their current configuration no longer yields the greatest market value. Following the work of Manne (1965), Jensen and Ruback (1983) characterize the takeover market as a Market for Corporate Control. In this market, an organization's assets are bought and sold in a dynamic process which maximizes shareholder value and insures organizational efficiency. This creative destruction (Schumpeter, 1950) is seen as necessary for an economy's continued development.

Some counter that this view is *highly idealized and empirically suspect* (Hirsch and Friedman, 1986, p. 32). Managerial Myopia theorists see the firm as a set of relationships, often based on trust and commitment. According to Myopia theory, an organization's stakeholders include its employees, its customers, and its society, both present and future (Kuttner, 1986). It is thought of as a complete entity, rather than a collection of parts. The destruction of this entity is not seen as creative, instead it is considered to be detrimental to the interests of a broad range of stakeholders

3.1.4. The Primary Goal

Managerial Efficiency theorists argue that managers of organizations should have one goal, to maximize shareholder wealth. Shareholders represent the owners of the corporation and, as such, are entitled to receive the greatest possible value from their investment. When managers place another stakeholder above the shareholder, they are reneging on their primary responsibility (Friedman, 1963). Accordingly, hostile takeovers are seen as beneficial because target shareholders enjoy the control premium which maximizes the values of the shares they hold.

Managerial myopia theorists point out that even if shareholder value is taken as the sole criterion, the value of a hostile takeover for the *acquiring* firm's stockholders is open to question (Saul, 1985). Managerial Myopia theorists see the organization as having multiple constituencies, each with a valid claim on the organization's activities. From

this perspective, performance is judged based on a wholistic analysis of the extent to which the organization satisfies its entire range of stakeholders (Freeman, 1984). Myopia theorists express concern about the societal and human implications of plant closings, the threat of higher debt to organizational survival, and the repercussions of lowered morale among employees who no longer have job security (Hirsch, Friedman & Koza, 1990).

3.1.5. Organizational Survival

From the Efficiency perspective, bankruptcy is a relatively minor issue. In Finance and Economics, the inclusion of an issue like bankruptcy increases the complexity of models, often making the mathematics untenable (Shubik, 1988). Because firms are simply bundles of assets, the pieces can be bought, sold, or reorganized (Jensen and Meckling, 1976). From this perspective, an organization is a nexus of contracts that can each be renegotiated at will (Williamson, 1975).

Myopia theorists counter that organizations are also composed of psychological contracts and these contracts should not be so easily broken (Hirsch, Friedman, and Koza, 1990). They focus on the human costs that can be incurred when an organization ceases to exist.

3.1.6. The View of the Manager

The Managerial Efficiency view of the manager is rooted in Agency Theory. Jensen and Meckling (1976) define an agency relationship as a contract in which a principal hires an agent to perform a specified task. In order for the agent to accomplish the task, the principal must delegate some decision making ability to the agent. They argue that if both principals (i.e. owners) and agents (i.e. managers) are utility-maximizing, conflicts will develop when their interests diverge. In the absence of a mechanism of constraint, the agent will behave opportunistically.

According to Managerial Efficiency theorists, the capital market provides that constraint. If a manager is inefficient, ineffective, or unwilling to share the organization's gains with shareholders, the price of that firm's stock will drop (Jensen, 1988). This opens the door to a hostile acquisition.

In Managerial Myopia Theory, managers are seen as being torn between conflicting forces. The threat of depressed stock prices forces managers to boost quarterly earnings by increasing debt, limiting long-term investment, and cutting corners on inputs (Mitroff, 1987). The motivations of managers are not specifically characterized. Rather, they are seen as being at the mercy of conflicting demands.

3.2. The Effects of Takeover Threat

3.2.1. Environmental Threat

The effects of takeover threat are not confined to a firm's experiencing a specific hostile bid. Firms may change their behavior because the takeover environment exerts a general deterrent effect (Coffee, 1988). The environmental stress generated by the generic threat of a hostile takeover may supercede the effects of any specific threat (Coffee, 1988).

Environmental stress has been studied by behavioral scientists since the late 1960's. But, the emphasis was on human responses to designed environments, pollution, and overpopulation (Evans, 1982). Corporations exist in an environment too. Managers are faced with a variety of pressures from regulators, legislators, customers, and shareholders. This environment shifts and changes with the changing political and societal climate. A relatively recent addition to this list of environmental stressors is the hostile takeover trend. Although the determinants and consequences of actual takeovers have been studied, little empirical attention has been given to the effects of simply living in an environment wherein hostile takeovers are ubiquitous.

The hostile takeover environment is a structural threat. Milburn and Watman (1981) define structural threat as *impersonal threats that are imbedded in the structure of a situation* (p. 12). According to Milburn and Watman (1981), structural threats are extremely powerful because they come from an impersonal source that is not perceived as something that can be manipulated: threats are most effective when the threatener is not personally involved.

In order to enhance their security, and subsequent survival, organizational

participants will modify their goals to counteract the threats of a hostile environment (Michels, 1949). Selznick (1957) showed how the TVA subverted its original goal of public service to benefit the private interests that could provide political support. Messinger (1955) detailed how the Townsend movement, originally formed as a political support group for senior citizens, discontinued its controversial political activities in favor of recreational programs that were less threatening to potential funders. Lastly, to appease a threatening environment, the YMCA changed from a religious organization serving the poor to a middle-class recreational organization (Zald and Denton, 1963).

Both Efficiency and Myopia arguments rest on the assumption that a hostile environment can modify an organization's behavior: they simply differ on the behavioral responses they predict. An organization can respond by acceding to the environment's demands, changing the nature of the environment (Pfeffer and Salancik, 1978), or buffering the organization from the environment's effects (Thompson, 1967). When a system is artificially closed off from the demands of a hostile environment, the possibility of rational action increases (Scott, 1981). In this study, the beneficial stock ownership of officers and directors controls for the extent to which managers are vulnerable to a hostile takeover attempt.

There is empirical evidence that generic takeover threat has modified firm behavior. Coffee (1987) points to the record increases in debt since hostile takeovers became commonplace. For instance, in 1984 Fortune 500 debt levels rose from 73% to 81.4%, a greater jump than the entire increase from 1968 to 1983. Weiss (1987) notes that the dramatic increase in corporate restructuring seems to have been motivated by the threat of takeover bids.

This study does not address the effects of generic takeover threat, the threat that arises from simply living in a hostile takeover environment. Rather, it captures the effects of a specific unsuccessful takeover attempt. Therefore, it can only measure the effects that are above and beyond those created by the general takeover environment.

3.2.2. Managerial Efficiency Theory

> The only way we're ever going to bring the accountability back is to re-establish that stockholders do own companies (Pickens, 1988; p. 50)

Managerial Efficiency theorists argue that there are basically two kinds of targets: one kind performs badly, the other does not distribute its returns to shareholders. The first kind is found by Mandelker (1974), Langetieg (1978) Asquith (1983), and Palepu (1986) who all found evidence that targets performed below average in the period prior to the takeover bid. In addition, Kummer and Hoffmeister (1978) found that poorly performing targets were more likely to resist takeover attempts. To support the second argument, Jensen (1988) reviewed relevant studies and found that 28 of 32 stock price changes were consistent with *Free Cash Flow Theory* which argues that stock prices increase with an increase in payments to stockholders and decrease with a decrease (or the equivalent of a decrease) in payments.

From the Efficiency perspective, firms should be judged solely by the value they create for their shareholders. Sometimes managers become so entrenched in their current strategy that they are unable to see or consider alternatives that would enhance shareholder wealth. Often they are reluctant to part with divisions and facilities which no longer generate a sufficient profit. According to Jensen (1988), takeovers are effective change agents in two fundamental ways:

1. New managers have fewer ties to old employees, facilities, and projects. Therefore they can more easily shift direction.
2. When exit from an industry is required, acquiring firms can more easily and effectively liquidate those assets. This avoids a long painful death through competitive struggle.

Because of takeover threat, existing managers are likely to be replaced if they become entrenched: the possibility of replacement sets a higher standard for the current managers to meet. The current wave of corporate restructuring is generally viewed as a response to the possibility of a hostile acquisition (Coffee, 1988). Because of takeover threat, managers feel a greater need to perform as effectively and efficiently as potential new management (Jensen, 1988). Takeover advocates point to over-funded pension

plans, corporate jets, and other perks as examples of unnecessary expenses that come out of the shareholders' pockets (Pickens, 1988). Takeover threat pushes managers to reduce these and other forms of organizational slack (Coffee, 1988). These efficiency enhancing actions are designed to lower expenses, thereby increasing the expected stream of earnings per share.

H1: Exposure to a takeover threat increases a firm's earnings per share.

Increased efficiency is not sufficient: the returns must be distributed to shareholders if their welfare is to be maximized (Jensen, 1988). In the absence of external motivation, managers are more likely to retain earnings. Donaldson (1984) studied 12 Fortune 500 firms and found that managers were driven to maximize corporate wealth (i.e. stocks, cash, and credit) rather than shareholder wealth. Takeover threat acts as a form of market discipline, forcing managers to attend to shareholder interests rather than their own (Jensen, 1988).

H2: Exposure to a takeover threat increases a firm's return to shareholders.

In his 'corporate control hypothesis', Jensen (1988) argues that debt motivates managers by *bonding* them to their promise to pay out future free cash flows. Shareholders tend to value debt because they benefit from increased returns and they are less vulnerable to the increased risk associated with those returns; shareholders can diversify their portfolios to protect themselves from the negative consequences of debt (Coffee, 1988). However, managers do not have diversified employment portfolios (Amihud & Lev, 1981); therefore, managers tend to avoid leverage (Donaldson, 1984). This divergence of interests creates an agency problem. Managerial Efficiency argues that takeover threat protects shareholder interest by penalizing managers who place their own security above shareholder welfare (Coffee, 1988). Those who opt to limit debt in order to protect their security, are likely to find their security threatened by a hostile bid.

H3: Exposure to takeover threat increases a firm's debt ratio.

The model proposed by Efficiency Theorists is shown in Figure 3-1.

3.2.3. Managerial Myopia Theory

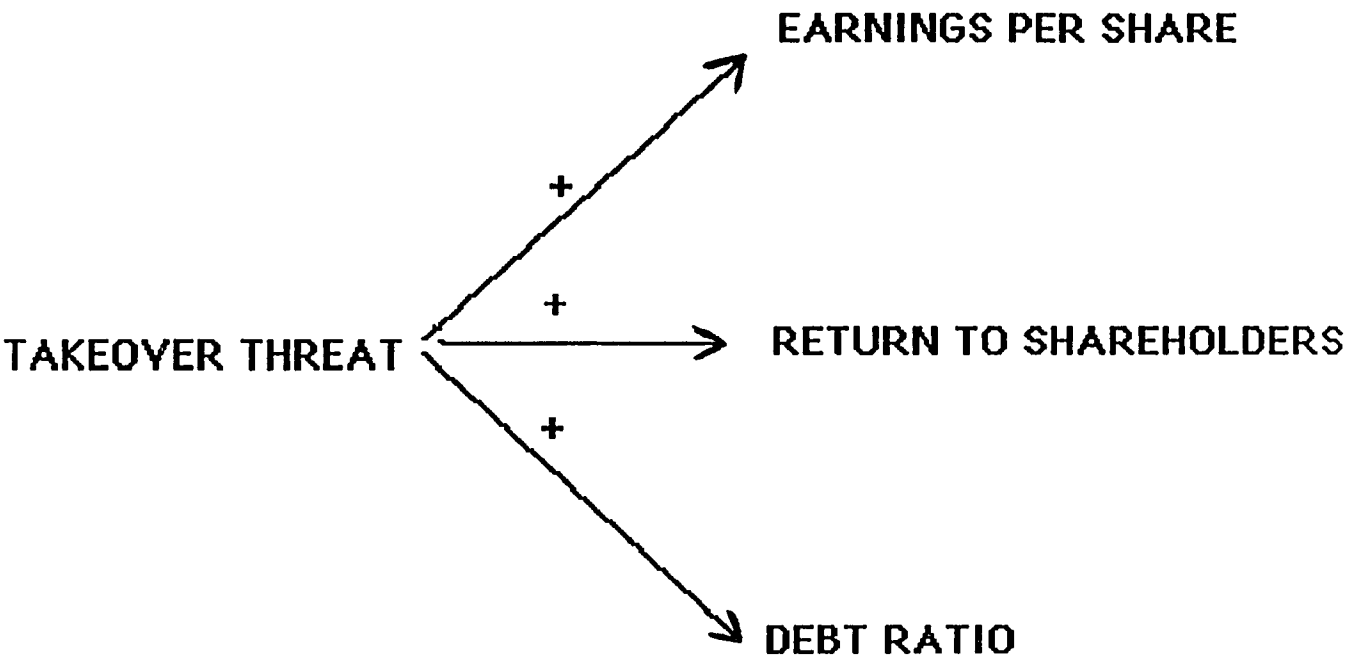
> Speculators may do no harm, as bubbles on a sea of enterprise, but the proposition is serious when enterprise becomes the bubble on a sea of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill done. (Keynes, 1936; p. 159)

Managerial Myopia theorists counter the argument that hostile takeovers benefit society. They begin by questioning the Managerial Efficiency theorists' data. For takeovers to be efficiency-enhancing they must be directed at inefficient targets. As previously discussed, some researchers show that targets are poor performers prior to acquisition. However, other studies differ. Weston and Mansinghka (1971) found acquiring firms to be less profitable than their targets. The profitability of the buyers improved after the acquisition but, only at the risk of significantly increased debt. However, Mueller (1977) reported that the profitability of these buyers declined shortly after when a recession occurred. Melicher and Rush (1973) and Conn (1976) reported similar results. Lastly, Herman and Lowenstein (1988) found that the average profitability of targets changed over time periods. From 1975-1978, their data show that acquirers did purchase less profitable firms. But, in the 1980's, targets were profitable concerns. They argue that takeovers may have once had efficiency effects but that the market of the 1980's is driven by speculation.

The evidence for Myopia theory lacks the neatness of Efficiency research (Kuttner, 1986). But, this difference is inherent in their underlying disciplines (Hirsch, Michaels, and Friedman, 1987). Support for Myopia theory is largely anecdotal. The following vignettes from Greenhouse (1986) illustrate the problems which can arise when firms are forced to emphasize short-term considerations.

> To meet quarterly revenue targets, the Daisy Systems Corporation, a Silicon Valley computer maker often rushed to ship as many computers as possible at the end of each quarter. Sometimes that meant shipping new products that had not yet been perfected. Other times it meant forgetting to include floppy disks, or other vital parts.

Figure 3-1: Managerial Efficiency Framework



> Last year the Cross & Trecker corporation, a machine tool company based in Bloomfield Hills, Michigan, recognized that delays inorders might push down its profits in the quarter ending December 31. It took part of its well-funded reserve for bad credit and added it to earnings. Presto, the quarter's income was up from a year earlier.
>
> Convinced that it cannot earn a decent return soon enough, the United States Steel Corporation has decided not to invest in new furnaces for its Geneve mill near Provo, Utah. Instead it will import semifinished slabs from South Korea to feed its West Coast finishing mills. Instead of spending its investment dollars on new furnaces, it is using them to acquire companies like Texas Oil and Gas. (Greenhouse, 1986, p. 1)

Managerial Myopia theorists argue that the efficiency which takeover threat promotes is a double-edged sword. Investment in capital or research and development does not yield immediate results and can therefore appear to decrease efficiency. Avoided R&D costs help the bottom line (Briloff, 1988). When managers rely excessively on present value analysis, their tendency is to discount the future (Hayes and Garvin, 1982). American manufacturing firms average an after-tax return on investment that is 63% higher than Japan and 50% higher than Germany (Greenhouse, 1986). The need for a quick, high return precludes many research and development investments which could take years to return a profit (Mitroff, 1987). It also precludes research on products which have high potential but are also high risk (i.e. they may not develop as predicted). Because of their satisfaction with lower returns, foreign competitors can invest in new products, plants, and equipment which American companies must forego if they want to avoid becoming ripe takeover targets. (Greenhouse, 1986). As Leon Cooper of Goldman, Sachs observed, only managers who own 51% of stock can afford to invest in the long-term (Will money managers wreck the economy? Their short-term view derails companies' long-term plans, 1984). Companies can no longer afford to maintain a *transcendent margin*, a profit margin with which they invest in the future of the company as well as of the society (Briloff, 1988).

H4: Exposure to a takeover threat lowers a firm's capital expenditures.

As previously discussed, takeover threat increases the extent to which an organization is leveraged. Leverage can increase an organization's return on equity

because the returns are distributed over a relatively smaller equity base: This increases the expected stream of earnings per share (Brealey and Myers, 1984). Debt also increases an organization's risk. Blum (1974) defines corporate failure as:

1. The inability to pay debts
2. The beginning of bankruptcy proceedings
3. Entrance into an agreement to reduce debts.

The greater a firm's use of debt relative to its assets, the greater the likelihood a firm will be unable to meet its debt payments.

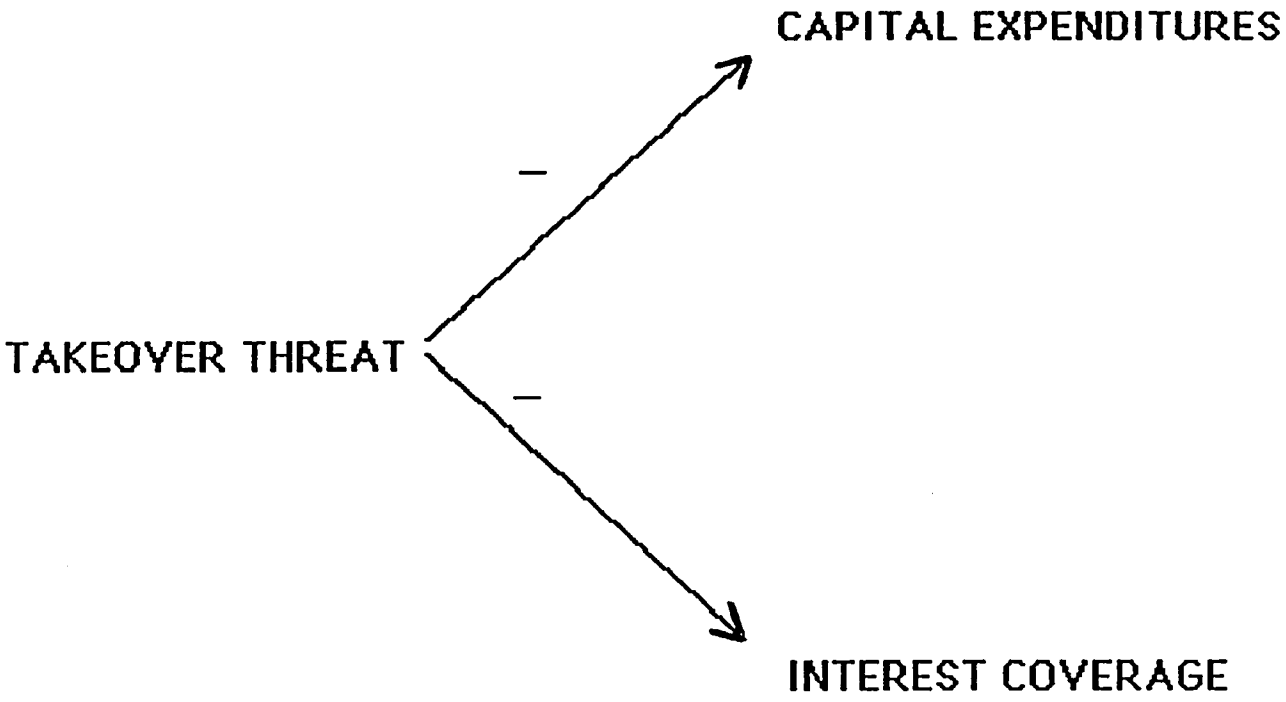
Although increased risk is not a problem for diversified shareholders, it is very important to the other stakeholders of firm. Employees and local communities are often highly dependent upon a company and have few alternatives if the company goes bankrupt. To avoid bankruptcy, organizations may be forced to implement strategies they would otherwise forego. For instance, Pacific Lumber became heavily leveraged as a result of having been bought in a hostile acquisition (ABC News, 1989). In order to pay the debt, management has abandoned its selective harvest program and is now clear-cutting entire mountainsides. Furthermore, employees have charged that the debt pressures have caused the company to take short cuts, jeopardizing employee safety (ABC News, 1989).

Myopia theorists point to the 24 point increase in debt/equity ratios since 1961 (Kuttner, 1986). They express concern that the record high levels of debt which takeover threat has sparked will present serious problems once the economy enters a recession and firms are no longer able to meet high interest payments.

H5: Exposure to a takeover threat lowers a firm's interest coverage.

The model proposed by Myopia theorists is shown in Figure 3-2.

Figure 3-2: Managerial Myopia Theory Framework

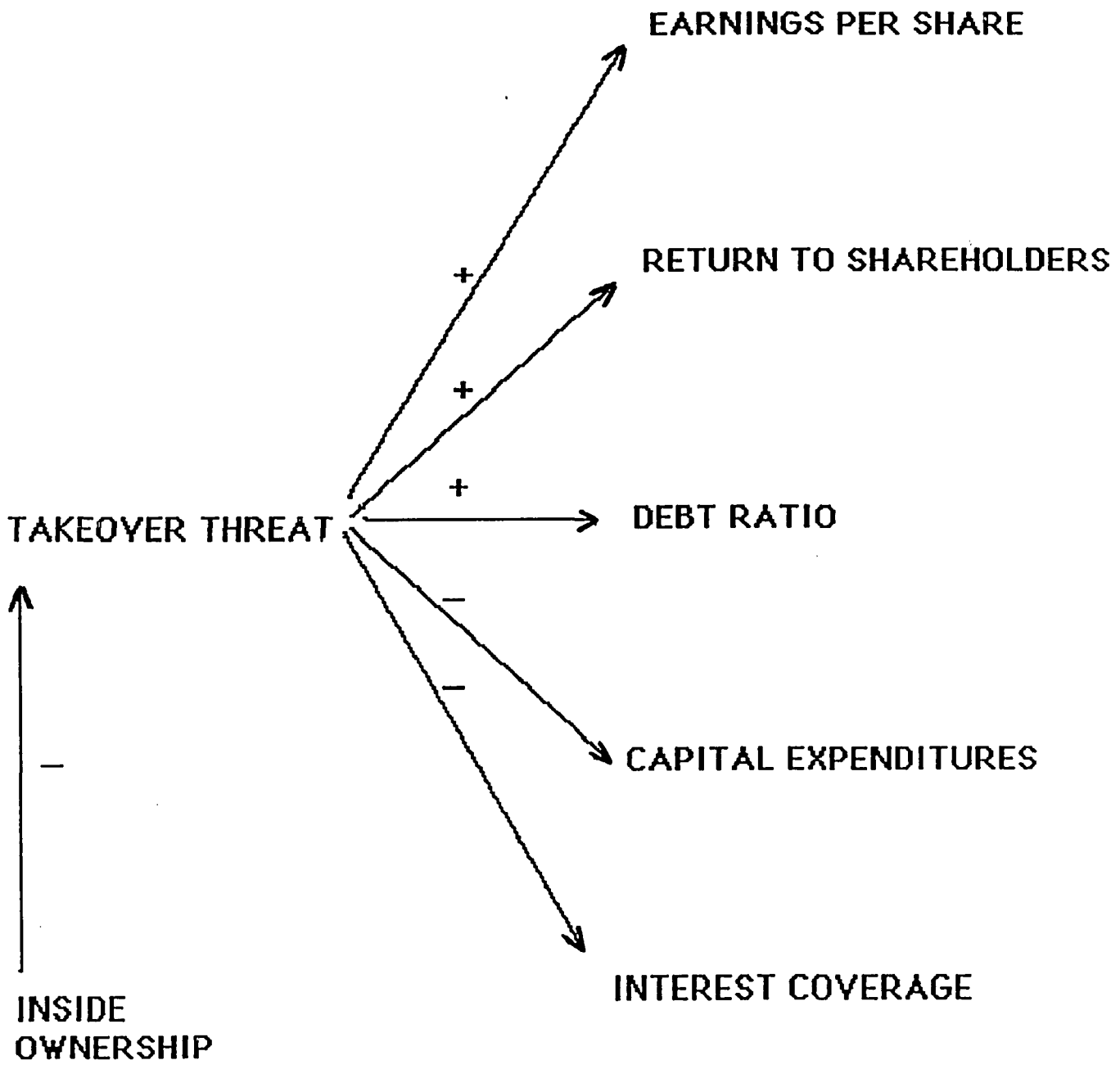


3.2.4. An Integrative Model of Takeover Threat

As previously discussed, Managerial Efficiency and Managerial Myopia perspectives compete in their implications for management and public policy. However, they are not mutually exclusive. Efficient and myopic behaviors can occur simultaneously; furthermore, they are interrelated. Efficiency may be achieved at the expense of long-term planning or it may be a source of additional funds with which management may invest in the future. Myopia may free up funds for distribution to shareholders or it may lower shareholder earnings and returns by lowering the value of the firm.

In this study, an integrative model of takeover threat is proposed. The relationship suggested by both Efficiency theory and Myopia theory are incorporated into the design. Figure 3-3 presents the integrative model of takeover threat.

Figure 3-3: An Integrative Model of Takeover Threat



Chapter 4

MEASUREMENT

4.1. Independent Variables

4.1.1. Hostile Takeover Attempt

There are two ways that a hostile bid increases the level of takeover threat. First, the bid indicates the firm is a tempting target and likely to have to defend itself against acquisition. Second, a takeover bid increases the ease with which takeover threat comes to mind and, therefore, increases the perceived level of takeover threat (Tversky and Kahneman, 1982). Therefore, exposure to a specific hostile acquisition attempt is the measure of takeover threat for this study.

Hostile Takeover Attempt is a dichotomous variable with firms having experienced a takeover attempt coded as one and firms not subject to an attempted hostile acquisition coded as 0. A takeover attempt is deemed hostile if the target company either announces its opposition or attempts to fight the takeover. Only transactions valued at $1 million or more are included. Firms coded as not subject to a hostile offer must have not received a takeover threat for the period of the study.

Unsuccessful takeover attempts were identified through the *Wall Street Journal*, the New York *Times*, various SEC filings (Schedule 14D-1, Schedule 13D, and Schedule 14D-9), the General Accounting Office, and the Mergers and Acquisitions database.

4.1.2. Insider Control

Stock ownership is a key to control. If a firm is closely held, the pool of available stock from which a hostile acquirer may draw is limited. Therefore the greater the percentage of insider holdings, the lower the level of takeover threat (Bruno, Leidecker, and Torgrimson, 1985).

This information was collected from the proxy statements filed with the SEC. Insider control is defined as the beneficial stock ownership of all officers, directors and nominees: It is coded from 1 (0 to 25%) to 4 (75 to 100%).

4.1.3. Earnings per Share$_{t0}$ (EPS$_{t0}$)

Managerial performance was measured using primary earnings per share, excluding extraordinary items and discontinued operations. Managerial Efficiency argues that the measure of a firm's success centers on the interests of the stockholder. Earnings alone do not measure the stockholders' interests because a firm may increase earnings while issuing more stock. In this instance, total income could rise while the profit attributable to individual shares falls. Earnings per share controls for this problem. It is, however, limited in that it does not reflect the amount of capital needed to achieve growth or the possible changes in cost of capital (Reimann, 1987). These issues are addressed in the debt ratio and interest coverage variables.

4.1.4. Return to Shareholders$_{t0}$

Return to shareholders was measured using the change in the price of a share plus any dividends announced: This sum is divided by the initial cost of a share. This measures the gain a shareholder would received at fiscal year end compared to the price a shareholder would have paid at the beginning of that year.

4.1.5. Debt Ratio$_{t0}$

The total debt to total assets ratio measures the proportion of the assets that is financed by creditors. It represents the extent to which managers are bonded to their promise to pay out future free cash flows (Jensen, 1988). The debt to assets ratio was calculated as the long and short term debt divided by the total assets.

4.1.6. Capital Expenditures$_{t0}$

Investments in capital goods and improvements generally do not yield a quick return; therefore, capital investment provides an indication of a firm's orientation toward long-term considerations (Stein, 1988). The capital expenditures divided by net sales was used as a measure of long-term investment.

4.1.7. Interest Coverage$_{t0}$

In this study, interest coverage serves as the indicator of a firm's solvency: As such, it can be used as a univariate predictor of financial distress (Foster, 1986). A firm's solvency is its ability to meet its financial obligations in the long term. Interest coverage compares the income available to pay interest to the interest that must be paid. It serves as an indication of whether a firm has overextended itself. Interest coverage was measured as income before interest and taxes, divided by the interest expense.

4.2. Dependent Variables

In this study, the intent is to measure the change brought on by a hostile takeover attempt. Therefore, in each equation the prescore of the dependent variable is included as an independent variable. The dependent variable is the postscore of that same variable.

For Hypothesis One, the dependent variable is earnings per share (EPS_{t1}) measured the fiscal year following the hostile takeover attempt. Similarly, in Hypothesis Two the dependent variable is return to shareholders the year after the bid. In Hypotheses Three, Four, and Five the dependent variables are debt ratio, capital expenditures, and interest coverage respectively, each measured the fiscal year following the hostile takeover attempt. Section 4.1 details the construction of the individual variables.

4.3. Accounting versus Stock Market Measures of Performance

Any research process involves choosing between conflicting options which offer alternative costs and benefits (McGrath, 1982). This is especially true with the choice between accounting and stock market measures of performance.

The problems inherent in using accounting measures are well-documented. For example, accounting measures cannot be used to isolate the results of a specific event (Lubatkin, 1982). Furthermore, creative use of such items as depreciation, intangibles, and inventory valuation can lead to bias (Briloff, 1976). Also, it can be difficult to meaningfully compare firms with different accounting conventions (McGuire, Schneewers, and Hill, 1986). Such problems with accounting measures have led to an increased reliance on market measures of performance in organizational research.

Recently, researchers have begun to question the efficacy of market measures as well. Herman and Lowenstein (1988) argue that stock price is only an indirect performance measure that relies too heavily on the assumption that stock prices reflect the only true value of the firm. The implication that market value reflects future performance goes beyond the standard market efficiency assumptions (Ravenscraft and Scherer, 1988). Stock price data do not reflect the transfer of wealth to and from bondholders (Roll, 1988). And, in the case of event studies, the choice of event period can significantly affect a study's results (Magenheim and Mueller, 1988).

Clearly, neither measure provides a panacea; therefore, the selection should be based on how the strengths and weaknesses of each approach affect the specifics of the particular study. In this study, four issues drove the selection of the performance measure:

1. Most importantly, the two theories are based on different positions on the efficient market hypothesis. Myopia theory is based on the assertion that stock price does not reflect the true value of the firm. Therefore, any valid test of the two theories should be free of efficient capital market assumptions.
2. No single event is being measured. Therefore, that weakness of the accounting measures is less problematic.
3. Accounting information is the information most readily available to potential acquirers and serves as the basis upon which they receive financing for the acquisition (Herman and Lowenstein, 1988).

4. Accounting measures provide a direct test of the behaviors the two theories predict. Market measures would not differentiate between the theories' finer points (e.g. earnings per share, capital expenditures).

Therefore, this study utilizes accounting measures of performance as the dependent variables. Accounting data are subject to error; but, this does not render them useless (Ravenscraft and Scherer, 1987). These errors would only present a problem if they were correlated with having successfuly defended against a hostile takeover attempt. In the absence of a reason to believe such correlation exists, the errors are assumed to represent noise.

Chapter 5
METHODOLOGY

5.1. Sample

The purpose of this study is to test the effects of takeover threat on corporate strategy. Therefore, the sample consists of target firms that were threatened with a hostile takeover and a control group of firms that did not face a hostile takeover attempt during the period of the study.

For inclusion in the sample, target firms had to successfully fight off the hostile takeover attempt, keeping their corporate identity intact. Only transactions that would have been in excess of one million dollars were considered.

Following the protocol established in Larcker's (1983) study of performance plans and Singh and Harianto's (1989) study of golden parachutes, a control group was established. The control group is comprised of firms that (1) did not experience a specific takeover attempt during the period of study (2) were in the same four-digit industry (Standard Industrial Classification Code), and (3) were closest to the target firm in gross sales the fiscal year of the hostile takeover attempt. Firms that did not issue common stock or had a significant tie to another firm in the data base were discarded. Each target firm was matched to two control firms in the same fiscal year.

In order for a firm to be included in the database, relevant corporate data had to be accessible. Therefore, inclusion in the Compustat Data Base was a prerequisite for the study. This includes all companies traded on the New York Stock Exchange and the American Stock Exchange. It also includes those companies listed with NASDAQ trading over-the-counter, those Standard and Poor's Stock Guide companies whose primary market is OTC, and those major industrials traded on regional exchanges. The final N for the study is 78 firms. These firms represent 24 different four-digit industries.

5.2. Data Sources

Unsuccessful hostile takeovers were identified using the *Wall Street Journal*, the New York *Times*, Tender Offer Statements (Schedule 14D-1), Beneficial Ownership Statements (Schedule 13D), Solicitation/Recommendation Statement Tender Offers (Schedule 14D-9), the General Accounting Office (GAO) Report to the Chairman, Subcommittee on Oversight and Investigations, and the Mergers and Acquisitions data base.

Inside ownership data were obtained from the firms' proxy statements. Sales and industry data from which the control group was identified were obtained from Compustat using the FAME software to rank firms within industry groups. All other relevant corporate data were obtained from the Compustat database.

5.3. Statistical Analysis

To reduce the likelihood of artifactual correlation, the distribution of each variable was examined and appropriate transformations were made. Univariate analyses were performed using SPSSX Condescriptive.

The correlations of the independent variables were examined to determine if multicollinearity would be a problem. Bivariate relationships were examined using Pearson correlation coefficients.

To determine if the target firms differed significantly from control firms on any of the variables, t-tests were performed. The t-tests compared the group means of target firms with the group means of control firms for the variables used in the analysis. T-tests provide a basic indication of the difference between two groups on a specific variable, without controlling for the influence of other variables. For variables transformed logarithmically, the t-test may be interpreted as a difference between geometric means.

To test the hypotheses, hierarchical regression was performed using SPSSX Regression. Means were substituted for missing variables. The substitution of means is a conservative approach to the inclusion of missing data: Means lower the relevant correlation coefficients (Tbachnik & Fidell, 1983).

5.4. Research Design

The purpose of this study is to determine whether takeover threat significantly changes a target firm's subsequent behavior in specified ways. The study of change poses methodological dilemmas that are the subject of a complete literature (Cronbach and Furby, 1970). Essentially there are three options available to the researcher analyzing change processes (Fombrun and Ginsberg, 1990).

1. The researcher could use the difference between the postscore and the prescore as the dependent variable.
2. The researcher could divide that difference by the prescore.
3. The researcher could use the prescore as a regressor in a hierarchical regression analysis.

The first two options are inferior because of probable correlation of the error terms (Fombrun and Ginsberg, 1990). A difference score usually evidences a lower reliability than either of the original scores; in fact, as the correlation between the two original variables approaches their average reliability, the reliability of the difference score approaches zero (Cohen and Cohen, 1983).

To effectively test whether a variable changed, it is necessary to control for the initial level of that variable (Cohen and Cohen, 1983). That initial level has nothing to do with the change, yet it can confound the results of a change analysis. Firms initially scoring low on a variable may spuriously appear to have a greater change than firms scoring high. Firms with higher postscores may appear to have made greater gains than firms with lower postscores. This regression to the mean phenomenon poses significant interpretive risks (Cohen and Cohen, 1983).

With hierarchical regression, one can test the proportion of variance attributable to a specific variable after all other variables have been accounted for (Tbachnik and Fidell, 1983). By controlling for the prescore and then adding the postscore to the equation, it is possible to determine the incremental explanatory power the postscore provides. In this study, the prescore of the hypothesized variable serves as a covariate, along with other nuisance variables, in the first block of the hierarchical regression.

The hierarchical regression is based on an analysis of partial variance wherein two

groups are studied. For an analysis of partial variance to be valid, the two groups must have parallel regression lines (Cohen and Cohen, 1983). One can determine whether the assumption is met by testing the significance of the interaction-bearing product (the prescore of the hypothesized variable*the hostile takeover attempt dummy variable) as a predictor of the postscore of the hypothesized variable. This is accomplished by using the same hierarchical regression technique that is used to test the hypotheses. However, instead of the hostile takeover attempt variable, the interaction is entered into the second block of the equation. If the interaction makes a significant contribution to the prediction of the dependent variable, the results of the hierarchical regression are called into question. However, this does not preclude a meaningful analysis. The implications of an interaction can be determined by plotting regression lines for each group and interpreting the results (Cohen and Cohen, 1983).

Following the pretest for interactions, the central analysis is performed. The first block of the regression is run using the postscore of the relevant variable as the dependent variable. The prescore of the relevant variable serves as an independent variable, along with any other covariates for which the study controls. The F value of that equation is calculated. Then in the second block of the regression analysis, the same analysis is run except the dichotomous hostile takeover attempt variable is also entered as an independent variable. The F value for the second block of the equation, which includes the hostile takeover attempt variable, is calculated.

The change in F from the first block of the equation to the second block of the equation is the test statistic: It represents the effect of the hostile takeover attempt isolated from other factors. For Hypotheses Two through Five, if the change in F is significant, the hypothesis is accepted.

The following equations were used to test the hypotheses. In each instance, the hostile takeover attempt variable was entered separately in the second block after all other variables have been considered in the first block.

The equation for Hypothesis One is:

$$Y_{1(t2)}=B_0Y_{1(t1)}+B_2X_2+B_3X_3+B_4X_4+B_5X_5+B_6X_6+B_7X_7$$

The equation for Hypothesis Two is:

$$Y_{2(t2)}=B_0Y_{2(t1)}+B_1X_1+B_3X_3+B_4X_4+B_5X_5+B_6X_6+B_7X_7$$

The equation for Hypothesis Three is:

$$Y_{3(t2)}=B_0Y_{3(t1)}+B_1X_1+B_2X_2+B_4X_4+B_5X_5+B_6X_6+B_7X_7$$

The equation for Hypothesis Four is:

$$Y_{4(t2)}=B_0Y_{4(t1)}+B_1X_1+B_2X_2+B_3X_3+B_5X_5+B_6X_6+B_7X_7$$

The equation for Hypothesis Five is:

$$Y_{5(t2)}=B_0Y_{5(t1)}+B_1X_1+B_2X_2+B_3X_3+B_4X_4+B_6X_6+B_7X_7$$

Where:

$Y_{1(t1)}$=Earnings per share - prescore
$Y_{1(t2)}$=Earnings per share - postscore
$Y_{2(t1)}$=Return to shareholders - prescore
$Y_{2(t2)}$=Return to shareholders - postscore
$Y_{3(t1)}$=Debt Ratio - prescore
$Y_{3(t2)}$=Debt Ratio - postscore
$Y_{4(t1)}$=Capital Expenditures - prescore
$Y_{4(t2)}$=Capital Expenditures - postscore
$Y_{5(t1)}$=Interest coverage - prescore
$Y_{5(t2)}$=Interest coverage - postscore
X_1=Earnings per share - prescore
X_2=Return to shareholders - prescore
X_3=Debt ratio - prescore
X_4=Capital Expenditures - prescore
X_5=Interest coverage - prescore

X_6=Inside ownership
X_7=Hostile takeover attempt

Chapter 6

RESULTS

This chapter presents the results of the univariate and bivariate analyses. Then the results from the tests of the hypotheses are offered. All analyses use SPSSX.

6.1. Univariate Analyses

First, the distributions of the variables were examined. Return to Shareholders - Prescore, Return to Shareholders - Postscore, Debt Ratio - Prescore, Debt Ratio - Postscore, Capital Expenditures - Prescore, Capital Expenditures - Postscore, Interest Coverage - Prescore, and Interest Coverage - Postscore each evidenced significant positive skewness. Accordingly, logarithmic transformations (base 10 log) were employed.

Although the logarithmic transformations improved the distribution of the variables, a few outliers remained. Outliers are an important issue in regression analysis. If not eliminated, they can present statistical problems: If eliminated, they can present a research dilemma because either the sample or the variables are altered (Tbachnik and Fidell, 1983). This study approaches the problem by first standardizing all scores: This results in variables with a mean of zero and a standard deviation of one. Then scores greater than three were recoded as three and scores less than negative three were recoded as negative three. Ten scores were changed as a result of the transformation of the outliers. One Earnings Per Share - prescore was high and one was low: One Earnings Per Share postscore was high. Three Interest Coverage prescores were high, one Interest Coverage postscore was low, one Debt Ratio postscore was low, one Return to Shareholders prescore was high and one Return to Shareholders postscore was high. This method of transforming outliers preserves the deviancy of an outlying observation

without allowing it to be so deviant that it perturbs correlation (Tbachnik and Fidell, 1983).

The logarithmic transformations and the recoding of outliers are appropriatc both statistically and conceptually. Statistically, the transformations permit one to make the assumptions that underly regression analysis. Conceptually, these variables can be expected to behave differently at the end of the distributions. Each of the transformed variables is a ratio that reflects strategy relative to the assets available to the firm. A hostile takeover can be expected to change a firm's behavior relative to the average behavior one would otherwise expect. However, extreme behavior is likely to be driven by other factors. Therefore if the ends of the distribution are permitted to exert disproportionate influence artifactual correlations likely to result. By lessening the influence of extreme scores, the general pattern of behavior is captured, rather than the influence of some extreme examples. In other words, it provides a more conservative test of the hypotheses.

Descriptive statistics were also computed. Means, standard deviations, and the number of observations for each variable is included in Table 6-1. Means and standard deviations for the target and control firms are included in Table 6-4.

6.2. Bivariate Analyses

Because the variables in an equation are likely to have complex patterns of relationships, care must be taken when interpreting bivariate relationships. The hierarchical regression analyses control for extraneous influences and therefore provide a more reliable test of the hypotheses. However bivariate relationships provide a foundation from which one can interpret the results of more sophisticated analyses.

6.2.1. Pearson Correlations

Table 6-1 presents the means, standard deviations, and correlations for the independent and the dependent variables of the total sample. Table 6-2 presents an intercorrelation matrix for the target firms: And, Table 6-3 presents an intercorrelation matrix for the control firms.

Table 6-1: Intercorrelation Matrices (Total Sample)

Intercorrelation Matrix of All Firms in Sample[ab]

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11
1. Earnings per Share$_{t1}$	.009	.909											
2. Earnings per Share$_{t2}$	-.004	.989	.53										
3. Return to Shareholders$_{t1}$	-.025	.893	.33	.19									
4. Return to Shareholders$_{t2}$	-.025	.894	.27	.17	.91								
5. Debt Ratio$_{t1}$	.000	1.000	-.15	-.35	-.09	-.01							
6. Debt Ratio$_{t2}$	.006	.980	.06	-.17	.01	.07	.64						
7. Capital Expenditures$_{t1}$	.000	1.000	-.11	-.17	.13	.17	.17	.27					
8. Capital Expenditures$_{t2}$	.000	1.000	.02	.05	.03	.01	.10	.13	.53				
9. Interest Coverage$_{t1}$	-.036	.854	.30	.23	.09	-.00	-.48	-.12	-.20	-.08			
10. Interest Coverage$_{t2}$	.052	.684	.07	.36	.20	.13	-.21	-.33	-.19	.07	.48		
11. Inside Ownership	1.442	.835	-.12	-.24	-.32	-.32	.12	.04	-.19	-.17	.07	-.14	
12. Hostile Takeover Attempt	.333	.475	.10	.07	.05	.07	-.09	.18	.15	-.07	-.08	-.22	-.27

[a]N=78

[b]Correlations>.19 are significant at p<.05

Table 6-2: Intercorrelation Matrices (Target Firms)

Intercorrelation Matrix of Target Firms[abc]

	1	2	3	4	5	6	7	8	9	10
1. Earnings per Share$_{t1}$										
2. Earnings per Share$_{t2}$	.75									
3. Return to Shareholders$_{t1}$	.30	.24								
4. Return to Shareholders$_{t2}$	.26	.20	.97							
5. Debt Ratio$_{t1}$	-.11	-.20	.08	.15						
6. Debt Ratio$_{t2}$	.16	-.03	.27	.31	.71					
7. Capital Expenditures$_{t1}$	-.06	-.09	.21	.30	-.00	.11				
8. Capital Expenditures$_{t2}$	-.03	-.06	-.02	-.01	.09	.15	.67			
9. Interest Coverage$_{t1}$	.57	.28	.31	.30	-.13	.34	-.12	-.19		
10. Interest Coverage$_{t2}$	.34	.38	.26	.20	.23	.30	-.30	-.10	.31	
11. Inside Ownership	-.18	-.12	-.22	-.22	.13	-.03	-.13	-.16	-.22	-.11

[a]N=26

[b]Correlations>.32 are significant at p<.05

[c]Means and standard deviations are in Table 6-4

Table 6-3: Intercorrelation Matrices (Control Firms)

Intercorrelation Matrix of Control Firms[abc]

	1	2	3	4	5	6	7	8	9	10
1. Earnings per Share$_{t1}$										
2. Earnings per Share$_{t2}$	.41									
3. Return to Shareholders$_{t1}$	.35	.15								
4. Return to Shareholders$_{t2}$	.28	.15	.86							
5. Debt Ratio$_{t1}$	-.15	-.42	-.19	-.10						
6. Debt Ratio$_{t2}$	-.03	-.31	-.25	-.18	.65					
7. Capital Expenditures$_{t1}$	-.17	-.24	.04	.03	.26	.31				
8. Capital Expenditures$_{t2}$	.06	.11	.10	.04	.10	.17	.48			
9. Interest Coverage$_{t1}$	.27	.24	.04	-.09	-.60	-.26	-.23	-.06		
10. Interest Coverage$_{t2}$	.03	.41	.21	.14	-.39	-.56	-.13	.10	.50	
11. Inside Ownership	-.09	-.28	-.39	-.39	.10	.13	-.17	-.23	.06	-.22

[a]N=52
[b]Correlations>.23 are significant at p<.05
[c]Means and standard deviations are in Table 6-4

The prescore of earnings per share has a small negative correlation (r=-.11) with the prescore of capital expenditures. One could expect capital expenditures to be higher where earnings are higher. However, there seems to be a tradeoff between earnings per share and capital expenditures. This supports the argument that higher earnings per share are often obtained by foregoing higher investments in long-term projects. This tradeoff is at the heart of the Managerial Myopia theorists' argument that an emphasis on earnings per share often occurs at the expense of long-term investments. From the positive correlations that earnings per share has with interest coverage and return to shareholders and the negative correlation that earnings per share has with the debt ratio, it appears that additional funds are channeled toward paying off debt and increasing payout to shareholders instead of invested in capital expenditures. The small positive correlation between earnings per share and hostile takeover attempt does not support arguments that targets are mismanaged. However, the relationship is small and insignificant so no true conclusions can be meaningfully drawn.

There is a significant negative correlation between the postscore of earnings per share and inside ownership (-.24) and a small insignificant negative correlation (-.12) between the prescore of earnings per share and inside ownership. This supports the Market for Corporate Control argument that managers with higher holdings become entrenched and less concerned with efficiency because they are less subject to the discipline of market forces. However, it contradicts Agency Theory which argues that managerial stock ownership aligns managers' interests with stockholders' interests, thereby improving organizational performance.

Capital expenditures are generally negatively correlated with interest coverage. This is logical because expenditures on capital improvements or upkeep cannot go toward either retiring debt or maintaining a cushion for interest payments. The positive correlation between debt and capital expenditures is also to be expected. Increased debt provides additional funds for capital expenses, particularly relative to the firm's size. In other words, if a firm embarks on a capital expenditures program that is large relative to a firm's size and its available assets, that firm is likely to use debt to fund the project. Attention to capital needs does not seem to affect the payout to shareholders: There is a

small positive correlation between capital expenditures and return to shareholders. It does appear that capital expenditures are associated with a higher likelihood of hostile takeover attempt; however, the relationship is mild. Surprisingly, lower inside ownership is associated with a higher level of capital expenditures. Some might argue that this indicates managers feel freer to spend money that does not belong to them: Agency theory provides the basis for that argument. Others might argue that increased ownership protects managers from market discipline, thereby lowering their motivation to invest in the firm's future. The Market for Corporate Control is a basis for that argument.

The significant negative correlation between interest coverage and debt ratio is not surprising. The greater the debt the harder it is to establish a cushion from which to make interest payments. Although these variables are related, they address different conceptual phenomenon. Therefore, they are both included in the analysis. The correlation of -.48 is high, but not high enough to present a significant problem of multicollinearity. Tbachnik and Fidell (1983) recommend .75 as the cutoff above which multicollinearity should be considered a problem. Furthermore, the problem would be in the parcelling of variance between the two variables. Because both serve as nuisance variables in the equation, parcelling is of little concern. Still, the correlation is significantly large to have confounding effects on interpretations of effects other than those hypothesized. Although the relationship does not affect the core of this analysis, it will be considered when interpreting peripheral findings. The relationship of interest coverage to return to shareholders, hostile takeover attempt, and inside ownership is too small to be interpretable: The direction of the each relationship may simply be governed by chance.

The relationship of debt ratio to return to shareholders and hostile takeover attempt is too small to be meaningfully interpreted. However, there is a marginally significant positive relationship (.12) between debt ratio and inside ownership. The more stock the directors own, the more the directors seem willing to take risks. Because stockholders positively value risk, this supports the Agency Theory argument that stock ownership aligns the interests of management with the interests of stockholders. In the absence of counteracting forces, managers can be expected to avoid leverage (Donaldson, 1984). However, higher stock ownership could motivate managers to accept increased employment risk in order to achieve higher returns (Amihud and Lev, 1981).

The relationship of return to shareholders with hostile takeover attempt is very low (.05): This contradicts the argument that hostile takeovers are motivated by a firm's unwillingness to allow free cash flow. However, there is a significant negative relationship (-.32) between inside ownership and return to shareholders. This is consistent with the argument of the Market for Corporate Control that managers who have higher control of the firm are less likely to maximize shareholder wealth because they are less subject to market discipline. It is inconsistent with Agency Theory which contends that stock ownership aligns the interests of management with the interests of stockholders: From this perspective, greater inside ownership should be associated with greater returns to shareholders.

Lastly, there is a significant negative relationship between inside ownership and hostile takeover attempt. This simply confirms that acquirers are more likely to bid on firms wherein management has less control of the stock. Inside ownership of common stock insulates a firm from hostile takeovers. High inside ownership lessens the likelihood of a hostile takeover's success and thereby lessens that target's attractiveness to bidders. This is the logic underlying prevalence of stock buybacks in response to the hostile takeover environment.

6.2.2. T-Tests Comparing Target and Control Firms

Table 6-4 presents the results of t-tests comparing group means of target firms with the group means of control firms for the variables used in this analysis. For variables transformed logarithmically, the test should be interpreted as the difference between geometric means.

The average earnings per share of target firms is higher both before and after the hostile takeover attempt. However, using the pooled variance estimate, the difference is too small to be interpreted with confidence. Still, it would marginally indicate that target firms are not necessarily poorly run firms in need of the discipline provided by the Market for Corporate Control.

The comparison of capital expenditures of target firms to capital expenditures of

Table 6-4: T-Tests Comparing Target and Control Firms

VARIABLE	N	MEAN	S.D.	t	p
Earnings per Share$_{t1}$				-.86	.393
Control	52	-.053	.919		
Target	26	.135	.895		
Earnings per Share$_{t2}$				-.61	.544
Control	52	-.052	.959		
Target	26	.093	1.058		
Return to Shareholders$_{t1}$				-.38	.702
Control	49	-.054	.807		
Target	25	.031	1.059		
Return to Shareholders$_{t2}$				-.51	.614
Control	49	-.067	.798		
Target	25	.057	1.071		
Debt Ratio$_{t1}$				.77	.443
Control	51	.063	.992		
Target	26	-.124	1.023		
Debt Ratio$_{t2}$				-1.60	.114
Control	51	-.120	.875		
Target	26	.254	1.136		
Capital Expenditures$_{t1}$				-1.24	.220
Control	46	-.104	.957		
Target	23	.210	1.072		
Capital Expenditures$_{t2}$				.62	.537
Control	46	.053	.953		
Target	23	-.106	1.103		
Interest Coverage$_{t1}$				.92	.362
Control	52	.014	.993		
Target	26	-.137	.465		
Interest Coverage$_{t2}$				2.31	.023
Control	52	.157	.761		
Target	26	-.157	.436		

control firms shows an interesting shift. Prior to a hostile takeover attempt, the target firms have a higher average level of capital expenditures. After the hostile takeover attempt, the target firms have a lower average level of capital expenditures. Although neither the prescore nor the postscore t-test is individually significant, the shift is interesting.

Regarding interest coverage, another shift occurs. Both before and after the hostile takeover attempt, the target firms have less interest coverage. However, the gap widens after the attempt: Control firms have higher interest coverage and target firms have lower interest coverage than previously. Although the postscore difference is significant, the prescore difference is not. Still, the pattern of change is worthy of mention.

The debt ratios of target and control firms follow a pattern similar to capital expenditures. Prior to a hostile takeover attempt, the target firms had a lower debt ratio than control firms. After the hostile takeover attempt, the target firms had a higher debt ratio than control firms. The difference in prescores is not significant and the difference in postscores is only marginally significant, however the pattern of change is striking. Unused debt capacity is a corporate asset that acquirers value. This is in keeping with the Managerial Efficiency Theory argument that hostile takeovers penalize managers who avoid debt, thereby placing their own interests above those of shareholders (Coffee, 1988).

Lastly, target firms appear to have a higher return to shareholders both before and after the hostile takeover attempt. However, the results are not significant and so must be interpreted with caution.

6.2.3. Tests of Interactions

Table 6-5 presents the results of the tests for interactions between hostile takeover attempt and the prescore level of the hypothesized variable. Only the earnings per share interaction with hostile takeover attempt was significant. Therefore, the analyses for Hypotheses Two through Five met the assumption of parallel regression lines and no further analysis was needed. Because the results of the hierarchical regression for

Hypothesis One may be invalid, additional analyses were performed to determine whether the predictions of Hypothesis One were supported.

6.3. Hypotheses Tests

Each of the hypotheses concerns the change in behavior expected after a hostile takeover attempt. To test this, the prescore value of that behavior is entered in the equation along with a selection of nuisance variables.[6] Then the hostile takeover attempt variable is entered. With the exception of Hypothesis One, if the hostile takeover attempt variable improves the explanatory power of the model *over and above* the explanatory power offered by the prescore and the nuisance variables, the hypothesis is supported. The significance of the change in F is the test statistic. Although other results merit mention and may be discussed, only the significance of the *change* in F directly addresses the hypothesis.

6.3.1. Hypothesis One

Table 6-6 presents the findings for the hierarchical regression analysis of Hypothesis One, that exposure to a hostile takeover attempt increases subsequent earnings per share.

There is no support for Hypothesis One in this analysis. The R Square of the first block, the prescore and the nuisance variables, is .38679. When the hostile takeover variable is entered, the R Square is increased to .38819. This is only a .00140 increase in R Square. The F Change of .16008 is not significant.

However because there is a significant interaction between earnings per share and hostile takeover attempt, the validity of this finding is in question. Therefore, an additional analysis was performed to explore the implications of that interaction. Figure 6-1 presents this analysis.

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[6]The nuisance variables are those other variables that represent efficiency or myopia. Because efficiency and myopia are interrelated, it is important to control for the effects of the original levels of the other variables when testing for a change in the hypothesized one.

Table 6-5: Tests of Interactions

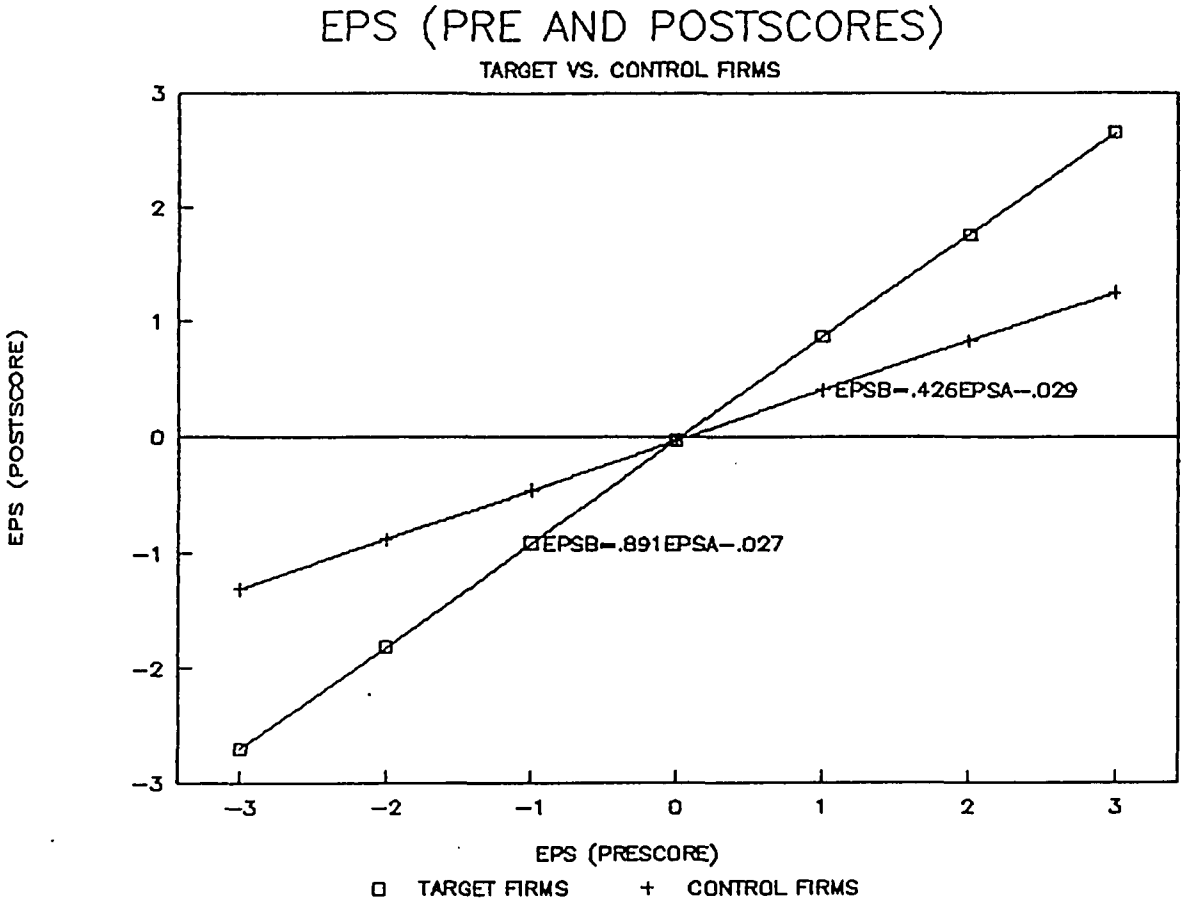
INTERACTION TERM	F CHANGE	p
Earnings per Share$_{t1}$* Hostile Takeover Attempt	5.308	.024
Return to Shareholders$_{t1}$* Hostile Takeover Attempt	2.137	.148
Debt Ratio$_{t1}$* Hostile Takeover Attempt	.231	.632
Capital Expenditures$_{t1}$* Hostile Takeover Attempt	.930	.338
Interest Coverage$_{t1}$* Hostile Takeover Attempt	.000	.987

Table 6-6: Hierarchical Regression - Hypothesis One

INDEPENDENT VARIABLES	BETA	p
Earnings per Share$_{t1}$	.491	.000
Return to Shareholders$_{t1}$	-.035	.737
Debt Ratio$_{t1}$	-.264	.018
Capital Expenditures$_{t1}$	-.101	.311
Interest Coverage$_{t1}$	-.055	.627
Inside Ownership	-.184	.081
Hostile Takeover Attempt	-.040	.690
Adjusted R^2	.327	
F Value	6.345	.000
d.f.	(7,70)	

Contribution of Hostile Takeover Attempt to R^2	.001
F Change	.160
p	.690

Figure 6-1: Analysis of the Interaction between EPS and HTA



Obviously, because the two regression lines are not parallel they must intersect at some point. Conceivably that interaction could occur at a point outside the range of expected scores. Accordingly, a graph could show that the hypothesized difference between target and control firms holds and that the lack of finding in the hierarchical regression analysis is an artifact of the violated assumption. Figure 6-1 shows that the two regression lines intersect near zero (specifically, .004).

Cohen and Cohen (1983) recommend standardizing the variables to ease interpretation. Because the variables in this analysis were previously standardized, the graph not only shows the slope of the regression lines, but also shows the proportion of observations represented by each section.[7] The intersection of the two regression lines occurs at the mean for the observations: Half the firms fall on each side. For lower prescore levels of earnings per share, control firms evidenced higher performance than target firms evidenced after their bid. However, for higher levels of prescore earnings per share, the opposite was true: Target firms performed better after the bid than control firms did during the same period. This finding fails to support the predictions of Hypothesis One. Because the variables are standardized, the graph shows that half the firms behave in the opposite direction as that predicted by Hypothesis One. Furthermore even for those firms that behave as predicted, the difference in postscore earnings per share is minimal within the first standard deviation. Clearly, Hypothesis One is not supported.

Apparently, target firms that were already performing better than average prior to the bid were able to improve on that performance after successfully defeating the hostile takeover attempt. Their subsequent performance was better than that of comparable firms that did not face a bid. However, below average targets became stymied: Their performance was essentially unchanged while comparable firms that did not face a bid improved on their performance. There is an inherent paradox in this result. Market discipline seems to work best for firms that did not appear to need it.

Another result merits discussion. Surprisingly, there is a significant negative

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[7]See Section 6-1.

relationship between debt ratio and earnings per share in both the hierarchical regression results and the sample's correlation matrix. Debt is generally expected to increase the stream of earnings per share because a greater reliance on debt bonds managers to future cash flows (Jensen, 1988) and does not dilute equity. If the firms facing a hostile takeover attempt become more highly leveraged, why do they not also increase their earnings per share?

To answer this question, a post-hoc analysis of firms with the greatest increases in debt was conducted. In some cases, the firms did enjoy a sustained increase in earnings per share. However, those were the exception. Most of the firms had a significant increase in earnings per share the year of the hostile takeover attempt. However, the postscore in this study is the year following the year in which the hostile takeover attempt occurred. Apparently, the increase in debt was a short-lived tactic designed to ward off the hostile acquirer; because the following year, firms tended to concentrate on retiring as much debt as possible. This brought the earnings per share figure down to prescore levels; although, postscore debt remained significantly above prescore levels.

There are a couple of possible explanations for this finding. One could argue that the Market for Corporate Control successfully forced managers to increase debt, thereby increasing the risk that shareholders positively value. However, once the threat of a hostile takeover was past, managerial self-interest again prevailed. Managers returned to the strategies that maximize their employment security rather than shareholder's wealth.

An alternative explanation could argue that the hostile takeover attempt forced managers to leverage the firm beyond a level that was advisable, thereby jeopardizing the firm's survival as well as the best interests of all the firm's stakeholders. After the hostile bid failed, managers acted rationally by reducing debt where possible.

Although the counterintuitive relationship between debt and earnings per share is interesting, it does not change the results of the test of Hypothesis One. There is no support for the argument that a hostile takeover bid increases subsequent earnings per share.

6.3.2. Hypothesis Two

Table 6-7 presents the findings for Hypothesis Two, that exposure to a hostile takeover attempt increases subsequent return to shareholders.

There is no support for Hypothesis Two. The prescore and the nuisance variables entered in block one obtain an R Square of .84532. Adding the hostile takeover attempt variable to the equation increases the R Square to .84556. This provides an incremental R Square of only .00024. The F change is .10886: This is not significant.

Clearly the initial value of return to shareholders drives the analysis. The prescore of return to shareholders has a T value of 17.506, which is highly significant. This indicates that return to shareholders is a stable phenomenon, evidencing little variance. Although it is not surprising to find that dividend policy remains relatively constant, it is less obvious that increases in share price would stay relatively the same as well. Nevertheless, the firms in this sample maintain a relatively constant return to shareholders, irrespective of their having been exposed to a takeover threat or not.

6.3.3. Hypothesis Three

Table 6-8 presents the results of the analysis of Hypothesis Three, that exposure to a hostile takeover attempt increases the debt to assets ratio..

The analysis provides support for Hypothesis Three. The R Square obtained by the prescore of the debt ratio and the nuisance variables is .49962. The addition of the hostile takeover variable increases the R Square to .55607. This increase of .05645 in the R Square is significant at the .0039 level. The F change is 8.90056.

In addition, capital expenditures prior to the takeover threat are positively related to the debt ratio in the year following the takeover threat. This is intuitive as capital expenditures would increase the need for the funds that debt provides.

Less obvious is the positive relationship between interest coverage and the debt ratio. The Pearson correlations show a negative relationship between the prescore of interest coverage and the postscore of the debt ratio. The relationship between the

Table 6-7: Hierarchical Regression - Hypothesis Two

INDEPENDENT VARIABLES	BETA	p
Earnings per Share$_{t1}$	-.015	.784
Return to Shareholders$_{t1}$	.918	.000
Debt Ratio$_{t1}$	.048	.383
Capital Expenditures$_{t1}$	.021	.671
Interest Coverage$_{t1}$	-.050	.383
Inside Ownership	-.022	.683
Hostile Takeover Attempt	.016	.742
Adjusted R^2	.830	
F Value	54.748	.000
d.f.	(7,70)	

Contribution of Hostile Takeover Attempt to R^2	.000
F Change	.109
p	.742

Table 6-8: Hierarchical Regression - Hypothesis Three

INDEPENDENT VARIABLES	BETA	p
Earnings per Share$_{t1}$	.083	.355
Return to Shareholders$_{t1}$	.011	.899
Debt Ratio$_{t1}$	.776	.000
Capital Expenditures$_{t1}$	.152	.075
Interest Coverage$_{t1}$	.270	.007
Inside Ownership	.035	.698
Hostile Takeover Attempt	.252	.004
Adjusted R^2	.512	
F Value	12.526	.000
d.f.	(7,70)	

Contribution of Hostile Takeover Attempt to R^2	.056
F Change	8.901
p	.004

prescore of interest coverage and the prescore of debt ratio is suppressing their true relationship with the postscore of the debt ratio.

The nature of the analysis precludes removing the prescore of the debt ratio from the analysis. However, a post-hoc analysis was conducted removing the interest coverage prescore from the analysis. The finding for hypothesis one was stable with regard to that removal.

6.3.4. Hypothesis Four

Table 6-9 presents the results of the analysis of Hypothesis Four, that capital expenditures decrease after a hostile takeover attempt.

Hypothesis Four was supported. The R Square of the initial block of the equation was .54870. After hostile takeover attempt was added, the R Square increased to .57689. The incremental increase in the R Square was .03172: The F change was 3.32814. This was significant at the .0724 level.

This provides some support for the arguments of Myopia theorists who claim that hostile takeover attempts motivate managers to cut back on investments that do not yield a quick return. Unlike the finding on Hypothesis Three (debt ratio), which is confounded by the lack of a finding for Hypothesis One (earnings per share), this finding is consistent with one of the two competing theories' arguments.

6.3.5. Hypothesis Five

Table 6-10 presents the results of the analysis of Hypothesis Five, that takeover threat decreases interest coverage.

Hypothesis Five is supported. In the initial block of the equation, the R Square is .31566. When the hostile takeover attempt variable is added, the R Square increases to .35312: The F change is 4.05388. This is significant at the .0479 level.

This indicates that after surviving a hostile takeover attempt, firms are inclined to operate with a smaller margin of error. This is congruent with the finding that the debt

Table 6-9: Hierarchical Regression - Hypothesis Four

INDEPENDENT VARIABLES	BETA	p
Earnings per Share$_{t1}$	.108	.329
Return to Shareholders$_{t1}$	-.103	.346
Debt Ratio$_{t1}$	.013	.906
Capital Expenditures$_{t1}$	.558	.000
Interest Coverage$_{t1}$	.011	.927
Inside Ownership	-.133	.225
Hostile Takeover Attempt	-.189	.072
Adjusted R^2	.266	
F Value	4.988	.000
d.f.	(7,70)	

Contribution of Hostile Takeover Attempt to R^2	.032
F Change	3.328
p	.072

Table 6-10: Hierarchical Regression - Hypothesis Five

INDEPENDENT VARIABLES	BETA	p
Earnings per Share$_{t1}$	-.145	.184
Return to Shareholders$_{t1}$	.145	.181
Debt Ratio$_{t1}$	.059	.601
Capital Expenditures$_{t1}$	-.137	.183
Interest Coverage$_{t1}$	.512	.000
Inside Ownership	-.235	.032
Hostile Takeover Attempt	-.205	.048
Adjusted R^2	.288	
F Value	5.459	.000
d.f.	(7,70)	

Contribution of Hostile Takeover Attempt to R^2	.048
F Change	4.054
p	.048

ratio increases after takeover threat. Increased debt can be interpreted two ways. Efficiency theory contends that increased risk is in the shareholders best interest and therefore additional debt is to be valued. Myopia theory contends that market discipline is likely to force firms to increase debt to an extent that threatens the firm's ultimate survival.

Target firms had lower interest coverage even prior to the hostile takeover attempt. The average pre-bid interest coverage before interest and taxes was 5.399 for target firms and 10.691 for control firms. This does not support the argument that targets are firms whose managers are overly risk averse, putting the firm's stability over the interests of shareholders. Rather, it suggests that managers of target firms were more likely to bond themselves to the payout of future free cash flows than their counterparts in control firms.

After the hostile takeover attempt, control firms had an average interest coverage, before interest and taxes, of 8.304 and target firms had an average interest coverage of 1.289. All the firms lowered their interest coverage over the period of the study, possibly due to generic takeover threat; however, target firms lowered interest coverage to unusually low levels. There is no set level of leverage that is optimal for all firms. For instance, firms with relatively stable profitability can safely have relatively more debt than firms with widely varying profitability. Because this study encompasses a variety of industries, determining an optimal level of interest coverage (or debt ratio) is problematic. Clearly, the firms faced with a hostile takeover threat increased their use of debt and did so at the expense of their margin of safety. Whether this put unused debt capacity to more productive use or cannibalized the firm's margin of safety can only be surmised. Still, an interest coverage of 1 before taxes appears unusually low, particularly given the control group's average coverage of eight.

Chapter 7

DISCUSSION AND CONCLUSIONS

7.1. The Targets of the Hostile Takeover Attempts

Managerial Efficiency Theory and Managerial Myopia Theory argue that target firms will change their behavior following a hostile takeover attempt. In order to understand the meaning of the change, this study begins by analyzing the nature of the targets of the hostile bids. Were they behaving differently from control firms prior to the the takeover attempt?

7.1.1. The Managerial Efficiency Perspective on Targets

The argument that the hostile takeover environment benefits society by disciplining inefficient managers has received considerable attention in the academic literature (e.g. Jensen, 1988; Fleischer et al., 1988). From this perspective, a firm that survives a hostile takeover attempt should be chastened into earning more for shareholders, distributing greater returns, and increasing debt. Efficiency theory anticipates this change largely because the theory contends that target firms face a hostile takeover attempt because they have been performing poorly. For instance, Palepu (1986) found that targets evidenced lower growth, lower leverage, and lower performance prior to a hostile takeover attempt.

The T-tests (Table 6-4) provide little evidence that target firms invited hostile acquisition through lower earnings. There was no significant difference between the earnings per share of target and control firms prior to the hostile takeover attempt; furthermore, the direction of the difference that did exist showed target firms' earnings per share to be higher than that of control firms. However, because the difference was not significant, no meaningful conclusions can be drawn. Furthermore, the correlation table (Table 6-1) provides no indication that targets evidenced a lower earnings per share

prior to the bid. The correlation between hostile takeover attempt and earnings per share is positive (r=.09). However, it is so small that the sign cannot be interpreted: It could result from chance. Therefore, there is no evidence that the targets in this sample performed poorly in earnings per share.

Free Cash Flow Theory argues that targets are likely to be firms that did not distribute their returns to shareholders, whether through share price increases or dividend payouts (Jensen, 1988). The study does not support the contention that targets had a lower return to shareholders prior to the bid. There is no correlation between initial levels of shareholder return and hostile takeover attempts. Also, the t-tests show no difference between the returns to shareholders of target and control firms prior to a hostile takeover attempt. Although the average of the targets' returns are slightly higher than those of the control group, the difference is too small to be meaningfully interpreted.

There is no significant correlation between the initial levels of debt and the experiencing of a hostile takeover attempt. There is also no significant difference between average levels of the debt ratios of target firms and control firms prior to a hostile takeover attempt. The average of the targets' debt ratios was lower than the average of the control groups. The direction of this effect is in keeping with Managerial Efficiency Theory's position that markets discipline managers who avoid leverage in an attempt to increase their employment security at the expense of shareholder wealth maximization (Donaldson, 1984).

These findings contradict those of Palepu (1986), Mandelker (1974), and Langetieg (1978) who found that target firms exhibited below average performance prior to a takeover bid. However, the findings are congruent with those of Boyle (1970), Melicher and Rush (1973), and Conn (1976) who found that targets were generally more profitable than their industry counterparts. This study may fall into the latter group because of the nature of the sample. By definition, this study is composed of target firms that survived a hostile takeover attempt. Their survival may indicate that they were originally more fit. Still, there is considerable evidence that targets in general are firms that were performing well prior to the hostile bid.

7.1.2. The Managerial Myopia Theory Perspective on Targets

The lack of a finding that target firms perform poorly supports Managerial Myopia Theory's assertion that takeover threat is too random a phenomonenon to be a meaningful form of market discipline: By definition, discipline should be reserved for firms that need it.

According to Managerial Myopia Theory, targets are likely to be firms that invest more heavily in long-term projects which the market devalues. There is no significant difference in capital expenditures evidenced between target and control firms. However, in this instance the direction of the difference that does exist is in the hypothesized direction. Capital expenditures of targets are higher than those of control firms prior to the hostile takeover attempt. Managerial Myopia theorists would find this to be an indication that the market punishes managers who have a longer time frame in their decision making. Managerial Efficiency Theory would suggest that the findings merely indicate the market penalizes managers who are too free with the shareholders' funds. Because the difference is not significant, no true conclusions can be drawn.

Interestingly, the interest coverage was also lower for target firms prior to a hostile takeover attempt. This is counterintuitive because targets had slightly lower debt, and lower debt generally means higher interest coverage. The less a firm is leveraged, the more easily it can make its interest payments. This may indicate that even though the targets were more highly leveraged relative to their assets, they generated sufficient revenues to cover their debt payments. However, because these findings are not statistically significant, the direction of the relationships may simply be governed by chance.

7.1.3. Synthesis of the Findings Regarding Targets

In this study, there was no significant difference noted between target and control firms prior to the hostile takeover attempt. Target firms were not less efficient, as Managerial Efficiency might expect; and, they were not more committed to long-term planning, as Managerial Myopia Theory would argue. Although this does not negate the theories' hypotheses about the ways in which targets will change, it does call into

question the rationality of that change. If hostile takeovers are essentially a random phenomenon, attacking firms irrespective of their prior performance or behavior, then the value of takeover threat as a form of discipline may be overstated.

There is no indication in this study that target firms are less efficient. Therefore, it is difficult to sustain the argument that takeover threat is a form of market discipline. There is also no indication that target firms invest more heavily in the long-term. Therefore, it is difficult to sustain the argument that firms that invest in long-term projects are at greater risk.

However, there is evidence that an actual hostile bid significantly changes the behavior of the target firm in the year following the bid's occurence. Although takeover threat appears to be random in its selection of targets, there is a systematic effect that matches that hypothesized by the two theories. The following section summarizes the study's finding regarding the change in target performance. Then, these findings are discussed from the differing perspectives of Managerial Efficiency Theory and Managerial Myopia Theory.

7.2. Overview of the Results

Three of the five hypotheses were supported in the hierarchical regression analyses. Of the Managerial Efficiency Theory hypotheses, only the argument that debt increases after takeover threat was supported. There was no support for the arguments that takeover threat increases return to shareholders or that takeover threat increases earnings per share. Both of the Managerial Myopia Theory hypotheses were supported. Capital expenditures and interest coverage both decreased after takeover threat.

Table 7-1 presents the overall findings of the study.

Table 7-1: Final Results

	Hypothesis	Finding
H1: Earnings per Share	Takeover threat increases earnings per share	Hypothesis not supported
H2: Return to Shareholders	Takeover threat increases return to shareholders	Hypothesis not supported
H3: Debt Ratio	Takeover threat increases debt ratio	Hypothesis supported p=.004
H4: Capital Expenditures	Takeover threat decreases capital expenditures.	Hypothesis supported p=.072
H5: Interest Coverage	Takeover threat decreases interest coverage	Hypothesis supported p=.048

7.3. An Efficiency Theory Perspective

The fact that the targets did not perform poorly prior to the hostile bid may partially explain why there was no significant increase in performance after the bid occured. The greatest improvement in earnings per share came from target firms that were performing exceptionally well prior to the hostile bid. Although there was no consistent change in earnings per share attributable to the hostile takeover attempt, there was an association between inside ownership and earnings per share that supported the contentions of Efficiency theory. Lower inside ownership was associated with higher earnings per share. This supports the contention that vulnerability to the Market for Corporate Control motivates managers to perform more efficiently.

There was also no evidence that exposure to a hostile takeover threat increased the return shareholders enjoy subsequent to the hostile takeover attempt. As with earnings per share, this may partially explain why targets did not increase their returns to shareholders after the bid's occurrence. In this study, return to shareholders was an exceptionally stable phenomenon, exhibiting little variance.

There was a significant negative correlation (-.32) between return to shareholders and inside ownership. This supports Managerial Efficiency arguments that managers who are less vulnerable to market discipline are less likely to pay out free cash flow to shareholders. However, it contradicts Agency Theory which argues that the interests of managers become aligned with shareholders as the managers' stock holdings increase.

The tension between the expectations of Agency Theory and the expectations of the Market for Corporate Control merit discussion. Does inside ownership align the interests of managers with shareholders or does it insulate them from market discipline? The expectations of Agency Theory may hold at the lower levels of inside ownership where increases in share holdings are likely to be felt by the managers involved. Once inside ownership reaches a critical point, the effects of additional ownership are less likely to change a manager's behavior: Maximum alignment with shareholder interests may have been reached. On the other hand, the Market for Corporate Control may be most affected by changes in inside ownership at higher levels of ownership. Past a certain point, inside ownership begins to insulate a firm from market discipline.

Debt was the Efficiency theory hypothesis that the study supported. Target firms had significantly greater debt after the bid than they did beforehand. And prior to the bid, the target firms used less debt relative to their assets. This unused debt capacity can be viewed as inefficiency, which the hostile bid corrected.

Because debt generally increases a firms expected stream of earnings per share, it is surprising that debt increases from takeover threat while earnings per share do not consistently increase. A post-hoc analysis of the firms with the largest increases in debt showed that target firms loaded up on debt in response to the hostile bid. Their earnings per share the year of the bid reflected the change in debt policy. However, the following year most of the firms retired a significant amount of the debt. Although enough debt remained to show an increase in their debt ratio, the effects of debt on earnings per share disappeared. Revenues went to interest payments and debt retirement. Earnings per share stabilized at pre-bid levels. Managerial Efficiency theorists could argue that this simply shows that the effects of the hostile takeover attempt are shortlived. Once the market discipline is removed, moral hazard reappears. By retiring debt, managers escape bonding to their promise to pay out future free cash flows.

The findings in support of Managerial Myopia Theory do not disprove Managerial Efficiency Theory. Managerial Efficiency theorists accept the proposition that managers may behave myopically. They simply see it as an agency problem rather than a symptom of market imperfection. As previously discussed, this study does not determine the source of managerial myopia. It could stem from the managers or the markets or a combination of the two.

7.4. A Myopia Theory Perspective

The findings of the study support the arguments that Myopia theorists put forth. Myopia theorists argue that targets are not selected because they have low performance: They argue that the market is capricious and that market discipline is not a valid concept. The lack of a finding that targets are low performers supports this contention. Both Myopia Theory hypotheses were supported in this study. Capital expenditures and interest coverage both decreased after a hostile takeover bid.

Capital expenditures are an investment in the future. They do not yield quick, visible results and, as such, are vulnerable to cutback when times are difficult. Erosion of the infrastructure in urban cities provides an example of capital expenditures forestalled to meet the needs of the present. This study indicates that the hostile takeover bid caused target firms to cut back on their investment in plants and equipment.

Given the finding that debt increased, it is not surprising to find that target firms have a lower interest coverage after a hostile bid. In a study that goes across industries, it is difficult to determine what an appropriate average interest coverage would be; however, relative levels of interest coverage can still be assessed. Before the hostile bid target firms had an average interest coverage of 5.3996: Control firms had an average interest coverage of 10.6912. Efficiency theory argues that unused debt capacity is inefficient and therefore an invitation for a hostile bid. However, the control firms had a higher average interest coverage prior to the bid. After the bid control firms' interest coverage dropped to 8.3044: Target firms interest coverage dropped to 1.288. Interest coverage is calculated before taxes. Although it is impossible to determine the optimal level of interest coverage for these target firms, one can safely say that the drop was dramatic and the T-tests indicate that the difference between target and control firms is significant.

What does this indicate about the effects of a hostile takeover attempt on a firm that survives a hostile bid? The average survivor will come out of the experience with greatly increased leverage and a significantly reduced ability to pay the interest on that debt. Survivors of hostile takeovers are likely to cut back on their investments in plant and equipment. One could conjecture that this is the least of the long-term improvements or opportunities the firm is foregoing. In fact, because investments in plant and equipment are highly visible, capital expenditures may be the last cut a manager will make (Stein, 1989). Therefore, this study may offer a highly conservative test of the effects of takeover threat on a firm that survives a hostile bid. There is no way to know all the long-term investments that might be foregone by a firm focused on short-term earnings and the payment of debt.

7.5. Synthesis of the Results

It is not surprising that the proponents of the two theories provide different interpretations of empirical studies on hostile takeover attempts: They can simultaneously disagree on the effects of a single hostile takeover attempt on a specific firm. In 1987, a partnership of Wagner & Brown and AFG Industries announced a $100 per share unsolicited bid for Gencorp. Gencorp self-tendered at $130 per share, giving the partnership a profit of $80 million and going heavily into debt. Stodden, Smith, Scott, and Dornheim (1988) applauded the restructuring this new debt required. They characterized Gencorp as a financially sound company with a newly coherent strategic focus. On the other hand, Reynolds (1988) used Gencorp as an example of the dysfunctional aspects of the hostile takeover attempt. He questioned why a company that had increased its net income from $7 million to $130 million and its stock 129% in three years sould be subject to market discipline. Furthermore, he argued that the $225 million spent to fight the hostile takeover attempt could have been better spent improving the firm's productivity and competitiveness than financing a battle for corporate control.

Robert Maxwell's hostile bid for Harcourt Brace Jovanovich Inc. (HBJ) offers another example of the dilemmas a hostile takeover attempt poses. As CEO of British Printing and Communication, Maxwell offered $44 per share of HBJ stock. William Jovanovich declared the bid to be "preposterous" (HBJ rejects Maxwell's $1.7 Billion Bid, 1987; p. 18).

Using a complex $3 billion leveraged recapitalization scheme, stock buybacks, and the issuance of preferred stock, Jovanovich was able to successfully thwart Maxwell's attempt (Parker and Rudin, 1988). HBJ emerged intact, albeit with exceptionally high debt payments. Analysts were concerned that an estimated 58 cents of each dollar of cash flow would have to go to debt payments in 1988 (DeGeorge, 1988). Many analysts saw the debt as an excessive burden and warned investors away from HBJ stock; however, others claimed HBJ stock was undervalued and cited HBJ's improved operating margins and growing businesses as good reasons to buy HBJ shares (Henkoff, 1988; Weiss, 1989).

Should the hostile takeover attempt have been permitted to proceed unfettered? In the process of limiting Maxwell's potential power, Jovanovich reduced the voting power of shareholders. Did Jovanovich have the right to mount that defense, in spite of its effect on shareholders? He built HBJ into an organization that Forbes recommended to shareholders in 1986, prior to the hostile bid (Kichen, 1988). Nevertheless, as an agent of shareholders was he not simply doing his job, maximizing shareholder wealth? Lastly, is the greatly increased debt a benefit or a liability? It apparently inspired Maxwell to streamline operations: however, it also placed HBJ at significant risk should an economic downturn occur (Weiss, 1989).

The proponents of Managerial Efficiency and Managerial Myopia theories can paint very different pictures of the same event. This study endeavored to sort through these differences by presenting a systematic analysis of firms that survive a hostile takeover attempt. The following section synthesizes the diverse perspectives of Managerial Efficiency Theory and Managerial Myopia Theory. The sources of difference are clarified and common ground is sought.

Myopia Theory arguments were supported by this study. After a hostile takeover attempt, firms cut back on investment in capital expenditures and began to live with a smaller margin of profit. According to Myopia theorists, hostile takeovers are forcing managers to mortgage the future to pay for the demands of the present. The findings support that argument.

The Efficiency theorists argue that unused debt capacity is a corporate resource that managers underutilize because they are overly concerned with their employment security. This study does show that target firms increase their leverage after a hostile takeover attempt. Was it a short-term change designed to ward off the hostile attack or was it a long term change in debt policy? A post-hoc analysis indicates that many of the managers of target firms intended the increased leverage as primarily a short-term strategy. In the year following the hostile takeover attempt, many firms retired a significant portion of the debt.

Does the lack of support for Efficiency hypotheses necessarily indicate the Market

for Corporate Control is ineffective? Not necessarily, the Market for Corporate Control may be effective as a remover of entrenched management. The Market for Corporate Control may also be successful in increasing efficiency through generic takeover threat rather than specific bids. This study simply indicates that target firms that successfully survive a bid do not behave more efficiently after that bid.

The lack of a finding could be a result of the target having successfully fought off the hostile acquirer. One could argue that the Market for Corporate Control is less effective once a manager successfully prevents a hostile acquisition. Therefore, these managers are less likely to feel the need to increase earnings per share or return to shareholders. However, prior to the bid, the target managers' performance was relatively the same as those managers who were not subject to a hostile bid. Therefore, one could also argue that the hostile bid was not driven by a manager's inefficiency. Therefore, a change in behavior is not warranted.

Are all public firms generally more efficient because they know they may be subject to a hostile takeover attempt? If so, the lack of Efficiency findings could be because all firms are increasing their efficiency, irrespective of a specific hostile takeover attempt. This study does not address that question directly. However, the T-tests provide some indication of overall trends. Both earnings per share and return to shareholders are relatively constant over time, as measured by this study. Furthermore, one could surmise that because there is no indication that targets are firms that performed poorly prior to the acquisition attempt, there is little basis for arguing that all firms behave differently to ward off a hostile attempt.

Anecdotal evidence indicates that although improvements are not systematically observable across firms, some companies have improved operations in response to a hostile takeover threat. To defeat a 1986 takeover attempt by GAF, Union Carbide restructured its assets and recapitalized twice: The result was a unified corporation with a coherent strategic vision (Kennedy, 1987). By renewing its commitment to the maximization of shareholder wealth, Union Carbide was able to increase its subsequent dividends by 32%: Its stock subsequently sold for a multiple of three times book value (Kennedy, 1988). Although Newmont Mining Corporation stock remained devalued

after T. Boone Pickens' takeover attempt failed, some analysts felt the takeover attempt inspired previously complacent management to take new action (Welling, 1988).

The decrease in capital expenditures is an indication that the target firms lessened their investment in the future. This is in keeping with the predictions of Myopia Theory; however, an Efficiency explanation can also be offered for this phenomenon. If the target firms were overspending on capital investment, the decrease in capital expenditures could be a sign of increased efficiency. However to support that argument, one would have to explain why target firms were systematically overspending on capital expenditures. Some support for that view can be found in the fact that capital expenditures has a marginally significant positive correlation with hostile takeover attempt ($r=.14$). It is clear that the hostile takeover attempt forced firms to cut back expenses. And, long-term considerations are most easily foregone in the short-term. Whether the cutback is from an excessive level to efficiency or from an appropriate level to myopia cannot be determined from this study.

The decrease in interest coverage could also have an alternative efficiency explanation. One could maintain that the target firms originally had an excessive interest coverage, tying up funds that otherwise could be used to increase return to shareholders. However as previously discussed, the target firms had a lower initial value of interest coverage than the control firms. Therefore, it seems less likely the target firms would be appropriate candidates for market discipline in interest coverage.

Alternative explanations to the contrary, anecdotal evidence indicates that the findings may genuinely reflect an increase in myopic behavior following a hostile takeover attempt. For instance, to fight a hostile takeover attempt by Wickes Company, Owens-Corning Fiberglas Corporation incurred two billion dollars in debt when they recapitalized. In order to cut the company's debt load, Owens-Corning Fiberglas laid off 480 of its 970 research employees and cut the research budget in half. In the process, they lost 46% of their workforce and 14% of their productive capacity (Willoughby, 1987). Willoughby (1987) noted that the short-term profit Owens-Corning Fiberglas evidenced by cashing in on its mature products is not likely to be sustainable in the long-term. Those profitable products took years to reach their high level of sales. Without

new developments in the pipeline, Owens-Corning Fiberglas is likely to have no suitable replacements available as the value of current products declines.

In summary, the study offers strong support for the Managerial Myopia Theory perspective on hostile takeovers. Firms that survive hostile takeover attempts decrease their investment in the future and cut their solvency. There is little evidence to indicate that target firms were behaving inefficiently prior to the bid; therefore, it is difficult to argue that the bid was invited by inefficiency or that the change in behavior is a return to efficiency. The one exception is the decrease in capital expenditures which may have been prompted by a higher pre-bid level of expenditures by targets. However, the capital expenditures of target firms after bids go well below the level of the control firms. So, even if some efficiency forces were operating, the result seems to be myopia.

7.6. Implications

7.6.1. Contributions to Theory

Hostile takeovers have received considerable attention in the strategic management literature. Researchers have examined the effect of a hostile acquisition on the acquirer, the target, and the stakeholders affected. Most often, a successful takeover is studied.

This study switches the focus from the actual acquisition to the environment that the threat of a hostile acquisition creates. Two theories generally inform the work of researchers in this area. Myopia theory argues that hostile takeovers limit long-term investment: Efficiency theory argures that hostile takeovers decrease efficiency. This study incorporates both theories into an integrative model of takeover threat. The contribution of the study is that it provides an integrative model and tests the assumptions of that model using methodology that is free from capital market assumptions.

Like the studies that precede it, this study cannot offer definitive proof that either theory is correct. The issues are too complex and the alternative explanations are too numerous.

However, by utilizing a research design that is free of efficient market assumptions,

this study sought to make a unique contribution. Unlike previous studies, this study includes arguments from both theories in one design and directly tests the behaviors hypothesized. As such it contributes to the cumulative body of knowledge evolving in this area.

7.6.2. Contributions to Methodology

Most studies of hostile takeovers have examined the characteristics associated with acquirers and targets. This study avoids this cross-sectional approach by incorporating time-ordered variables. This longitudinal approach permits an analysis of the direction of causality. Furthermore, by incorporating initial values into the regression analysis, it is possible to directly examine change.

Hierarchical regression permits the study of change in a way that is statistically sound and allows for meaningful interpretation. By regressing the prescore of the variable in the equation, the influence of the prescore on the actual change is removed. The problems that arise from regression to the mean are removed and true change is measured.

7.7. Contributions to Practice

Anti-takeover provisions are a controversial option for managers who want to protect themselves from the possibility of a hostile acquisition. Some argue that these provisions permit managers to be less efficient: Others argue that they allow managers to consider the long-term in decision making.

The results of this study suggest that the costs of a takeover may be felt irrespective of whether the firm remains in its original form or is successfully taken over. Target firms that successfully fend off a bid are likely to find themselves highly leveraged. Furthermore, target firms in this study significantly decreased their interest coverage, the cushion from which they make their debt payments. Although some argue that increased debt is a positive change that bonds managers to the future payment of free cash flow (Jensen, 1988), practitioners are less likely to view that change as an improvement. One can surmise that had the management believed post-bid debt levels were optimal,

management would have had that level of leverage prior to the bid. Managers are unlikely to welcome the loss of operational flexibility that comes with higher leverage.

Another finding relevant to managers is that capital expenditures decreased significantly in the year following the takeover attempt. Once again, one can surmise that managers believed pre-bid capital expenditure levels to be optimal. Therefore, it is likely the decrease in capital expenditures was viewed as a negative consequence of takeover threat, forced on management by external pressure.

From the standpoint of the practitioner, discretion in the allocation of resources is clearly preferred to external control over managerial decisions (Pfeffer and Salancik, 1978). The results of this study suggest that managers who retain control over the firm by successfully fighting a hostile bid find themselves with less decision making discretion than they had previously. Managers who wish to avoid this occurence may want to implement anti-takeover provisions that could lessen the likelihood of their being faced with a hostile bid.

7.8. Suggestions for Future Research

Future research could extend these results by following the performance of target firms that survive a hostile takeover beyond the 12 to 24 month window used in this study. Two problems arise when the time frame is elongated. First, the likelihood of confounding events occuring increases as the time frame increases, leading to sample attrition. If a firm is later subject to another hostile bid, merges, or goes private it would have to be deleted from the sample. Control firms may also have to be substituted as confounding events occur. The second problem is that as the time frame lengthens, causal linkages become obscured. Additional events happen that may be the source of any change in performance: The greater the time frame, the greater the chance another causal event will have happened. In spite of these problems, the results from an extended study could provide additional data to further our understanding of the effects of takeover threat.

This study does not differentiate between managerial myopia which results from

moral hazard in an efficient market and managerial myopia which results from imperfections in the market's mechanisms. Future research should seek to determine whether managerial myopia results from rational managers responding to an imperfect market, nonrational managers seeking to either manipulate or blame an efficient market. If Stein (1989) is correct, neither may be completely true: Managerial myopia could result from a signal jamming equilibrium wherein rational managers satisfice a rational market. Future research should consider all three possibilities and attempt to sort out the causal linkages that lead to myopic decision making.

Future research is also needed to determine if a cutback in long-term investment represents the cessation of wasteful spending or the loss of an opportunity for a project with a positive net present value. From an Agency Theory perspective, this cutback in investment could simply reflect managers' foregoing of negative net present value investments that self-serving rather than shareholder wealth maximizing. However, because the capital market cannot observe everything that goes into managerial decision making, it is likely that some positive net present value projects are being foregone as a response to capital market pressure (Stein, 1989). Future research should seek to differentiate between investment projects and determine whether the cutback in investment is helpful or hurtful to a firm's long run performance.

The results of this study suggest that inside ownership is a double-edged sword. From an Agency theoretic perspective, it aligns the interests of managers with those of shareholders, increasing the likelihood that managerial decisions will be in the shareholders' best interests. From the perspective of the Market for Corporate Control, too great a level of inside ownership may be problematic. Once managers own a significant portion of a firm's stock, they are effectively insulated from market discipline. Market prices are important to them in maximizing personal wealth, but they are are still relatively free to pursue the strategies they choose irrespective of the market's valuation of their actions. This dichotomoy could explain some of the differences in this study's contradictory findings regarding the relationship between inside ownership and firm performance.

Lastly, other indications of managerial myopia should be examined. R&D is an

expenditure that reflects long-term concerns and a change in R&D investment could relect a change in time horizon (Stein, 1987). Attention to externalities may also suffer when the decision making horizon is shortened. Investment in environmental protection has long-term benefit but may jeopardize the bottom line in the short-term. Philanthropy and community involvement are also likely to reap long-term rewards but reflect only cost in the short-run. The pressure to maximize short-term earnings may also affect a firm's choice of generic competitive strategy. Pursuing an aggressive pricing policy to increase market share or gain learning curve advantages may appear inefficient on the bottom line; therefore, the abandonment of that policy could be seen as an increase in efficiency (Stein, 1989). Scherer (1988) suggests that the abandonment of long-term oriented pricing policies in response to capital market pressures may be the most important negative consequence of the rise in hostile takeovers in United States industry. European and Asian rivals who pursue long-term pricing policies are likely to achieve competitive advantages through both market penetration and the learning curve.

In summary, future research should both broaden the inquiry to include other relevant variables and narrow the focus to address some of the remaining dilemmas. The issues of takeover threat in particular and managerial efficiency and managerial myopia in general are critical to the future competitiveness of American industry and worthy of continuing attention.

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