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THE ROLE OF MANAGERIAL INCENTIVES IN CORPORATE ACQUISITIONS AND CORPORATE MERGERS AND TOP MANAGEMENT TURNOVER: THE 1990S EVIDENCE.

By

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ABSTRACT

THE ROLE OF MANAGERIAL INCENTIVES IN CORPORATE ACQUISITIONS AND CORPORATE MERGERS AND TOP MANAGEMENT TURNOVER: THE 1990S EVIDENCE.

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This dissertation investigates the 1990s market for corporate control. The first essay examines the relationship between the likelihood a firm is acquired and the governance and financial characteristics of the firm. Given many of the developments in the corporate control market in the late 1980s, I suspect that the process governing takeover likelihood may have changed in the 1990s. I examine a sample of 342 NYSE/AMEX firms that were acquired during the 1990-1997 period and compare them to a matched sample of non-acquired firms. I find that firms that were acquired over this period can be characterized as having lower growth, lower managerial ownership, higher ownership by outside directors, and greater ownership by unaffiliated blockholders with board representation. The fact that managerial ownership is negatively related to takeover likelihood is consistent with studies using data from the 1970s and 1980s. This suggests that managerial ownership helps managers maintain control, or alternatively that ownership proxies for how much managers care about control.

The second essay examines the different roles a merger plays is disciplining or rewarding the performance of top managers. One role is to discipline the top managers of poorly performing target firms, and another, to reward the management practices of well performing top managers. Given many of the developments in the corporate control

market in the late 1980s, I suspect that the role of disciplinary takeovers may have changed in the 1990s. I examine a sample of 236 NYSE/AMEX firms that were acquired during the 1990-1997 period and document that the turnover rate for the top manager of target firms significantly increases following completion of the merger. Target firms with no post-merger change in the top executive were significantly out-performing other firms in their industry, performing at least as well as others in the market, and out-performing targets with a change in the top executive prior to the takeover. Target firms with a post-merger change in the top executive were significantly under-performing other targets within their industry as compared with firms with no post-merger change.

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1.1 Introduction

1.1.1 Historical Perspective of Managerial Ownership and the Market for Corporate Control

There has been a great deal of interest in managerial ownership in the finance literature over the past 30 years. In particular, literature dating back to Jensen and Meckling (1976) hypothesizes that increased managerial ownership encourages managerial diligence and effort because managers bear a higher proportion of the cost of any inappropriate decisions. Nowhere is the potential conflict of interest between managers and shareholders larger than in the arena of corporate takeovers. While agreeing to be acquired is often quite profitable for shareholders, it often results in managers losing their jobs.

Jensen and Meckling (1976) argue that as managerial ownership of the firm increases the interest of managers and outside shareholders become more closely aligned. As the interests of the two parties converge, fewer acquisitions will be made for motives other than shareholder wealth maximization. Walkling and Long (1984) and Morck, Shleifer, and Vishny (1988a) find evidence that the more votes managers control, in a target firm, the more likely the takeover succeeds. This is consistent with the view that the cost to bidders of negotiating with a small number of large shareholders is less than the cost of negotiating with managers with diverse ownership. Demsetz and Lehn (1985) argue that there exists a positive relationship between takeovers and managers' voting control. They

finds that managers are less likely to maximize firm value when they have majority voting control. This reduced firm value with majority ownership by managers can attract takeover offers. A bidding firm is attracted to the possibility of taking over the firm, replacing management, maximizing firm value, and in turn creating value. Stulz (1988) describes a model in which high levels of managerial stock ownership are harmful to shareholders because managers become insulated from some corporate governance mechanisms, such as the market for corporate control.

The empirical evidence on the impact of managerial ownership on the likelihood of a firm being acquired has been mixed. Song and Walkling (1993) find evidence of management valuing control during the 1977 - 1986 market for corporate control. They find that targets of acquisition have lower managerial ownership than either industry matched non-targets or randomly selected non-targets. Shivdasani (1993), in a study of hostile takeovers that took place during 1980-1988, finds that hostile targets have significantly lower managerial ownership than matched non-targets. Mikkelson and Partch (1989) find that the likelihood of successful acquisitions of firms is unrelated to managerial ownership in their sample from the 1972 - 1987 market for corporate control. Taken together, the empirical evidence on the impact of managerial ownership in the market for corporate control appears inconclusive.

1.1.2 Changes in the Market for Corporate Control

There has been a great deal of variation in the volume and type of control activity over time. The late 1970s were characterized by two major trends: takeovers of large public corporations and a return to corporate focus, with the divestiture of unrelated and

unprofitable operations. During the 1970s the number of merger deals declined, while the size of the deals increased.[1] The 1980's became the decade of the mega-deals with the acceptance of hostile takeovers, leveraged buyouts and strategic mega-mergers. The creation of the junk bond market in the 1980s made deal financing easier to obtain and allowed banks and brokerage firms to finance leveraged buyouts. Beginning in the late 1980s and continuing into the very early 1990s, the junk bond market weakened and this type of financing began more difficult to obtain. The total value and number of all corporate deals hit a low in 1991 due to the aforementioned junk bond market weakening and political and economic uncertainty in the U.S. Starting in 1992, and continuing until 1997, the number and value of deals increased annually as the U.S. economy experienced economic recovery.[2]

The mergers of the 1990's appeared to differ from those of the 1970s and 1980s. The latest round of takeover activity seemed to be friendlier in nature and focused more toward expanding markets. This is compared with the control contests, breakups, and downsizing of the previous periods. Following Walkling and Long (1984), I classified all mergers in my sample based on the degree of resistance by management.[3] Table 1.1 provides a summary of this classification and describes a corporate control market that is not very hostile. For the 374 mergers from the population considered in this essay, only 8.8% of the mergers can be classified as hostile, with most of the hostile classification being only verbal opposition by management or initially contested, but target

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[1] See Mergerstat Review (1999)

[2] See Mergerstat Review (1999)

[3] Walkling and Long (1984) classified tender offers in their sample into one of six categories: 1.) No resistance by management, 2.) Verbal opposition by management, 3.) White knight sought, 4.) Court action filed, 5.) White knight and court action filed, 6.) Initially contested, but target management later agrees to a higher premium.

management later agrees to a higher premium. The number of successful hostile takeovers remained fairly constant throughout the 1990's with a low of 7.1% in 1996 and 1997, and a high of 13.8% in 1995 of all completed mergers being classified as hostile. This evidence is compared with Shivdasani (1993), where he finds approximately 50% of all corporate control activity was classified as hostile from 1980 to 1988.[4]

Much has been made of this distinction of takeovers as either hostile or friendly. Recently, Schwert (2000) in a study of 2,346 takeover contests from 1975 to 1996 investigates the issue of hostile vs. friendly classification. He finds that the highest rates of hostile offers take place between 1982 to 1989. Additionally, he finds that after 1991 there was a statistically significant shift away from hostility comparable in magnitude to the shift towards hostility seen in the early 1980s. My classification results are the same as that of Schwert's classification of the period 1990 to 1997. His annual proportion of hostile deals during this period ranges from 2.0% to 12.0%, and mine from 7.1% to 13.8%. However, Schwert's empirical tests show that most deals described as hostile in the press are not distinguishable from friendly deals in economic terms, except that hostile transactions involve publicity as part of the bargaining process. Therefore, I do not make much about this distinction except to describe the corporate control environment as friendlier in the 1990s.

There are some underlying factors as to why the corporate control environment became 'friendlier'. The hostility of the 1970s and 1980s was slowed by the actions taken by both corporations and state governments. To slow the activity in the corporate control market corporations adopted many forms of anti-takeover amendments and adopted

[4] Shivdasani (1993) uses all firms in Value Line Investment Survey as his population of firms.

shareholder rights plans. State governments passed many forms of anti-takeover legislation to stop hostile transactions.

Corporations adopted corporate amendments such as 1.) Super-majority provisions - the requirement that a super-majority of shareholders, typically 66% to 80%, approve a merger, 2.) Fair price provisions - require the bidder to meet either a specified fair price or to receive super-majority approval of the voting shareholders, 3.) Staggered terms of directors on the board, 4.) Blank check preferred provision - provide directors with broad discretion to issue new stock and establish voting rights, 5.) Restricting the ability of shareholders to call special meetings, and 6.) Elimination of cumulative voting rights.[5] All of these amendments increase the cost of successfully completing a hostile takeover of a corporation.

Corporations additionally passed shareholder rights plans, or what are otherwise known as poison pills. Shareholder rights plans create impossibly burdensome obligations for anyone who buys a controlling block of shares without management approval. These plans can take many forms, with the most common form being flip-over rights. Flip-over rights allow the target firm shareholders to purchase shares of the acquiring firm at a substantial discount to the prevailing market price. These shareholder rights plans obviously increase the cost to acquire a firm who does not want to be taken over.

Additionally, states passed many types of anti-takeover legislation such as control share laws and business combination laws intending to slow the corporate control market. Control share laws restricted the voting rights of a controlling shareholder. These laws generally call for a shareholder vote to decide if the law's restrictions on voting rights are

to apply in a given instance. These laws are triggered by a disclosure of intent to seek control. Business combination laws delay any type of business combination. Business combination laws are also referred to as merger moratorium laws or freeze out laws. The main difference between control share laws and business combination laws is that business combination laws are triggered by the actual purchase of shares rather than the disclosed intent to purchase for control reasons. In 1988 the state of Delaware passed its version of business combination laws covering approximately fifty percent of all NYSE and AMEX listed firms. Both types of laws apply to the buyer of a controlling block of shares who buys without management approval and can delay takeover by up to five years.

The market for corporate control in the 1990s was governed by a markedly different set of rules than that of the 1970s and 1980s. By 1991, 87% of NYSE and AMEX listed firms were covered by at least one form of an anti-takeover measure; 35% were covered by self-imposed poison pills, 80% by business combination laws, and 24% by control share laws. This is compared to 1985, where less than 7% of NYSE and AMEX listed firms were covered by at least one form of an anti-takeover measure; 1% were covered by self-imposed poison pills, 5% by business combination laws, and 5% by control share laws.[6]

With the introduction of poison pills, new corporate anti-takeover amendments, control share laws, and business combination laws, absolute deterrence by management opposed to a takeover was a possibility. These anti-takeover measures would seem to protect managers' interest, and in particular, entrench them. The fact that hostile

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[5] See Borokhovich, Brunarski, & Parrino (1997)

[6] See Comment and Schwert (1995) for their methodology in calculating these statistics.

takeovers are harder to complete today would suggest that management would not need higher ownership to block an unwanted deal, all they would need is some form of anti-takeover amendment or protection under state law.

1.1.3 Summary of Essay

The majority of empirical research on the subject of corporate control uses samples of mergers that took place during the 1970s and 1980s. Since the environment for corporate control in the 1990s has been markedly different than the 1970s and 1980s, a re-examination of the previous acquisition literature would seem insightful. This essay examines if the previous empirical results hold in a different time period, within a different corporate control environment.

To investigate these issues, this essay examines the impact of management incentives on the likelihood of a firm being acquired in the corporate control market of 1990 to 1997. I examine a sample of 342 firms that were successfully acquired, and compare them to a matched sample of 342 firms that were not acquired. I examine whether ownership characteristics, financial characteristics, and management characteristics of the firm are systematically different between acquired firms and matched firms that were not acquired. I classify managers and directors into the categories of executives, directors who are employed by the firm, and directors who are not employed by the firm. I also classify blockholders as being affiliated with management or not and as having representation on the board or not.

In my empirical analysis, I find that certain financial characteristics of a firm are significantly related to the probability that a firm is acquired, in particular the firm's

liquidity and sales growth. I find that firms with lower liquidity (lower relative excess liquidity, an indicator of sound management) characterize firms that were acquired. This is evidence against a *discipline hypothesis*, where firms that are mismanaged are more likely to be acquired. Financial characteristics that I find not significantly related to the probability that a firm is acquired include return on equity, leverage, market-to-book ratio, and price-to-earnings ratio.

I also find that firms with a higher percent of outside directors and higher ownership by blockholders who are represented on the board by outside directors are relatively more likely to be acquired. This provides support to the theory that outside directors and blockholders represented on the board by outside directors act as monitors of management and are representing all shareholders not affiliated with management. This empirical evidence provides support for what I later term the *monitoring hypothesis*. I find no evidence that blockholders who are not represented on the board either facilitate or deter control changes.

I find that firms with higher managerial ownership and a higher percentage of insiders on the board are relatively less likely to be acquired. Also, the CEOs of firms that were acquired had on average 2 years less experience than matched counterparts. Greater managerial control reduces the likelihood of a change in control. This empirical evidence provides strong support for what I later term the *entrenchment hypothesis*.

Overall, I find that target firms of the 1990s can be characterized as firms with lower growth, lower managerial ownership, higher ownership by outside directors, and higher ownership by blockholders affiliated with an outside director then their non-target counterparts. The fact that non-target firms have higher managerial ownership, higher

percent of inside directors, and longer tenure of the CEO is an interesting result. Given that the 1990s were governed by the adoption of poison pills, new corporate anti-takeover amendments, control share laws, and business combination laws, it would seem that managers would not need ownership to deter an unwanted deal. However, the results show that even with these outside methods of deterrent, non-target firms' managers still find it necessary to have larger relative ownership to help in deterring unwanted changes of control.

Another interesting result is that target firms have a significantly larger percent of blockholders unaffiliated with management. However, all of significance is in the blockholders that are represented on the board. These blockholders represented on the board could be classified as active or monitoring blockholders. These blockholders are going to monitor and act in their best interest and those of other shareholders. The evidence suggests that large blockholders, unaffiliated with management and represented on the board, play an important third-party role in facilitating takeovers.[7]

The rest of the essay is organized as follows. In section 1.2 I briefly describe the theories of the role of managerial ownership and of certain financial characteristics on the probability of being acquired. In section 1.3 I describe the construction of my data set. In section 1.4 I present my empirical findings. Section 1.5 discusses the results and concludes.

1.2. Hypothesized Effects of Governance Structures and Financial Characteristics

[7] Shivdasani (1993) finds similar results in his study of hostile targets vs. non-targets

I examine whether variables related to ownership structure, management characteristics, and financial characteristics are systematically different between acquired firms and firms that are not acquired. This leads to the testing of several governance based and financial based hypotheses listed in Table 1.2.

1.2.1 Governance Based Hypotheses

Increased managerial ownership gives additional control to managers, which may be used to deter acquisitions. Managers must weight the benefits from the wealth gain from acquisition with the lost benefits of control. There are several hypotheses that might predict the sign of the coefficients on the ownership and governance variables that I examine. I will outline these hypotheses and label them using the terminology of Hadlock, Houston, and Ryngaert (1999).

One possibility is that managers who have significant ownership positions gain financially by accepting an attractive takeover premium and thus these are the firms that are most inclined to receive and accept acquisition offers. This is the situation where the benefits from the wealth gain from acquisition outweigh the benefits of control. I will call this possibility the *financial incentive hypothesis*.

A second hypothesis possibility is that managers do not like to lose control of their firms despite the potentially large financial gains form doing so. If managers with significant ownership positions are the ones with the highest preference for control or the greatest ability to maintain control by resisting the demands of other shareholders to sell out to an acquirer, then we would expect their firms to be the least likely to be acquired.

This is the situation where the benefits from the wealth gain from acquisition do not outweigh the benefits of control. I will call this possibility the *entrenchment hypothesis*.

A third possibility is that firms with significant levels of managerial ownership, outside dominated boards, and/or large block ownership unaffiliated with management, should be particularly efficient because of their strong incentives to maximize value. If a motive of corporate mergers is to replace poor management teams, then firms with higher levels of management ownership, outside dominated boards, and/or higher levels of unaffiliated block ownership should be relatively less likely to be acquired. I call this possibility the *discipline hypothesis.*

The *discipline hypothesis* argues that managerial ownership is related to managerial efficiency and that inefficient management teams are likely to be targets. Firms with significant levels of management ownership or outside dominated boards should be particularly efficient because of their strong incentive to maximize value. This hypothesis also suggests that other measures of managerial performance, for example return on equity, should also increase the probability of being acquired. Inefficient management of these firms, measured by any appropriate financial metric, should create opportunities for bidders to acquire these firms and increase their value.

Previous research suggests that outside directors play an important role in monitoring top managers (e.g. Weisbach (1988)). Following Shivdasani (1993), I examine the role that the composition of the board and the ownership interest of outside board members have in predicting takeover likelihood. A hypothesis, which I termed *the monitoring hypothesis*, asserts that firms with a larger number of outside directors or firms where outside directors hold a substantial fraction of the firm's equity will be the

firms that are the most likely to make value maximizing decisions in corporate control transactions. Higher ownership by outside directors provides them with the incentive to look after shareholder interests and the ability to threaten removal of inside directors via a proxy contest. A larger percentage of the board seats provides outside directors with a greater ability to look after the interests of shareholders. I also examine the role of large blockholders who are unaffiliated with management. Higher ownership by unaffiliated blockholders gives unaffiliated blockholders more incentive to monitor management performance closely. Under the monitoring hypothesis I expect that higher ownership by unaffiliated blockholders will increase the likelihood of acquisition.

1.2.2 Financial Hypotheses

Following Palepu (1986), included in my model are financial characteristics based on several hypotheses suggested from previous research, which are likely indicators of acquisition likelihood. The following financially based hypotheses are tested: *the growth-resource mismatch hypothesis, the size hypothesis, the book-to-market hypothesis, and the price-earnings hypothesis.*

Firms with a mismatch between their growth and the financial resources at their disposal may be particularly attractive targets. A low-growth, resource rich firm may be a likely target since it has financial resources at its disposal, yet it doesn't have many opportunities available to it to utilize the financial resources. A bidding firm would find this attractive, since it might be able to better utilize the financial resources of target. A high-growth, resource poor firm may also be a likely target due to the attractiveness of its growth opportunities. This type of firm would seem to be in need of financial resources

to fully utilize its growth potential. A firm with excess resources available would find this type of firm an attractive target. A dummy variable based on growth-resource mismatch following the treatment of Palepu (1986) is defined in the Appendix 3. The growth-resource mismatch dummy variable utilizes three individual variables: sales growth, liquidity and leverage. These variables have also been used individually in previous papers as indicators of a target firm.

Another popular financial based hypothesis is the *size hypothesis*. This hypothesis asserts that the likelihood of acquisition decreases with the size of the firm. This hypothesis is based on the possibility that transaction costs increase with size of the target firm. A larger firm size may reduce takeover likelihood because financing costs to acquire a large firm are prohibitive and the cost of integrating a firm increases with target size. Net book value of assets is included in the model to test the size hypothesis. Net book value of assets is included instead of any form of firm value that utilizes market value of common equity, since market value of common equity is one of the criteria for choosing the matched firms in the sample.

The *market-to-book hypothesis* asserts that firms whose market values are low compared to their book values are likely acquisition targets. This hypothesis is based on the notion that firms with low market-to-book value ratios are relatively good values. However, market-to-book may also proxy for managerial quality. This hypothesis is included to allow comparisons to previous research. The market-to-book value ratio of common equity is included in the model to test this hypothesis.

A final financial hypothesis, the *price-earnings hypothesis*, states that firms with low P/E ratios are likely acquisition targets. This hypothesis is based on the theory that

bidders with high P/E ratios seek to acquire low P/E firms to realize an instantaneous capital gain because of the belief that the stock market values the earnings of the combination at the higher P/E ratio of the acquirer. The rationale behind this hypothesis is difficult to support; however it has been used in previous literature and therefore is included for completeness.

A final hypothesis is that mergers occur for reasons completely independent of management and financial characteristics. Mergers take place for reasons such as to capture synergistic gains or the desire of a bidder to enter a new line of business. This hypothesis would imply that all of the managerial characteristics examined should be insignificant. I will call this possibility the *irrelevance hypothesis*.

1.3 Sample Selection and Empirical Design

1.3.1 Population Selection

My study focuses on mergers that took place from 1990 - 1997. Following studies that concentrated on mergers of the 1970's and 1980's, I made decisions on the population on which my sample was derived. (1) To start with, firms had to have data available in both CRSP and COMPUSTAT databases. (2) Firms had to be listed on either the New York Stock Exchange or American Stock Exchange[8]. Certain firms were then excluded from the population. (3) Firms not listing the United States as its home country were excluded from the population. (4) American Depository Receipts (ADRs) and (5) Limited partnerships were also excluded. (6) Due to the regulatory and specific nature of

[8] My restriction to NYSE and AMEX is similar to the treatment in Palepu (1985), Mikkelson and Partch (1989) and Billett (1996). Song & Walkling (1993) use any firm available in Value Line, which is mostly NYSE and AMEX firms, due to the fact that Value Line tracks the largest firms.

particular industries, some entire industries were excluded. In particular, financial, banking, insurance, real estate and utilities firms were excluded. [9] Included in this deletion were industries classified in SIC's 6000 to 6999 (finance, insurance, real estate) and SIC's 4900 - 4999 (public utilities).

Table 1.3 outlines the total number of firms listed by year that were left after the above characteristics were controlled for. From 1990 to 1997 there was an average of 1,814 firms listed on the NYSE and AMEX each year. A list of merged firms by year was prepared from the delistments from the stock exchanges due to mergers and acquisitions, obtained from the CRSP and COMPUSTAT databases, and manually confirmed by *Dow Jones Interactive* searching *The Wall Street Journal*, *Dow Jones News Service*, *Dow Jones Newswires*, and *Press Release Wires*. During the period, an average of 47 firms per year were delisted from the NYSE and AMEX due to merger. This represents 2.58% of the listed firms annually being delisted due to merger. Over the period, there appears to be an increasing number of mergers taking place starting in 1991 and increasing each year up until 1997.

1.3.2 Sample Selection

From the above population of firms a sample of 342 firms that were acquired during the period 1990-1997 and a matched sample of 342 firms that were not acquired are used for the estimation of an acquisition model. For a merged firm to be included in the sample I required that an announcement date and news story for the merger

[9] Similar Palepu (1985) who only includes manufacturing and mining firms, Mikkelson and Partch (1989) who exclude banking, insurance, financial, utilities, transportation, Song and Walkling (1993) who excluded financial, banking, and utilities, Billett (1996) who excludes regulated and financial industries.

transaction be identified. *Dow Jones Interactive* (searching *The Wall Street Journal*, *Dow Jones News Service*, *Dow Jones Newswires*, and *Press Release Wires*) was used to identify the specific announcement and rumor date of the merger. Additionally, a proxy statement for the firm must be available previous to the announcement date or rumor date of the merger. Table 1.3 identifies 374 firms delisted due to merger during the period 1990 - 1997. Incomplete or not filed proxy statements reduce the number of firms in the sample by 32 to a total of 342 firms.

The 342 matched firms were chosen in the following manner[10]. The matching firm was chosen based on three criteria; the target's industry, degree of focus, and market value of equity preceding the announcement date of the merger. To be considered as a matching firm, a firm could not have been considered an acquisition target for five calendar years centered on the announcement date. Canceled acquisitions were identified from the *Mergerstat Review Cancellation Rosters* for 1988 - 1998.

For the industry criterion, I started with the target firms four-digit SIC code. If there were at least ten non-target firms in the same four-digit SIC, the four-digit SIC industry was used to identify the matching firm. If less then ten non-target firms were available in the four-digit SIC, then the three-digit SIC industry code was used if at least ten firms were available in the three-digit SIC. If less then ten non-target firms were available in the three-digit SIC classification, then the two-digit SIC is used no matter how many firms available to identify the matching firm.

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[10] Song & Walkling (1993) select a matched firm based on Value Line industry classification & another matched firm based on random sampling. Palepu (1985) selects a matched firm by random sampling. Hadlock, Houston, Ryngaert (1999) selects a matched bank based on size and location. Mikkelson & Partch (1989) and Billett (1996) do not select a matched firm. They both follow a sample of firms through time and find which ones were targets.

Once the industry classification was determined, firm focus was used to screen for matches. FASB No. 14 and SEC Regulation S-K require firms to report segment information for fiscal years ending after December 15, 1977. Firms must report audited footnote information for segments whose sales, assets, or profits exceed 10% of consolidated totals. The COMPUSTAT database reports the number of segments reported for each firm. A firm with only one segment is commonly referred to as a focused firm or single segment firm. A firm with more than one segment is referred to as a diversified firm or multi segment firm. Berger and Ofek (1995) calculate a value loss from diversification of 13% to 15% on average during 1986-1991. They find that over-investment and cross-subsidization contribute to the value loss for diversified firms. Berger and Ofek (1996) find that firms with greater value losses, due to diversification, are more likely to be taken over. This so called 'diversification discount' and the possible undesirability of multiple segments to acquiring firms were deciding factors in using firm focus as a matching criterion. To be a matched firm, a firm had to have the same classification of multi-segment or single segment as the target firm.

The market value of common equity was calculated for the end of the calendar year proceeding the announcement date of the merger transaction. The closest match to the market value of common equity of the target firm, in the correct SIC classification and with the same focus, was chosen as the matched firm. For each target I refer to the alternative target as a match for the target.

1.3.3 Variable Construction

Previous studies concerning managerial ownership in relation to the market for corporate control utilize summary data for managerial ownership.[11] For instance, these studies utilize a summary number that includes ownership for all directors and executive officers of the firm. These studies do not break out ownership of directors from executive officers and also do not break out the different types of directors. This summary data was used in previous studies due to the time involved in collecting more specific data. I follow the more time consuming procedures outlined by Shivdasani (1993) and Hadlock, Houston and Ryngaert (1999) to classify directors (described in 3.2.1).

For the set of all target and matched firms, I searched the *Disclosure* and *Lexus-Nexis* databases for the proxy statement for the year ending prior to the date the merger was announced. If a proxy was not found in the above database searches the *Securities and Exchange Commissions Q-file Data Corporation* database on microfiche was used. I collected detailed data from the proxy statement concerning management characteristics, management compensation, ownership structure, and board structure of the firm. From the proxy statements I attempt to define relevant variables in a similar manner to previous studies.

1.3.2.1 Officers and Directors

For each firm I classify all directors as either *inside*, *outside* or *gray directors*. *Inside directors* are individuals who were full time employees of the firm or one of its subsidiaries along with their immediate family members. *Gray directors* are individuals who were retired employees of the firm, non-immediate family members of employees of

[11] Palepu, Song & Walking, and Mikkelson & Partch all utilize summarized managerial ownership.

the firm and individuals where the proxy statement indicated an ongoing business relationship between the individual and the firm. Most people classified as gray outsiders were outside legal counsel or retired employees of the firm. All other directors are defined to be *outside directors*. For each individual I record their ownership of common stock and options exercisable within 60 days. The sum of common stock and options exercisable within 60 days is commonly referred to as beneficial ownership. In addition to the directors' beneficial ownership, proxy statements list a summary number for all executive officers and directors as a group. I used this number to calculate the beneficial ownership of all executive officers. Beneficial ownership of all executive officers is calculated by subtracting the holdings of all directors from the summary number of all officers and directors holdings. I then created a variable called *inside directors and executives* that is the beneficial ownership of inside directors and executive officers together as a group.

1.3.2.2 Block Ownership

In addition to the officers and directors holdings, I define variables related to blockholdings. Beginning in 1978, firms were required to disclose in proxy statements the security ownership of holders of 5.0% or more of a class of voting securities. Following Shivdasani (1993) and Hadlock, Houston, Ryngaert (1999), I classify blockholders into two groups: *affiliated blockholders* and *unaffiliated blockholders*. The *affiliated blockholder* variable is the percentage of stock holdings by: individuals related to inside directors, firm's with an ongoing business relationship with the firm, charitable institutions and trusts for which an insider director of the firm served as an officer or

trustee, ESOPs, profit sharing plans, and firm pension plans. These are blockholders whom would be expected to vote in concert with the inside director they are affiliated with. In some cases, they are blocks of shares inside directors actually have the authority to vote. The block holdings of all other blockholders are included in the variable *unaffiliated blockholders*. Unaffiliated blockholders are further classified as to whether outside directors represent them on the board or not. Two additional variables, *unaffiliated blockholders represented on the board of directors* and *unaffiliated blockholders not represented on the board of directors* are identified. *Unaffiliated blockholders represented on the board of directors* is the sum of unaffiliated blockholdings that has an ongoing relationship with an outside director, and *unaffiliated blockholders not represented on the board of director* is the sum of unaffiliated blockholdings that don't.

1.3.2.3 The Top Executive

Following Hadlock, Houston, Ryngaert (1999), for each firm I identified an individual as the top executive for the firm as of the proxy date. The top executive is defined to be the firm's CEO if the firm assigns that title to an individual on the board of directors. If the firm does not have a designated CEO then I define the top executive to be the individual with the highest pay amongst the set of individuals on the board who had the title of Chairman or President during the previous fiscal year. If one of these individuals had retired by the proxy date, I define the top executive to be the individual with the highest ownership amongst the set of individuals on the board holding the title Chairman or President as of the proxy date.

For the top executive I collect data on his/her beneficial ownership in the firm, his age, his tenure as a director, and his cash compensation during the year proceeding the proxy date. I adjust all cash compensation to 1996 dollars for comparison purposes. I also create an indicator variable for a firm equal to one if only one individual holds the titles CEO, President, and Chairman of the Board. This variable attempts to identify powerful CEOs that could have a special ability to resist takeover bids, thereby making them less attractive targets.[12]

1.3.2.4 Financial Information

Financial information was collected from the COMPUSTAT database. I define relevant financial variables in a similar manner to previous studies. In particular, I follow the procedures outlined by Palepu (1985), Mikkelson and Partch (1990), Billett (1996) and Song and Walkling (1993). All financial variables were collected for the fiscal year ending prior to the announcement date of the merger for each target. The matched firm's data was also collected for the fiscal year ending prior to the announcement date of the target for which it was a match.

Financial variables such as sales growth, liquidity, leverage, and return on equity are averaged for three fiscal years prior to the announcement date of the target's merger. If three years of data is not available, then two years are averaged. If two years of data are not available, then one year is utilized. Other financial variables, such as total assets, market-to-book ratio, price-to-earnings ratio, net plant, property and equipment to total assets, and free cash flow to total assets are calculated for the fiscal year ending prior to

[12] Shivdasani (1993) finds this to be significant in comparing hostile targets to matched non-targets.

the announcement date of the target's merger. Market value of common equity is calculated at the end of the calendar year preceding the announcement date. All financial variables utilized in this essay are described in detail in the Appendix 3.

1.4. Empirical Results

Section 1.4.1 reports descriptive univariate statistics on ownership, financial characteristics and other variables. The multivariate analysis of acquisition likelihood is discussed in section 1.4.2. In section 1.4.3 the results of the hypotheses tests are discussed. To check the robustness of the results, several specification checks are conducted in section 1.4.4.

1.4.1 Univariate Results

Table 1.4 presents summary statistics for the sample of 342 target firms and the matched sample of 342 non-target firms. For each variable I test for a difference in the means by a t-test with unequal means. Additionally, a Wilcoxon-Z test is computed for the difference in medians. The univariate results are divided into four sections: firm financial characteristics, board of director's characteristics, ownership characteristics and CEO characteristics.

1.4.1.1 Financial Characteristics

The targets and matched firms are very similar in size. This is due to the fact that the matching firm was chosen based on the criterion of market value of equity. Out of total assets, market value of equity and total firm value, only the difference in medians for

total assets is statistically significant. Song and Walkling (1993) compare their target firms' average market values with those of Mikkelson and Partch (1989). They estimate that Mikkelson and Partch's targets average market value of equity is $787 million (in 1983 dollars). Song and Walkling's targets average market value of equity is $731 million (in 1983 dollars). In 1997 dollars the average size of my target firms is $927 million. Adjusting this number to 1983 dollars yields an average size of market value of equity for my targets of $590 million. Therefore, it appears that the targets in my sample are slightly smaller in mean size than the targets of Song and Walkling and Mikkelson and Partch. The median size of targets is also comparatively smaller in my sample then those of the previous studies.

As for the other financial variables, only sales growth and liquidity are statistically different. Three-year average sales growth for matched firms is 27%, while only 15% for target firms. Three-year average liquidity is higher for matched firms than for target firms. Three-year average return on equity is significantly different in the means (p-value = .0926). Target firms averaged 5.7% return on equity over a three-year period, while non-target average a negative 6.5%. However, there is no statistical difference in the medians. Leverage, the growth-resource dummy, market-to-book ratio, price-to-earnings ratio, net plant property and equipment to total assets and free cash flow to total assets are all not significantly different.

Another indicator variable, the existence of two or more classes of voting stock outstanding, was statistically different at the 1% level. Only 9% of target firms had two or more classes of voting stock, while 18% of matched firms had two or more classes of voting stock outstanding. Twice as many matched firms had multiple voting classes as

that of the targets. The existence of two classes of voting stock usually concentrates the control of the firm with a smaller group of shareholders. This concentration of voting power if held by managers could make it easier for managers to maintain control of a firm.

1.4.1.2 Board of Directors Characteristics

Although both targets and non-targets average approximately eight and a half board members, the composition of the board of directors for targets and non-targets are slightly different. Targets have on average 29% insiders / 66% outsiders / 5% gray outsiders, while non-targets have 35% insiders / 62% outsiders / 3% gray outsiders on average. All three types' means and medians are statistically different at the 5% level. Mikkelson and Partch (1989) include a dummy variable for staggered voting for board of directors. Both targets and non-targets have almost identical numbers of firms with staggered voting. Staggered voting does not appear to deter outsiders' interest in takeover activity, nor does it identify managers who are likely to resist takeover offers.

1.4.1.3 Ownership Characteristics

Table 1.5 displays the univariate results for ownership characteristics. All variables related to ownership by 'insiders', such as holdings by inside directors, executives, the top executive, the top three executives or the top five salaried employees, are higher in non-target firms as compared with targets firms. All of these insider ownership variables are statistically different for both the means and medians. Inside directors and executives as a group have beneficial ownership, on average, of 22% in matched firms and only 16% in

target firms. Affiliated blockholders for non-targets also have higher ownership than targets, but this difference is not statistically significant. In aggregate, all inside directors, executives and affiliated blockholders own 21% of non-targets and only 15% of targets, on average. This aggregate variable is statistically different in the means and medians.

Ownership by outside directors, gray outside directors and unaffiliated blockholders is higher in target firms than in non-target firms. Gray outsiders and unaffiliated blockholders are statistically different, with outside directors not statistically different. Aggregated, outside directors, gray outside directors and unaffiliated blockholders own 22% of non-targets and 31% of targets, on average. This aggregate variable is statistically different in the means and medians.

1.4.1.4 CEO Characteristics

The age of the top executive is not statistically different between targets and non-targets. However, the tenure of the top executive, as measured by the years served on the board of directors does differ significantly. The mean difference is more than two years. Non-target CEOs have an average tenure of 13 years while targets CEOs have an average tenure of 11 years. This evidence suggests entrenchment of long tenure CEOs. The indicator for the one-person management team and the cash compensation for the top executive are not statistically different between the target firms and the matching sample.

1.4.2 Multivariate Results

Table 1.6 reports the results from logit regressions where the dependent variable is set to unity if the firm is a target and is zero otherwise. Five different logit models are

presented in Table 1.6. Models 1 and 5 include eight financial independent variables in addition to a constant term. The eight variables correspond to the hypotheses discussed in section 1.2. Models 2 through 5 include independent variables that correspond to managerial and block ownership of equity to test the various governance-based hypotheses. The parameter estimates of the logit acquisition models and the associated p-values are presented in Table 1.6.

Model 1 is a replication of Palepu's (1986) acquisition model.[13] The growth-resource dummy variable was positive and significant in his sample. In my sample, the growth-resource dummy is positive, but not significant. Sales growth and liquidity are both negative and significant, while leverage is negative and insignificant. The signs indicate that low growth and low liquidity characterize target firms in my sample. These coefficients all have the same signs as as those reported by Palepu (1986). However, Palepu (1986) finds that only sales growth and leverage are significant in his sample. Low growth and low leverage characterize Palepu's (1986) sample of target firms. Song and Walkling (1993) find leverage, liquidity and sales growth all are insignificant. Consistent with Palepu's (1986) and Song and Walkling's (1993) findings, return on equity, market-to-book value and price-to-earnings ratio are all statistically insignificant in my model. Palepu and Song and Walkling both found size to be a significant factor, with target firms being smaller in size. Size is not significant in my acquisition model. However, this is not surprising due to the fact that market value of equity was used as a matching criterion. Therefore, size is mostly controlled for.

[13] Palepu also included an industry dummy variable to control for industry specific takeover activity. This is not used in this model due to the fact that non-target firms where matched on the basis of industry.

In models 2 through 4 I include only ownership variables based on the methodology of Shivdasani (1993) and Hadlock, Houston, Ryngaert (1999). Both break out ownership based on classification of the board members into inside, outside or gray, and classification of blockholders as affiliated or unaffiliated.[14] In model 2 inside directors and executives, outside directors, gray directors, affiliated block holders and unaffiliated blockholders share ownership is included. The coefficient on ownership by inside directors and executives is negative and highly significant (p-value = .012). The coefficients on ownership by outside directors and gray outside directors are both positive, with the coefficient on gray outside directors being significant at the 10% level. The coefficient on holdings by unaffiliated blockholders is positive and highly significant, while the corresponding coefficient for affiliated blockholders is negative but insignificant.

In model 3 I found it appropriate to sum both types of outside directors, both true outside directors and gray outside directors. Most directors classified as gray in my sample were former employees or lawyers who provided legal counsel to the firm. In model 2 gray and outside directors have the same coefficient sign, indicating that they both act as monitors to management. Therefore, in model 3 the two holdings were aggregated into one *all outside directors* variable. When aggregated, the all outside directors variable is positive, but not quite significant at conventional levels (p-value of .131).

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[14] Mikkelson & Partch (1989) use total votes controlled by all executive officers and directors and also votes controlled by holders of the top three offices. Song & Walkling (1993) use total ownership by executive officers and directors as a group. Neither of these papers classifies directors as inside/outside. Mikkelson & Partch also use a slightly different classification of blockholders.

Inside directors and executives and affiliated blockholders both have negative coefficients. If the interests of affiliated blockholders are aligned with inside directors and executives, the two groups could provide a united front to defend against unwanted acquisition attempts. Thus, a case could be made for a specification with an aggregate inside ownership variable that sums affiliated blockholdings with inside directors and executives. A similar case could be made for the outside ownership variables. Unaffiliated blockholders and all outside directors both have positive coefficients. In model 4, these two aggregate measures of inside and outside ownership are used in a logit model. Both variables are highly significant, with the coefficients on the inside ownership variables supporting the entrenchment hypothesis and the coefficients on the outside ownership variables providing evidence of outside monitoring.

In the final model, model 5, both the ownership variables from model 3 and the financial variables from model 1 are included. Ownership by inside directors and executives remains negative and highly significant at the 5% level, while ownership by all outside directors is positive and becomes significant at the 10% level. The coefficient on ownership by unaffiliated blockholders remains positive and highly significant at the 1% level, while the corresponding coefficient for affiliated blockholders remains negative and insignificant. As for the financial variables, sales growth and liquidity remain negative and significant, while most other variables remain insignificant. Return on equity becomes significant at the 10% level.

1.4.3 Hypotheses Tested

The following hypothesis tests are summarized in Table 1.7 and utilize all univariate results and multivariate results from model 5, Table 1.6.

1.4.3.1 Governance-based Hypotheses

In my empirical analysis I find that firms with higher management ownership are relatively less likely to be acquired. This result appears inconsistent with the irrelevance hypothesis and the financial incentive hypothesis, but is highly consistent with both the discipline hypothesis and the entrenchment hypothesis. To test between these two hypotheses note that the results suggest that firms with high numbers of outside directors, high outside ownership, and high unaffiliated blockholdings are relatively more likely to be acquired. Since these firms are the ones we expect to be heavily monitored and thus least in need of discipline, these results cast doubt on the discipline hypothesis. Additionally, financial indicators of management quality do not suggest that target firms are poor performers. Target firms have lower liquidity, indicating that these firms have sound management. The return on equity and leverage variables indicates that targets are not managed worse than matched firms. Taken together, these additional findings cast doubt on the discipline hypothesis.

My results appear to offer the strongest support for the entrenchment hypothesis. This suggests that managers value the benefits of control more than the benefits of increased wealth due to acquisition. Supporting evidence includes the fact that the CEOs of non-target firms average two years more tenure on the board of directors than CEOs of target firms. Additionally, target firms have a larger percent of inside board members than matched firms.

There also appears to be empirical evidence supporting the monitoring hypothesis. Target firms have a significantly larger number of outside directors sitting on their board of directors then non-targets. Additionally, in the logit model, ownership by all outside directors as a group is positively related to the probability that a firm is a target, and is significant. Large unaffiliated blockholdings is also positively related to the probability that a firm is a target, and is highly significant. Therefore, it appears that outside monitoring is taking place and value maximizing decision are being made in corporate control transactions involving higher outsider ownership and increased outside presence.

1.4.3.2 Financial Hypotheses

The growth-resource mismatch hypothesis is not supported empirically by either the univariate analysis or the logit model results from my sample of mergers from the 1990's. The growth-resource coefficient is positive in the logit model, consistent with the hypothesis, but is not significant. Palepu (1986) found empirical support for the growth-resource mismatch hypothesis in his sample of 1970's and 1980's mergers.

Size is not significant in either the univariate analysis or the logit model. This is not surprising due to the fact the matched firms were chosen on the criterion of market value of equity in my sample. The market-to-book and price-earnings hypotheses have no empirical support from my model, Palepu's (1986) model or Song and Walkling's (1993) model.

1.4.4 Robustness

This section discusses several different specification checks. Votes controlled are considered rather than shares controlled, additional variables from previous literature are considered, and model robustness is checked.

1.4.4.1 Voting Rights

There are two ways to measure ownership; using beneficial ownership or using percentage of votes controlled. In my univariate analysis and logit acquisition model I used beneficial ownership where all outstanding classes of stock are treated equally. This may be appropriate for arguments based on financial considerations, however it may not be completely satisfactory when analyzing control considerations. In previous research one or both methods are utilized. Therefore, as a robustness check, I replace beneficial ownership with percentage of votes controlled in my logit acquisition model. The results are reported in Table 1.8. The statistical significance of each variable remains unchanged. The only substantial difference is that the magnitude of the coefficients on all the ownership variables is slightly lower.

1.4.4.2 Additional Control Variables

Shivdasani (1993) uses management characteristics in his logit model of hostile targets vs. matched non-targets. He considers the age of the CEO, the CEOs tenure on the board of directors and an indicator variable that identifies strong CEOs who hold the three titles CEO, President and Chairman of the Board. Shivdasani also tabulates the average number of additional outside directorships held by each type of director, inside and outside. I also tabulated the average number of outside directorships listed in the

proxy statement excluding charitable organizations and obvious non-profit organizations[15]. Table 1.9, model 1 is my logit acquisition model with five additional corporate governance variable included. The age of the top executive, the number of years the top executive served as a director, the one person management team indicator, and the average number of additional directorships held by outside directors are all statistically insignificant. The average number of additional directorships held by inside directors is negative, and significant.

Mikkelson and Partch (1990) try to identify blockholders who have representation on the board, and those who do not. I do not replicate their methodology. Instead, I continue to use Shivdasani's method of classifying unaffiliated blockholders. However, I further classify unaffiliated blockholders into two groups: those with board representation, and those without board representation. By definition, the blockholders with board representation are represented by outside directors. All affiliated blockholders are by definition represented by inside directors. The results of the logit regression are reported in model 2 of Table 1.8.

Unaffiliated blockholdings represented on the board is positive and highly significant. The higher the ownership by unaffiliated blockholders represented on the board, the more likely the firm is to be a target. This is evidence that outside blockholders and their corresponding outside directors together play a key role in monitoring management and will make value-maximizing decision in corporate control transactions. However, unaffiliated blockholdings that are not represented on the board do not appear to play a role in monitoring management.

[15] Shivdasani only includes directorships of companies included in the Fortune 1000 or Fortune Service 500 lists.

Billett (1996) finds empirical evidence on the relationship between a firm's takeover likelihood and the coinsurance potential of its debt in a sample of firms from 1979-1990[16]. Billett studies the risk of the firm's debt, measured by its credit rating, and its leverage to measure the coinsurance potential of a firm's debt. He finds that takeover likelihood decreases as the coinsurance potential of its debt increases. I collected public bond ratings from Standard and Poor's COMPUSTAT and Moody's credit ratings. I followed the methodology outlined by Billett to create a coinsurance variable[17]. Using his methodology, I was unable to find a significant relationship between coinsurance potential and takeover likelihood. In particular, the interaction variable of Billett's non-investment grade public debt dummy and leverage was in all cases insignificant. Several differences in sample selection and methodology could explain these differences. Billett (1996) uses all firms on the NYSE or AMEX that have sufficient CRSP and COMPUSTAT data available, where I only use targets and matched non-target firms. Another possible explanation is the difference in time periods. The Billett (1996) sample is from 1977-1986, where the sample I use is from 1990-1997.

1.5 Conclusion

The corporate control market in the U.S. has changed significantly over the past 25 years. Most of the literature to date concerning these control markets has focused on the merger activity of the 1970's and the 1980's. However, anecdotal evidence suggests that

[16] Billett defines coinsurance as the wealth transfers from the bidder and target equity holders to the target debt holders.

[17] Billett creates a dummy variable for the existence of non-investment grade public bonds. He interacts this dummy variable with the firm's leverage. In his logit model he finds this interaction variable to be negative and highly significant. This implies that

the current market differs in important ways from this earlier period. In particular, today's takeovers appear to be friendlier in nature and focused more on expanding markets compared to the hostile transactions and downsizing that characterized the 1980's. Corporations and state governments took actions to slow the market for corporate control of the 1980's. Corporations adopted many forms of anti-takeover amendments and state governments passed forms of legislation aimed to protect firms form hostile type takeovers. This essay attempts to further our knowledge about managerial, ownership, and financial characteristics that affect the likelihood of acquisition in the 'new' market for corporate control of the 1990's.

I used a sample of 342 firms acquired from 1990 to 1997 and 342 non-acquired firms matched by industry, focus, and size to examine these issues. Following the methodology of Shivdasani (1993) and Hadlock, Houston, and Ryngaert (1999), I classify managers and directors into the categories of executives, directors who are employed by the firm, and directors who are not employed by the firm. I also classify blockholders as being affiliated with management or not and as having representation on the board or not.

With regards to financial characteristics it appears that the mergers of the 1990s are different in some ways from those of the 1970s or 1980s. Targets in the 1990s can be characterized as having low growth and low liquidity, both of which are statistically significant in determining the likelihood of acquisition. The discipline hypothesis would suggest that firms with excess liquidity, excess leverage, and/or relatively low return on equity would be likely targets since these variables are likely to proxy for poor

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firms with non-investment grade public debt are less likely to be targets, due to the coinsurance effects.

management. However, it appears that targets are well managed without excess liquidity, casting doubt on the discipline hypothesis.

I also examine the effect of blockholders and outside ownership on acquisition likelihood. I classify large blockholders into affiliated blockholders and unaffiliated blockholders. I further classify unaffiliated blockholders into unaffiliated blockholders who are represented on the board by an outsider and unaffiliated blockholders who are not. I find that firms with higher levels of unaffiliated blockholders represented on the board are more likely to be acquired. However, I find that unaffiliated blockholders who are not represented on the board do not have any effect on control changes. I also find evidence that firms with higher levels of outside director ownership are more likely to be acquired. Additionally, target firms have a larger percentage of outside directors on their board. This evidence all supports an outside monitoring hypothesis, where firms with substantial outside monitoring are most likely to make value-maximizing decisions in corporate control transactions.

My results also indicate that firms with higher levels of management ownership are less likely to be acquired. This supports an entrenchment hypothesis where higher ownership managers value control over any potential wealth gains from being acquired. I find additional evidence supporting the entrenchment hypothesis in other variables as well. The tenure of the top executive of non-target firms is on average two years longer than on target firms. Additionally a larger percentage of the boards of directors of non-target firms are inside directors.

Table 1.10 compares my results with that of other studies. In particular, the studies of Mikkelson & Partch (1990) and Song & Walkling (1993) are most similar to

this essay. The main difference being the time period considered. Both the Mikkelson & Partch and Song & Walkling papers are based on samples from the 1970s and 1980s, whereas this essay deals with mergers of the 1990s. I find similar results to that of Song & Walkling (1993) in that we both find support for the entrenchment hypothesis. Shivdasani (1993), in his study of hostile targets and non-targets, and Hadlock, Houston, Ryngaert (1999), in there study of bank targets and non-targets, both find supporting evidence for the entrenchment hypothesis.

My evidence supporting the monitoring hypothesis is collaborated by Shivdasani's (1993) study. However, no other paper has created the variables to tests this hypothesis. As for the growth-resource mismatch hypothesis, I find no evidence while Palepu (1986) finds evidence. Most studies that don't control for size by matching their sample on size find evidence of the size hypothesis. All studies find little to no evidence of the market-to-book and price-to-earnings hypotheses.

These findings raise the question as to the role beneficial stock ownership has in aligning the managers with the interests of the shareholders at least with regards to being acquired. Taken as a whole my results are consistent with Morck, Shleifer, and Vishny (1988b) who suggest that the entrenching properties of high ownership may actually destroy corporate value.

ESSAY 2: Corporate Mergers and Top Management Turnover: The 1990s Evidence

2.1 Introduction

Financial economists have identified many reasons for corporate mergers. Some reasons postulated for mergers include; disciplinary, synergistic, market expansion, growth-resources mismatches[18], and sometimes even for "empire building". In this essay, I examine the role a merger plays in disciplining or validating the performance of top managers. An acquirer can create value by replacing non-value maximizing top managers with value-maximizing top managers. Martin and McConnell (1991) have documented this disciplining mechanism in their sample of tender offer takeovers from 1958 through 1984. Alternatively, value-creating management practices may be an attractive asset for firms in the acquisition market. A well-managed firm could be attractive for synergistic, growth-resource mismatches, and market expansion type acquisitions.

Prior studies are largely based on pre-1990s data, a period with a significantly different control environment from what we observe today. With the introduction of poison pills, new corporate anti-takeover amendments, control share laws, and business combination laws, absolute deterrence by management opposed to a takeover is a real possibility today. As discussed by Schwert (2000), in the early 1990s there was a statistically significant shift towards more friendly deals. To the extent that this shift reflects a structural change in the corporate control market, perhaps arising from the

[18] Palepu (1986) reports that firms with a mismatch between their growth opportunities and financial resources at their disposal may be particularly attractive targets.

development of modern takeover-defenses and legal rulings in the late 1980s, our understanding of takeovers and their use as a disciplinary or rewarding device would appear to be quite limited. One might suspect that modern takeover defenses increased the ability of poorly performing managers to fend off unwanted acquisition attempts and therefore, disciplinary takeovers.

In this essay I attempt to update the evidence on top management evaluation within a merger event with a sample of 236 acquisitions from 1990-1997. In particular, I test for evidence supporting a discipline hypothesis and evidence supporting a performance evaluation hypothesis. For my sample, targets are classified as either disciplinary or nondisciplinary. I classify a merger as disciplinary if within two years following a merger, the pre-merger target CEO departs the new firm.[19] A target is classified as nondisciplinary if the pre-merger target CEO remains with the firm for the two years following a merger. To measure managerial performance, industry-adjusted and market model returns are calculated for the four years prior to the merger announcement. To test the performance evaluation hypothesis, for the nondisciplinary sample, the cumulative industry-adjusted returns and cumulative market model prediction errors are tested to examine they are significantly greater than zero. To test the disciplinary hypothesis, for the disciplinary sample, the cumulative industry-adjusted returns and cumulative market model prediction errors are tested on whether they are significantly less than zero. Additionally, I examine whether the cumulative industry-adjusted returns and cumulative market model prediction errors are significantly different between the disciplinary and nondisciplinary sample.

[19] The period evaluated is from the announcement of the merger until 2 years following the completion of the merger. On average this time period is 28 months.

I first identify and characterize top management turnover both pre- and post-merger. I find a substantial increase in top management turnover following a merger. Out of the 236 target firms in my sample, 72.5% (171) experience top manager turnover within the announcement date of the merger through the two years following completion of a merger. The pre-merger turnover rate for this same time span would be a substantially different 26.6%.[20] I also document a substantial difference in the characteristics of turnover events pre-merger vs. post-merger.

Next I measure corporate performance by calculating cumulative industry-adjusted returns and cumulative market model prediction errors for four years prior to the merger announcement. The results suggest that, on average, the target of a merger classified as nondisciplinary, out-performed other firms in its industry and performed at least as well as the market during the pre-merger period. On average, targets in mergers classified as disciplinary, performed almost as well as other firms in their industry and at best, equal to the market during the pre-merger period. The nondisciplinary targets significantly out-performed the disciplinary targets as measured by industry-adjusted returns and performed at least as well as the disciplinary on a risk adjusted market model basis, if not better.

I find evidence supporting the discipline hypothesis in line with the results of Martin and McConnell (1991). Martin and McConnell (1991) document stronger evidence of the discipline hypotheses, in that firms in their disciplinary sample are significantly under-performing within their industries, whereas in my sample the disciplinary sample under-performance is not as significant. However, I find stronger evidence of what I call

[20] 26.6% is calculated by using the 11.4% average annual turnover rate, pre-merger, times the 2.33 years (on average) considered following a merger.

the performance evaluation hypothesis, where managers who are significantly out-performing within their industry remain on with the new firm. Similary to Martin and McConnell (1991), I document that firms in the nondisciplinary sample significantly out-performed firms in the disciplinary sample.

Additionally, the characterization of a merger as being hostile or friendly is investigated. Next, some collaborating evidence for the discipline and performance evaluation hypotheses is presented. A statistical summary of additional characteristics concerning whether a manager remains or departs post-merger is presented. The characteristics include data collected on the top manager, the firm, and the takeover event itself.

The rest of this essay is organized as follows. In 2.2 I briefly discuss some of the relevant literature and the various hypothesis that will be tested. In section 2.3 I describe the population and sample selection methodology. The data on management turnover is summarized in section 2.4. Section 2.5 describes industry-adjusted returns and market model methodologies. The results of the pre-merger performance measures are also reported in section 2.5. Section 2.6 considers some additional investigations into issues such as hostile vs. friendly mergers and characteristics of whether a top manager remains or departs post-merger. Section 2.7 summarizes the essay.

2.2 Background and hypothesis development

2.2.1 Previous Literature on Ownership and Takeovers

The benchmark for this essay is the work completed by Kenneth J. Martin and John J. McConnell in 1991, "Corporate Performance, Corporate Takeovers, and Management

Turnover." Their sample includes 720 inter-corporate tender offers over the period 1958 through 1984. Their final sample contains 253 takeovers after firms are deleted insufficient data availability and the presence of large toeholds. They document that corporate takeovers play an important role in disciplining the top manager of under-performing targets. They document that the turnover rate for the top manager of target firms in tender offer-takeovers significantly increases following completion of the takeover and that prior to the takeover these firms were significantly under-performing other firms in their industry as well as other target firms which had no post-takeover change in the top manager.

Morck, Shleifer and Vishny (1988) provided additional motivation for this essay. In a study of large firm takeovers during the period 1981 to 1985 they document the role of hostile takeovers as a disciplinary tool in the market for corporate control. They find that targets of hostile takeovers are poor performers, while the targets of friendly takeovers are average performers. In summary, most of the previous research suggests that takeovers are a mechanism for disciplining poorly performing managers.

2.2.2 The Changing Corporate Control Environment

While the results in this earlier literature have expanded our knowledge of the role of takeovers in disciplining poor management, it is not clear that these results provide an accurate description of the role a takeover plays today. In particular, these results rely exclusively on deals pre-1990. However, the corporate control environment, while quite active today, appears to have changed in substantial ways since the late 1980s. This change is certainly apparent in my sample. While Shivdasani (1993) reports that

approximately 50% of the takeovers in his *Value Line* sample from 1980-1988 were hostile, in my sample from 1990-1997 only 8.8% of the deals were hostile (see Table 2.1). Schwert (2000) discusses these trends in detail in his study of 2,346 takeover contests from 1975 to 1996. He finds that the highest rates of hostile offers occurred between 1982 and 1989. Additionally, he finds that after 1991 there was a statistically significant shift away from hostility comparable in magnitude to the shift towards hostility seen in the early 1980s. Schwert's (2000) empirical tests show that most deals described as hostile in the press are not distinguishable from friendly deals in economic terms, except that hostile transactions involve publicity as part of the bargaining process.

There are some underlying factors as to why the corporate control environment has become 'friendlier' in the 1990s. In particular, in the late 1980s many corporations adopted anti-takeover provisions including: a) super-majority provisions, b) fair price provisions, c) staggered elections for directors, d) blank check preferred provisions, e) restrictions on special meetings, and f) elimination of cumulative voting (see Borokhovich, Brunarski, and Parrino (1997)). In addition, many corporations adopted shareholder rights plans (i.e. poison pills).

Finally, many states passed many types of anti-takeover legislation such as control share laws and business combination laws intending to slow hostile acquisition activity. As Comment and Schwert (1995) report, these anti-takeover provisions and legal developments certainly changed the rules for control contests in the 1990s. By 1991, 87% of NYSE and AMEX listed firms were covered by at least one form of an anti-takeover measure; 35% were covered by self-imposed poison pills, 80% by business combination laws, and 24% by control share laws. These figures are in stark contrast to

1985, where less than 7% of NYSE and AMEX listed firms were covered by at least one form of an anti-takeover measure; 1% were covered by self-imposed poison pills, 5% by business combination laws, and 5% by control share laws.

With the introduction of poison pills, new corporate anti-takeover amendments, control share laws, and business combination laws, absolute deterrence by management opposed to a takeover became a real possibility. These anti-takeover measures would seem to help entrench any management team that was opposed to an acquisition. The fact that hostile takeovers are harder to complete today would suggest management could be protected from any unwanted disciplinary takeovers, because all that they would need is some form of anti-takeover amendment or protection under state law. This raises the possibility that the takeovers play a more limited role in the disciplining of poor managers in the post 1980s era.

2.2.3 Hypothesis Development

Following a merger, a target's top manager can either remain with the new firm, or depart. Prior to a merger, a target's financial performance can be classified as under-performing, average performing, or out-performing, vs. some chosen benchmark. This leads to six possible states, post-merger: 1.) top manager departs and pre-merger under-performance, 2.) top manager departs and pre-merger average-performance, 3.) top manager departs and pre-merger out-performance, 4.) top manager remains and pre-merger under-performance, 5.) top manager remains and top manager average-performance, and 6.) top manager remains and pre-merger out-performance.

The state where the top manager departs and there is pre-merger under-performance is the outcome of a mechanism that I will refer to as the *discipline hypothesis*. The discipline hypothesis is the situation where target management is using non-value maximizing operating strategies. An acquiring firm takes control of the target, replaces management, and creates value by changing the non-value maximizing operating strategies of management. I will test this hypothesis by analyzing post-merger turnover events and pre-merger financial performance of managers using industry-adjusted returns, market model returns, and other characteristics.

The state in which the targets top manager remains and there is evidence of pre-merger out-performance, is an outcome that reflects what I will call the *performance evaluation hypothesis*. This is the case where target management is doing a better than average job, and is acquired for just that reason. The target is singled out because of its superior performance, and the manager is retained because of his/her managerial abilities. Similarly, I will test this hypothesis by analyzing post-merger turnover events and pre-merger financial performance of managers using industry-adjusted returns, market model returns, and other characteristics.

The two cases of average performance say nothing about the target's top manager, except for the fact that they are average. There is no direct link to be made with whether a manager remains or departs because of average performance. Another state is where the top manager departs and pre-merger out-performance is experienced. In this case the acquirer would probably like to retain the manager, yet the manager has other things he would like to do. The final case is that of where the manager is retained and pre-merger

under-performance is experienced. In this case, it would appear that the acquirer does not discipline the targets top manager for under-performance.

2.3 Data

2.3.1 Population Selection

My study focuses on mergers that took place from 1990 - 1997. Following studies that examine mergers in the 1970s and 1980s, I made decisions on the population on which my sample was derived. (1) To start with, firms had to have data available in both *CRSP* and *COMPUSTAT* databases. (2) Firms had to be listed on either the New York Stock Exchange or American Stock Exchange. Certain firms were then excluded from the population. (3) Firms not listing the United States as its home country were excluded from the population. (4) American Depository Receipts (ADRs) and (5) Limited partnerships were also excluded. (6) Due to the regulatory and specific nature of particular industries, some entire industries were excluded. In particular, financial, banking, insurance, real estate and utilities firms were excluded. Included in this deletion were industries classified in SIC's 6000 to 6999 (finance, insurance, real estate) and SIC's 4900 - 4999 (public utilities).

Table 2.2 outlines the total number of firms listed by year that were left after the above characteristics were controlled for. From 1990 to 1997 there were an average of 1,814 firms listed on the NYSE and AMEX in any given year. A list of merged firms by year was prepared from the delistments from the stock exchanges due to mergers and acquisitions, obtained from the *CRSP* and *COMPUSTAT* databases, and manually confirmed by *Dow Jones Interactive* searching *The Wall Street Journal*, *Dow Jones News*

Service, *Dow Jones Newswires*, and *Press Release Wires*. During the period, an average of 47 firms per year were delisted from the NYSE and AMEX due to merger. This figure represents 2.58% of all listed firms in any given year. Over the period there appears to have been an increasing number of mergers, with a steady increase starting in 1991.

2.3.2 Sample Selection

From the above population of firms a sample of 236 firms that were acquired during the period 1990-1997 are used. For a merged firm to be included in the sample I required that an announcement date and news story for the merger transaction be identified. *Dow Jones Interactive* (searching *The Wall Street Journal*, *Dow Jones News Service*, *Dow Jones Newswires*, and *Press Release Wires*) was used to identify the specific announcement and rumor date of the merger. Five years of monthly stock returns in the *CRSP* monthly returns file prior to the merger announcement must be available in order to calculate industry-adjusted returns and market model prediction errors prior to the merger.[21] Table 2.2 identifies 374 firms delisted due to merger during the period 1990 - 1997. Incomplete data availability reduces the number of firms in the sample by 113. Following Martin and McConnell (1991) and others, I define a transfer of control as occurring when a bidding firm owns less than 50% of the target's shares before the tender offer. Deleting those targets whose acquirer had a toehold of 50% or greater reduces the number of firms in the sample by 25, to a total sample size of 236 firms.

2.4 Management Turnover

2.4.1 Turnover Frequency

A takeover is classified as disciplinary if there is turnover of the top manager of the target firm following the takeover. The top manager is defined as the person holding the position of CEO, or if no CEO exists, the president. Following Martin and McConnell (1991), turnover data is collected for five years prior to, to two years after completion of the merger. The starting point is the official announcement date of the merger. The 12 calendar months prior to the announcement date are considered to be year -1. The next 12 calendar months prior to that are year -2, and so forth. Year +1 begins with the announcement date and continues for 12 months following completion of the takeover. On average, year +1 is 16 months in length. Year +2 begins with the first month following year +1 and ends 12 months later.

To document management turnover, the individual occupying the position of CEO or president is identified in the *Standard and Poor's Register of Corporations, Directors, and Executives* (*S&P Register*) for each of the five years prior to the merger announcement and for the two years following completion of the merger. In addition to using the *S&P Register*, each target firm's top manager immediately prior to merger announcement, is fully researched by name on *Dow Jones Interactive*, *Disclosure*, and *Lexus-Nexis* for the full two years after the completion of the merger.[22] In completing

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[21] I require that at least 12 consecutive monthly returns be available over the period form month -108 to -49 prior to the merger announcement in order to compute the market model outlined by Brown and Warner (1980).

[22] The Wall Street Journal, Dow Jones News Service, Dow Jones Newswires, and Press Release Wires are used in the search on Dow Jones Interactive. Disclosure and Lexus-Nexis are used to search proxy statements and annual reports.

these name searches 100% of top managers were accounted for, for the full two years. It should be noted that in conducting the name searches in the online news services there were notable differences in what was reported in the *S&P Register* and the news services. Not always, but frequently the *S&P Register* had a significant lag that could be measured in years. The *S&P Register* seemed to keep previous year data in their publication even after a turnover transaction.

For clarification, if the top manager of a target firm remains as the head of the same operation within the new firm, no turnover event is counted. This is true even if his/her title is not president or CEO. If the target's top manager departs the new firm and a new manager replaces him/her as head of the same operation, then that replacement is used as the replacement manager, even if his/her title is not president or CEO. If the top manager of the target departs the new firm and is not replaced or the old operation is not stand alone within the new firm, then the acquirers CEO is considered the replacement manager. This methodology is slightly different from Martin and McConnell's (1991) who report that CEOs are not replaced in approximately 25% of post-merger turnover events. In this study, the acquirer CEO replaces the 'not replaced' in their study.

Table 2.3 is a summary of top manager changes for years -5 to +2 for all target firms. For years -5 through -1, the annual rate of change in the top manager ranges from 8.1% to 14.0% with an average of 11.4%. Turnover in year +1 leaps to 69.5%. In year +2 the rate of change in the top manager drops back down to the normal range and a value of 8.1%.[23] For comparison, Martin and McConnell (1991) report a range of 7.1% to 11.1%

[23] Included in year +1 and +2 are all reported changes in the top manager. This includes the top manager in office at the time of the merger and any subsequent changes in the top manager. This is different from some other tables in this essay where only the top

with an average of 9.9% for years -5 through -1. Their turnover in year +1 leaps to 41.9% and in year +2, 19.0%.

Out of the 236 target firms, 171 (72.5%) experience a change in the top manager (whom was in office immediately preceding the merger announcement) within year +1 through year +2. These firms that experience a change in the top manager are placed in the disciplinary sample. The other 65 (27.5%) target firms that did not experience a change in the top manager are placed in the non-disciplinary sample. Out of the 180 changes in the top manager within year +1 and year +2 listed in Table 2.3, 9 are subsequent changes of the top manager in firms that had already experienced turnover in the top manager. This is a higher turnover rate in the top manager after a control action then reported in Martin and McConnell's (1991). They report top manager turnover in 141 (55.7%) of their 253 tender offers over 1958 - 1984 and no top manager turnover in 112 (44.3%) of their target firms.

The classification methodology that categorized takeovers as disciplinary if the top manager is replaced, and nondisciplinary if the top manager is not replaced, is not necessarily perfect. Sometimes management change following a merger is normal, and not necessarily disciplinary. Martin and McConnell (1991) considered two additional classification schemes for disciplinary and non-disciplinary takeovers that try to compensate for this.

The first method tries to eliminate normal turnover events by examining the stated reasons for the top manager's departure. When the top manager of a firm departs, there is usually some form of official announcement by the firm along with a stated reason.

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manager in office at the time of the merger is included, and subsequent changes are not included.

These stated reasons can then be classified as either disciplinary or nondisciplinary and therefore, also the turnover event. *Dow Jones Interactive* was used to collect the official stated reason of every turnover event for target firms from year -5 to year +2. The reasons indicated for the departing top manager are categorized in Table 2.4. The reasons are separated into non-disciplinary and disciplinary reasons. The non-disciplinary reasons being; normal retirement, accepted higher level position in firm, accepted lower level position in firm, died, and accepted directorship in firm. The disciplinary reasons being; change in control, fired for poor performance, policy differences, early retirement, other personal or business interests, took similar position with another firm, and no reason given. Based on stated reasons, pre-merger top management turnover is disciplinary 42.5% of the time vs. 75.4% for post-merger turnover. The difference is statistically significant at the 1% level.

For the 171 turnover events post-merger, 129 are classified as disciplinary, and 42 are classified as non-disciplinary. The most common reason cited post-merger is "change of control", which accounted for 62 out of the 129 disciplinary events. The next most common reason was "took similar position with another firm" with 44 out of the 129 disciplinary events. These results indicate that takeovers are an important device for changing top management, however, it does not say anything as to why the management change was needed.

The second method for eliminating instances of nondisciplinary management turnover is to classify targets according to the origins of the replacement manager. Furtado and Rozeff (1987), Reinganum (1985), and Vancil (1987) document that the majority of replacement managers come from inside the firm in their studies of non-

takeover related turnover. Therefore, a replacement manager that comes from outside the target firm following a merger is more likely to indicate a disciplinary action than if the replacement manager comes from inside the target firm.

For every target I document the origin of the replacement manager for all top manager turnover events from year -5 through +2. Each event is investigated and classified using *Dow Jones Interactive*.[24] Table 2.5 summarizes top management replacements by pre-merger (time-5 through -1) and post-merger (time +1 through +2). Pre-merger replacements are outsiders 37.3% of the time. This is compared with Reinganum (1985) who documents that 13% of replacement managers are outsiders and Vancil (1987) who documents that 25% of replacement managers are outsiders, in their respective samples of non-takeover related top manager turnover.

Post-merger replacements are outsiders in 158 out of the 171 top manager turnover events of target firms, or 92.4% of the time. This is a difference of 55.1% from pre-merger turnover of the target firms, and the difference is significantly different from zero at the 1% level. This 92.4% outside replacement rate is dramatically different from the 37.3% pre-merger, from Reinganum's (1985) 13%, and from Vancil's (1987) 25%. Additionally, Martin and McConnell (1991) report that 55.5% of post-merger replacements are from outside the target firm in their sample of tender offer takeovers from 1958 to 1984. However, if you include the 'not replaced' events in Martin and McConnell (1991) with 'outsider', as I have done, you get a rate of approximately 70.0%. This is closer to the 92.4% in my sample, but still substantially different.

[24] The Wall Street Journal, Dow Jones News Service, Dow Jones Newswires, and Press Release Wires are used in the search on Dow Jones Interactive.

2.4.2 Top Manager Turnover Pre- vs. Post-Merger

Additional statistics on pre-merger vs. post-merger top management turnover are displayed in Table 2.6. The age of the departing manager is, on average, 2.43 years less in a post-merger turnover event. The age of the replacement manager is, on average, 2.29 higher in a post-merger turnover event. The age differential, as measured by the age of the departing top manager minus the age of the replacement manager, is substantially different pre- vs. post-merger. The age differential for pre-merger turnover is 7.56 years vs. 2.73 years for post-merger turnover. The difference is 4.84 years and is statistically significant at the 1% level. This is evidence that pre-merger turnover is more of a natural type turnover, whereas post-merger turnover seems to be something different. Pre-merger turnover seems more 'natural' in that managers seem to work, get to an age that they move on to something else, then are replaced by someone 7.56 years younger, on average. In post-merger turnover events, younger managers replace top managers, but only younger by 2.73 years, on average. This 5 year difference between the two age differentials suggests that something different is taking place in post-merger turnover events. The tenure of the departing top manager is not significantly different pre- vs. post-merger.

A few additional statistics are presented in Table 2.6. The first is a dummy variable that indicates whether the top manager remains with the firm in some capacity after he/she losses the title CEO. The top manager could remain with the firm in a lower position, as a director, or possibly chairman of the board. Pre-merger CEOs that lose the CEO title remain on with the target firm 32.09% of the time vs. 2.90% of the time post-merger. The difference is statistically significant at the 1% level.

The next variable considers whether a regime change took place or not. I consider a regime change an event where both the titles CEO and chairman are simultaneously replaced by new manager(s). Regime changes take place in 41.0% of pre-merger turnover events vs. 89.5% in post-merger turnover events. The difference is statistically significant at the 1% level. A final statistic is a dummy variable for whether a CEO holds both the titles of CEO and chairman at the time of the turnover event. There is no difference pre- vs. post-merger in this statistic, with both event groups having a CEO with the dual titles approximately 68% of the time.

All together, the facts point to a difference in the top manager turnover events for firms pre-merger vs. post-merger. The substantial increase in turnover following a merger, the difference in turnover characteristics pre- vs. post-merger, and that a large percentage of replacements post-merger are from outside the target, all imply that takeovers are a method of replacing managers of target firms. However, none of these facts alone, nor taken together, indicate whether this top management turnover is related to poor performance. To include corporate performance in this analysis, industry-adjusted returns and market model returns are calculated below.

2.5 Measuring Corporate Performance

Two methodologies are used to evaluate pre-merger performance of target firms. Following Martin & McConnell (1991), I calculate industry-adjusted returns motivated by Morck, Shleifer, and Vishny(1988)[25] and use the market model procedure described in Brown and Warner (1980).

[25] Morck, Shleifer, and Vishny (1988) find that there is an industry effect in the pre-takeover performance of the targets of hostile takeovers.

2.5.1 Industry-Adjusted Returns

Martin and McConnell's (1991) methodology of calculating industry adjusted returns (IARs) is as follows. First, for each month from 1981 to 1997, all firms on the *CRSP* file, excluding the 374 target firms, are grouped into 4-digit SIC code portfolios and equally weighted monthly returns calculated.[26] Next, the *S&P Register* for the year in which the target is acquired, is used to identify all of the 4-digit SIC codes of each target firm. Next, for each target firm, the industry portfolios for each of its 4-digit SIC codes are combined, on an equally weighted basis, to form an industry index for that firm. If the *CRSP* file contains no firms in any of the 4-digit SIC categories of a target firm, the first three-digits of that code are used. If no three-digit match is possible, the first two digits are used, and if no two-digit match is possible, a single digit is used.

IARs are computed by subtracting the return of the industry index from the return of the target firm during the same calendar month. Cumulative industry-adjusted returns (CIARs) are calculated by summing the IARs and are calculated over various pre-merger time periods from 48 months prior to the merger announcement to the merger announcement. Statistical tests are performed to determine the significance of the CIARs.

2.5.2 Market Model Procedure

The market model procedure described in Brown and Warner (1980) is used to evaluate risk adjusted corporate performance. Market model parameters are estimated

over the period beginning 108 months prior to the merger announcement and ending 49 months prior to the merger announcement. If stock returns are not available for all 60 months, then the available data is used down to a minimum requirement of 12 months. This requirement is the crucial data availability constraint. Monthly stock returns must be available for a full five years prior to the announcement of the merger. Therefore, any conclusions that are stated in this essay only apply to firms with five years worth of monthly stock returns available. The equally weighed index of all stocks in the *CRSP* monthly returns file is used as the market index. Average monthly prediction errors (PEs) and cumulative average prediction errors (CPEs) are calculated over various pre-merger time periods from 48 months prior to the merger announcement to the merger announcement. Statistical tests are performed to determine the significance of the CPEs.

2.5.3 Performance Results

2.5.3.1 Disciplinary vs. Nondisciplinary Takeovers and Pre-Takeover Performance

CIARs and CPEs are calculated for all 236 target firms for the time period 48 months prior until 3 months prior to the merger announcement. Month 0 is excluded since it is the month of the merger itself and should not be considered pre-takeover performance. Studies by Dodd and Ruback (1978), Kummer and Hoffmeister (1978), and Jarrell and Bradley (1980) all report that information is leaked during the few months prior to a merger announcement that affects stock prices. Therefore, the two months prior to the merger announcement are also excluded from the pre-takeover performance period.

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[26] The 374 target firms include all firms in the population that were delisted due to merger. The final sample is 236 firms, after 113 are dropped due to insufficient data availability and 25 dropped for having a toehold of 50% or greater.

Table 2.7 summarizes CIARs and CPEs over the pre-takeover performance period, -48 to -3 months prior to the merger announcement for the 236 target firms in the sample. For the full sample of takeover targets, the pre-merger CIAR is 2.84% and the pre-merger CPE -3.90%. Neither is significant. Additionally, for the full sample, the median CIAR is -1.55%, and the median CPE is -7.35%. These results might suggest that on average, the full sample of targets is performing worse than the market, yet they are performing around average for their industry.

Next in Table 2.7, the sample of 236 target firms is subdivided into two groups based on if turnover of the top manager takes place or not. The target firm is classified as disciplinary if the pre-merger top manager departs within the year +1 through +2 time frame and nondisciplinary if the top manager remains on through the end of year +2. The disciplinary sub-sample includes 171 target firms and the nondisciplinary sub-sample includes 65 target firms. The differences in the two samples are substantial. The pre-merger CIAR for the disciplinary sample is -3.92% (p-value = .50), and for the nondisciplinary sample, 20.67% (p-value = .04). The difference between the CIARs of the two samples is 24.59% (p-value = .03). Additionally, the difference in the medians is highly significant.[27] These results indicate that during the pre-merger period, firms in the disciplinary sample performed worse or about as well as their industry average, but firms in the nondisciplinary sample performed significantly better than other firms in their industry did. Also, firms in the nondisciplinary sample performed significantly better than firms in the disciplinary sample.

The CPEs present a similar story, but with diminished significance. The pre-merger CPE for the disciplinary sample is -11.30% (p-value = .25), and for the nondisciplinary

sample, 15.64% (p-value = .29). The difference between the CPEs of the two samples is 26.94% (p-value = .14), and almost significant.

The results suggest that, on average, the target of a merger classified as nondisciplinary, out-performed other firms in its industry and performed at least as well as the market during the pre-merger period. On average, targets in mergers classified as disciplinary, performed almost as well as other firms in their industry and at best, equal to the market during the pre-merger period. The nondisciplinary targets significantly out-performed the disciplinary targets as measured by industry-adjusted returns and performed at least as well as the disciplinary on a risk adjusted market model basis, if not better.

These results suggest that there is support for both the discipline hypothesis and the performance evaluation hypothesis during the 1990s market for corporate control. The support for the discipline hypothesis is particularly interesting due to the fact that a vast array of anti-takeover mechanisms was in place. These anti-takeover mechanisms allowed managers' absolute deterrence if they wanted to fend off any unwanted, possibly disciplinary takeovers.

2.5.3.2 Disciplinary vs. Nondisciplinary: Replacement Classification

Additional classifications of disciplinary and non-disciplinary are considered to check the robustness of the results. First, the 236 target firms are subdivided into two groups based on the origins of the replacement manager. The takeover is classified as disciplinary if an outsider replaces the pre-merger top manager within the year +1 through +2 time frame. The takeover is classified as nondisciplinary if there is no

[27] Wilcoxon-Z test was used to test for a difference in the medians. (P-value = .03)

turnover in the top manager or if an insider replaces the pre-merger top manager within the year +1 through +2 time frame. The disciplinary sub-sample includes 157 target firms and the nondisciplinary sub-sample includes 79 target firms.

The results are almost identical to the original classification of disciplinary and nondisciplinary, both in magnitude and statistical significance. The differences in the two samples are substantial. The pre-merger CIAR for the disciplinary sample is -5.00% (p-value = .42), and for the nondisciplinary sample, 18.43% (p-value = .04). The difference between the CIARs of the two samples is 23.43% (p-value = .03). Additionally, the difference in the medians is highly significant.[28] The pre-merger CPE for the disciplinary sample is -10.13% (p-value = .33), and for the nondisciplinary sample, 8.34% (p-value = .52). The difference between the CPEs of the two samples is 18.67% (p-value = .29). Therefore, by reclassifying targets based on the replacement manager's origin, the basic results remain the same.

2.5.3.3 Disciplinary vs. Nondisciplinary: Reason Classification

Finally, the 236 target firms are subdivided into two groups based on the stated reason for the top manager's departure. The takeover is classified as disciplinary if the reason indicated for the top manager turnover was change in control, fired for poor performance, policy differences, early retirement, other personal or business interests, took similar position with another firm, or no reason given. The takeover is classified as nondisciplinary if there is no turnover in the top manager or if the reason indicated for the top manager turnover was normal retirement, accepted higher level position in the firm, accepted lower level position in firm, died, or accepted directorship in the firm. The

disciplinary sub-sample includes 128 target firms and the nondisciplinary sub-sample includes 108 target firms.

The results are similar to the original classification of disciplinary and nondisciplinary, but not as significant. The pre-merger CIAR for the disciplinary sample is -3.73% (p-value = .60), and for the nondisciplinary sample, 10.64% (p-value = .14). The difference between the CIARs of the two samples is 14.37% (p-value = .16). Additionally, the difference in the medians is significant at the 11% level. The pre-merger CPE for the disciplinary sample is -9.00% (p-value = .44), and for the nondisciplinary sample, 2.19% (p-value = .85). The difference between the CPEs of the two samples is 11.18% (p-value = .50).

By reclassifying targets based on the stated reasons for the managers departure, resulted in weakening the significance of the results. However, this classification scheme is the one with the most uncertainty. The first scheme is based on whether there was a turnover event or not. The second classification scheme was based on the origin of the replacement manager. Both of these are know with certainty. The scheme based on reason classification is not so certain. There could be misrepresentation in the press release for various reasons. Also, the reason classification itself is some what arbitrary and perhaps flawed for the purpose of my investigation.

2.5.3.4 Pre-Takeover Performance: Sub-Periods

The CIARs and CPEs for the Turnover Classification are broken down into sub-periods in Table 2.8. The full -48 to -3 months period, prior to the merger announcement, is listed then broken down into sub-periods of -48 to -25, -24 to -3, and -12 to -3 months

[28] Wilcoxon-Z test was used to test for a difference in the medians. (P-value = .03)

prior to the merger announcement. Considering the CIARs, most of the under-performance of the disciplinary sample takes place in the -24 to -3 sub-period, with a value of -9.11%, and statistically significant. As for the nondisciplinary sample, the out-performance seems to take place evenly throughout both the -48 to -25 and -24 to -3 sub-periods. The most substantial and significant difference between the disciplinary and nondisciplinary samples takes place in the -24 to -3 sub-period. The disciplinary sample under-performs within its industry by -9.11% and the non-disciplinary sample out-performs other firms in its industry by 9.75%, with a difference of 18.87%. The difference is statistically significant at the 1% level.

The same results play out when considering the CPE sub-periods. Over the entire time period, the nondisciplinary sample out-performs the disciplinary sample, however the difference in only significant at the 14% level. The disciplinary sample is under-performing the market very significantly throughout the -24 to -3 sub-period. Whereas, it seems the nondisciplinary targets are performing as well as the market over the same period.

Overall, in considering the sub-periods of pre-merger performance, it seems most of the action is in the -24 to -3 months prior to the merger announcement. The disciplinary sample is significantly under-performing within its industry, significantly under-performing the market, significant under-performing the nondisciplinary within the respective industries, and most likely under-performing the nondisciplinary sample on a risk-adjusted basis. The nondisciplinary sample is out-performing within its industry, performing at least as well as the market, significantly out-performing the disciplinary sample within the respective industries, and probably out-performing the disciplinary

sample on a risk-adjusted basis. The results provide more definition as to when the pre-performance of targets is significant. The results also add supporting evidence to the existence of the discipline hypothesis and the performance evaluation hypothesis.

2.6 Additional Investigations

2.6.1 Hostile versus Friendly Takeovers

Much has been made about the hostile vs. friendly characterization of takeovers in economic literature. As discussed earlier, the 1990s could be characterized as a 'friendly' corporate control environment. With the advent of poison pills, new corporate anti-takeover amendments, control share laws, and business combination laws, absolute deterrence by management opposed to a takeover became a real possibility. Therefore, within this environment not many hostile takeovers were initiated. In the initial population of all firms delisted due to merger from 1990 to 1997, only 8.8% of the 374 mergers were classified as being hostile. In my final sample of 236 targets, only 9.3%, or 22 were classified as hostile.

Morck, Shleifer, and Vishy (1988), in a sample of large firm targets in the early 1980s find that the targets of hostile takeovers are poor performers, and therefore disciplinary control events. In my sample of targets, 171 are classified as disciplinary and 65 as non-disciplinary. Of those classified as disciplinary, 10.5% (18) are classified as hostile and of those classified as nondisciplinary, 6.2% (4) are classified as hostile. The difference between the two is not significant (p-value = .30).

To test the conjecture of Morck, Shleifer, and Vishy (1988) that the motive for a takeover determines its character, Martin and McConnel (1991) sub-divide their sample

based on the hostile and friendly classification of the takeover. They classify 50% of the takeovers in their sample as hostile. They find no evidence that the hostile classification distinguishes between disciplinary and nondisciplinary takeovers and no evidence that the pre-takeover performance of targets of disciplinary takeovers differ from the pre-takeover performance of nondisciplinary takeover targets. I find the same results as Martin and McConnell (1991). In calculating pre-merger CIARs and CPEs over the 48 to 3 month time period prior to the merger announcement, I find no significant statistics and no significant differences based on the hostile (22 targets) and friendly (214 targets) classification of targets as disciplinary (hostile) and nondisciplinary (friendly).[29]

2.6.2 Additional Characteristics

Some additional data was collected on the top manager, the firm, and the takeover event itself. For the set of all target firms, I searched the *Disclosure* and *Lexus-Nexis* databases for the proxy statement for the year ending prior to the date the merger was announced. If a proxy was not found in the above database searches the *Securities and Exchange Commissions Q-file Data Corporation* database on microfiche was used. I collected detailed data from the proxy statement concerning the top manager's characteristics, management compensation, firm characteristics, and board structure of the firm.

Tables 2.9 and 2.10 report the values for the variables based on the disciplinary / nondisciplinary split, the split on whether the top manager remains with the firm through year +2 or departs. The first group of variables concerns the top manager's

[29] CIARs: hostile 1.8% (p-value = .88), friendly 2.9% (p-value = .59), difference 1.1% (p-value = .95). CPEs: hostile -22.5% (p-value = .32), friendly -2.0% (p-value = .82),

characteristics. The age of the manager does not seem to be an important factor with both the remaining and departing top managers being approximately 55 years old. The average tenure of the remaining top manager is greater by almost 2 years, but is not quite statistically significant. The remaining manager owns on average 8.37% of the target firm, while the departing top manager owns on average only 5.87%, however this difference is not quite statistically significant. [30] Cash compensation is statistically different between the remaining and departing managers. The remaining managers make significantly more cash compensation than the leaving managers.[31] The difference is in the annual cash salary of the top managers, not the annual cash bonuses. This higher cash compensation for the remaining top managers probably has to do with the fact that remaining top managers are out-performing other firms within their industry as reported earlier in the CIAR analysis.

Additionally, certain firm financial characteristics were collected from the *COMPUSTAT* database. Firm value, total assets and free cash flow to assets were collected for the fiscal year ending prior to the announcement date of the merger for each target. Return on equity is averaged for three fiscal years prior to the announcement date of the target's merger. All financial variables utilized in this essay are described in detail in the Appendix 3.

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difference 20.6% (p-value = .47).

[30] For each top manager I record their ownership of common stock and options exercisable within 60 days. The sum of common stock and options exercisable within 60 days is commonly referred to as beneficial ownership. This data is collected from proxy statements immediately prior to the announcement of the merger.

[31] For each top manager I record annual cash salary and annual cash bonuses. This data is collected from proxy statements immediately prior to the announcement of the merger. All cash compensation statistics are stated in a 1996 dollars.

Size does not seem to be a factor in determining whether a manager remains or departs after a merger. Both total firm value and total assets are not significantly different. Free cash flow to assets and return on equity are however significantly different. Both are significantly higher in the firms in which the top manager remains. These results collaborate with previous CIARs and CPEs results reported earlier. This evidence reinforces the fact that the firms in which the top manager remains are performing significantly better then in firms where the top manager departs.

I also collected public bond ratings from *Standard and Poor's COMPUSTAT* and *Moody's* for all target firms. I created a dummy variable for non-investment grade public debt. [32] This statistic tells a similar story about performance; the firms in which the top manager departs have significantly more non-investment grade bond ratings than firms do where the top manager remains.

Additional firm characteristics were collected from the target firms' proxy statement immediately preceding the announcement of the merger. These characteristics include staggered voting for board members, the existence of two or more classes of voting stock, and board member composition.

Staggered voting for board members is significantly different between the two sub-samples. Whereas 63.1% of the targets where the manager remains have staggered voting, only 48.5% of the targets where the manager departs. This is possibly evidence that staggered voting is an effective anti-takeover measure. The fact that what I have called disciplinary targets have significantly less instances of staggered voting suggests that top managers, who under-perform are less protected from unwanted takeovers then those firms who out-performed and were classified as nondisciplinary. However, a more

appropriate assessment would be to compare under-performing, non-targets with the under-performing disciplinary targets. The dummy variable for the existence of two or more classes of voting shares, another anti-takeover measure, is not significantly different between the two sub-samples.

Morck , Shleifer, and Vishny (1989) find evidence that corporate boards do not always do an adequate job of removing unresponsive managers. They document that takeovers come to play a role in replacing managers who the board is unable or unwilling to discipline. For this reason I investigate the composition of the board. It could be that certain types of board members are at fault for not disciplining non-value maximizing managers.

For each firm I classify all directors as either *inside*, *outside* or *gray directors*.[33] *Inside directors* are individuals who were full time employees of the firm or one of its subsidiaries along with their immediate family members. *Gray directors* are individuals who were retired employees of the firm, non-immediate family members of employees of the firm and individuals where the proxy statement indicated an ongoing business relationship between the individual and the firm. Most people classified as gray outsiders were retired employees of the firm or family members. All other directors are defined to be *outside directors*.

If the board was not performing its monitoring job on an ongoing basis, a reason could be differences in the board composition between the target firms whose manager departs and the target firms whose manager remains. In particular, a board dominated by insiders might be less inclined to remove the top manager when the manager is

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[32] I used the methodology outlined by Billett (1996).
[33] I follow the methodology outlined by Hadlock, Houston, and Ryngaert (1999).

performing poorly. Alternatively, a board dominated by outsiders might not be doing an adequate job of removing poor performing top managers. Therefore, there might be some difference in the composition of the board based on post-merger disciplinary turnover activity.

The percent of board members classified as insiders is not significantly different. Therefore is seems that insiders do not have any undo influence in turnover events. However, there is some difference in those board members classified as outsiders and gray. There are on average about 4% more outsiders on boards in firms where the manager departs post-merger. This would suggest that outside board members have not been doing an adequate job of monitoring poor-performing managers pre-merger. This result is not very strong with significance only at the 13% level. The percent of gray board members is significantly different. Targets where the manager remains have 7.4% gray directors vs. 4.2% in targets where the manager departs. This difference could suggest that gray directors do a good job of replacing poorly performing top managers at when needed. Additionally, since the targets in which the top manager remains are better performing firms, maybe the influence of gray directors has something to do with performance. However, given an average of 10 board members, this difference is roughly 1/3 of a board member so not much can really be made of this result.

The final statistics in Table 2.10 have to do with characteristics of the takeover itself. The takeover was classified as being hostile or not, whether multiple bidders existed, whether the offer was for all cash, whether the acquisition was by a foreign firm, and whether the acquirer had a toehold of less than 50% prior to the merger.[34] Only one of

[34] Firms with toehold of equal to or greater than 50% were dropped from the entire analysis in this essay.

these variables was significantly different between the two sub-samples, the toehold variable. 12.3% of the targets in which the manager remained had a toehold in the target pre-merger vs. only 2.9% of the targets in which the manager departed.

2.7 Conclusion

Most of the existing literature concerning corporate control transactions has focused on the merger activity pre-1990s. However, substantial evidence suggests that the current corporate control market differs in important ways from this earlier period. In particular, today's takeovers appear to be friendlier in nature and focused more on expanding markets compared to the hostile transactions and downsizing that characterized the 1980s. The relative "friendliness" of these more modern transactions is likely driven by the adoption of anti-takeover provisions and legal developments in the late 1980s. This essay attempts to explore the role a merger plays in disciplining or rewarding the performance of top managers in this new environment.

I study a sample of 236 industrial NYSE/AMEX firms acquired from 1990 to 1997. Following the methodology of Martin and McConnell (1991), I document evidence supporting the discipline hypothesis and the performance evaluation hypothesis. Initially, I document that turnover in the top manager increases significantly following a merger. The characteristics of top manager turnover following a merger are also significantly different then top manager turnover pre-merger. In particular, post-merger turnover is characterized as being more disciplinary than pre-merger turnover. For example, 75.4% of post-merger top manager turnover is classified as disciplinary, vs. 42.5% pre-merger,

based on the stated reasons for departure. Additionally, the top manager is replaced with an outsider 92.4% of the time post-merger, vs. 37.3% pre-merger.

Next I document the relationship between pre-merger performance and top manager turnover. The results suggest that, on average, the target of a merger classified as nondisciplinary, out-performed other firms in its industry and performed at least as well as the market during the pre-merger period. On average, targets in mergers classified as disciplinary, performed almost as well as other firms in their industry and at best, equal to the market during the pre-merger period. The nondisciplinary targets significantly out-performed the disciplinary targets as measured by industry-adjusted returns and performed at least as well as the disciplinary on a risk adjusted market model basis, if not better.

I also provide additional evidence on which top managers remain and which depart. Variables such as free cash flow to assets, return on equity and a non-investment grade bond rating all point to manager who remain out-perform managers who departed.

Taken as a whole, my findings suggest that there is support for both the discipline hypothesis and the performance evaluation hypothesis. These are similar results to Martin and McConnell's (1991) results based on data from 1954 to 1984. The support for the discipline hypothesis is particularly interesting due to the fact that a vast array of anti-takeover mechanisms were in place during my sample period. These anti-takeover mechanisms allowed managers' absolute deterrence if they wanted to fend off any unwanted, possibly disciplinary takeovers. Yet even with these in place, it appears takeovers are still needed to perform these disciplinary actions to maximize shareholder value.

APPENDIX 1

TABLES OF ESSAY 1

Table 1.1
Merger Classification: Hostile vs. Non-Hostile

Total successfully merged firms from a population of firms available from 1990 to 1997. Population includes 1.) firms with *CRSP* and *COMPUSTAT* data available, 2.) NYSE and AMEX listed firms only, 3.) United States firms only, 4.) ADR's deleted, 5.) limited partnerships deleted, 6.) SIC's 4900 - 4999 (utilities) and SIC's 6000 - 67999 (financials) deleted. Hostile classification is based on Morek, Shleifer, and Vishny (1988) methodology.

	Successfully Merged Firms				
	Total	Hostile	Non-hostile	Hostile	Non-hostile
1990	43	4	39	9.3%	90.7%
1991	16	2	14	12.5%	87.5%
1992	23	2	21	8.7%	91.3%
1993	26	2	24	7.7%	92.3%
1994	40	3	37	7.5%	92.5%
1995	58	8	50	13.8%	86.2%
1996	70	5	65	7.1%	92.9%
1997	98	7	91	7.1%	92.9%
Total	374	33	341	8.8%	91.2%

Table 1.2
Hypotheses Tested

Hypothesized sign of logit regression coefficients. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired.

	Mgrl. Ownership	Tenure of CEO	% of BOD that are Outsiders	Outside director Ownership	Unaff. Blkhldg. Ownership	Liquidity
Fin. Incentive	positive					
Entrenchment	negative	negative				
Discipline	negative		negative	negative	negative	positive
Monitoring	negative		positive	positive	positive	
Irrelevance	no relation	no relation	no relation	no relation	no relation	no relation
G-Resource						
Size						
Mkt-to-Book						
Price-Earnings						

Table 1.2, Continued
Hypotheses Tested

Hypothesized sign of logit regression coefficients. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired.

	Leverage	ROE	Growth-Resource Indicator	Book Value Total Assets	Market/ Book Ratio	Price/ Earnings Ratio
Fin. Incentive						
Entrenchment						
Discipline	negative	negative				
Monitoring						
Irrelevance	no relation	no relation	no relation	no relation	no relation	no relation
G-Resource			positive			
Size				negative		
Mkt-to-Book					negative	
Price-Earnings						positive

Table 1.3
Population Summary, 1990 to 1997

Population of firms available from 1990 to 1997. Population includes 1.) firms with *CRSP* and *COMPUSTAT* data available, 2.) NYSE and AMEX listed firms only, 3.) United States firms only, 4.) ADR's deleted, 5.) limited partnerships deleted, 6.) SIC's 4900 - 4999 (utilities) and SIC's 6000 - 67999 (financials) deleted.

	Total listed firms			Firms delisted due to merger			Mergers as a % of total listed firms		
	NYSE	AMEX	Tot.	NYSE	AMEX	Total	NYSE	AMEX	Tot.
1990	1244	400	1644	28	15	43	2.3%	3.8%	2.6%
1991	1283	400	1683	11	5	16	0.9%	1.3%	1.0%
1992	1345	417	1762	12	11	23	0.9%	2.6%	1.3%
1993	1396	431	1827	19	7	26	1.4%	1.6%	1.4%
1994	1438	428	1866	25	15	40	1.7%	3.5%	2.1%
1995	1518	445	1963	44	14	58	2.9%	3.1%	3.0%
1996	1495	437	1932	51	19	70	3.4%	4.3%	3.6%
1997	1422	414	1836	78	20	98	5.5%	4.8%	5.3%
Avg.	1393	422	1814	34	13	47	2.4%	3.1%	2.6%
				268	106	374	Total Mergers		
						32	Incomplete data avail.		
						342	Final Sample		

Table 1.4
Univariate Results

Summary statistics comparing a sample of 342 firms that were acquired between 1990 – 1997 with a match sample of 342 firms that were not acquired. (p-values in parenthesis)

Characteristic	Matched Firms (Mean)	Target Firms (Mean)	Diff. (Mean)	t-test	
Firm Financial Characteristics					
total assets	1,010	1,078	-68	-0.364 (.716)	
market value of equity at e.o.c.y.	835	927	-93	-0.535 (.593)	
total firm value	1,343	1,477	-134	-0.513 (.608)	
sales growth	.27	.15	.12	2.203 (.028)	**
liquidity	-.12	-.15	.04	2.261 (.024)	**
leverage	.94	-.79	1.73	0.803 (.423)	
growth-resource dummy	.23	.26	-.04	-1.065 (.287)	
% return on equity	-.07	.06	-.12	-1.685 (.093)	
market to book ratio	2.97	6.13	-3.16	-0.919 (.359)	
price to earnings ratio	8.95	13.02	-4.08	-0.699 (.485)	
nppe to total assets	.36	.35	.01	0.488 (.626)	
fcf to total assets	.05	.07	-.01	-1.085 (.278)	
2 classes of voting stock exist	.18	.09	.09	3.484 (.001)	***
Board of Directors Characteristics					
% of board that are insiders	.35	.29	.06	4.508 (.000)	***
% of board that are outsiders	.62	.66	-.04	-3.237 (.001)	***
% of board that are grey	.03	.05	-.01	-2.073 (.029)	**

Table 1.4, Continued
Univariate Results

Summary statistics comparing a sample of 342 firms that were acquired between 1990 – 1997 with a match sample of 342 firms that were not acquired. (p-values in parenthesis)

Characteristic	Matched Firms (Mean)	Target Firms (Mean)	Diff. (Mean)	t-test
# of other directorships held by inside directors	.78	.78	-.01	-0.063 (.950)
# of other directorships held by outside directors	1.55	1.70	-.15	-1.499 (.134)
total number of directors	8.35	8.51	-.16	-0.769 (.442)
staggered voting for BOD	.48	.47	.01	0.229 (.819)

*** denotes significance at the 1.0% level
** denotes significance at the 5.0% level
* denotes significance at the 10.0% level

Table 1.4, Continued
Univariate Results

Summary statistics comparing a sample of 342 firms that were acquired between 1990 – 1997 with a match sample of 342 firms that were not acquired. (p-values in parenthesis)

Characteristic	Matched Firms (Median)	Target Firms (Median)	Diff. (Median)	t-test	
Firm Financial Characteristics					
total assets	238	344	-106	-2.094 (.036)	**
market value of equity at e.o.c.y.	203	227	-24	-0.748 (.455)	
total firm value	326	440	-115	-1.239 (.215)	
sales growth	.11	.08	.03	2.380 (.017)	**
liquidity	-.14	-.16	.03	2.321 (.020)	**
leverage	.48	.45	.02	-0515 (.607)	
growth-resource dummy	.00	.00	.00	-1.065 (.287)	
% return on equity	.09	.08	-.01	0.099 (.921)	
market to book ratio	1.92	1.78	.14	1.740 (.083)	
price to earnings ratio	13.26	12.99	.27	0.612 (.541)	
nppe to total assets	.29	.29	.00	0.505 (.613)	
fcf to total assets	.08	.08	.00	0.170 (.865)	
2 classes of voting stock exist	.00	.00	.00	3.456 (.001)	***
Board of Directors Characteristics					
% of board that are insiders	.33	.25	.08	4.477 (.000)	***
% of board that are outsiders	.63	.67	-.04	-3.277 (.001)	***
% of board that are grey	.00	.00	.00	-2.517 (.012)	**

Table 1.4, Continued
Univariate Results

Summary statistics comparing a sample of 342 firms that were acquired between 1990 – 1997 with a match sample of 342 firms that were not acquired. (p-values in parenthesis)

Characteristic	Matched Firms (Median)	Target Firms (Median)	Diff. (Median)	t-test
# of other directorships held by inside directors	.40	.33	.07	0.550 (.583)
# of other directorships held by outside directors	1.29	1.5	-.22	-1.250 (.211)
total number of directors	8.00	8.00	.00	-1.317 (.188)
staggered voting for BOD	.00	.00	.00	0.229 (.819)

*** denotes significance at the 1.0% level
** denotes significance at the 5.0% level
* denotes significance at the 10.0% level

Table 1.5
Univariate Results, Continued

Summary statistics comparing a sample of 342 firms that were acquired between 1990 – 1997 with a match sample of 342 firms that were not acquired. (p-values in parenthesis)

Characteristic	Matched Firms (Mean)	Target Firms (Mean)	Diff. (Mean)	t-test	
Ownership Characteristics (% of stock owned)					
inside directors	.16	.11	.05	3.773 (.000)	***
outside directors	.03	.03	.00	-0.265 (.791)	
grey directors	.00	.01	.00	-1.546 (.118)	
all directors	.19	.15	.05	3.149 (.002)	**
executives	.02	.02	.01	2.290 (.022)	**
inside directors / executives	.18	.12	.06	4.183 (.000)	***
outside and grey directors	.03	.04	-.01	-0.867 (.386)	
directors / executives	.22	.16	.05	3.516 (.001)	***
top executive	.10	.07	.03	2.940 (.003)	***
CEO/C/P	.13	.09	.05	3.618 (.000)	***
top 5 salaried executives	.14	.10	.04	3.412 (.001)	***
unaff. blockholders	.19	.27	-.09	-5.064 (.000)	***
aff. blockholders	.03	.02	.01	0.851 (.395)	
unaff. blockholders not represented on BOD	.13	.14	.00	-0.393 (.695)	
unaff. blockholders represented on BOD	.05	.13	-.08	-5.158 (.000)	***
all outside directors / unaff. blockholders	.22	.31	-.09	-5.326 (.000)	***

Table 1.5, Continued
Univariate Results, Continued

Summary statistics comparing a sample of 342 firms that were acquired between 1990 – 1997 with a match sample of 342 firms that were not acquired. (p-values in parenthesis)

Characteristic	Matched Firms (Mean)	Target Firms (Mean)	Diff. (Mean)	t-test	
inside directors / aff. blockholders	.19	.13	.06	3.905 (.000)	***
inside directors / executives / aff. blockholders	.21	.15	.06	4.296 (.000)	***
CEO Characteristics					
age of top executive	55.67	54.85	.82	1.221 (.222)	
# of years the top exec. served as a director	13.01	11.08	1.93	2.494 (.013)	**
Indicator: one man management team	.52	.56	.00	-1.070 (.284)	
cash compensation top executive (000)	686	715	-29	-0.505 (.614)	

*** denotes significance at the 1.0% level
** denotes significance at the 5.0% level
* denotes significance at the 10.0% level

Table 1.5, Continued
Univariate Results, Continued

Summary statistics comparing a sample of 342 firms that were acquired between 1990 – 1997 with a match sample of 342 firms that were not acquired. (p-values in parenthesis)

Characteristic	Matched Firms (Median)	Target Firms (Median)	Diff. (Median)	t-test	
Ownership Characteristics (% of stock owned)					
inside directors	.07	.04	.04	4.583 (.000)	***
outside directors	.01	.00	.00	0.550 (.582)	
grey directors	.00	.00	.00	-2.205 (.027)	**
all directors	.11	.06	.05	3.648 (.000)	***
executives	.01	.01	.00	1.617 (.106)	
inside directors / executives	.09	.05	.04	4.645 (.000)	***
outside and grey directors	.01	.01	.00	-0.317 (.751)	
directors / executives	.13	.08	.05	3.845 (.000)	***
top executive	.03	.02	.01	3.422 (.001)	***
CEO/C/P	.05	.03	.03	3.301 (.001)	***
top 5 salaried executives	.06	.04	.03	4.150 (.000)	***
unaff. blockholders	.13	.21	-.08	-4.678 (.000)	***
aff. blockholders	.00	.00	.00	0.755 (.450)	
unaff. blockholders not represented on BOD	.00	.00	.00	-0.743 (.458)	
unaff. blockholders represented on BOD	.00	.00	.00	-5.059 (.000)	***
all outside directors / unaff. blockholders	.16	.25	-.09	-5.193 (.000)	***

Table 1.5, Continued
Univariate Results, Continued

Summary statistics comparing a sample of 342 firms that were acquired between 1990 – 1997 with a match sample of 342 firms that were not acquired. (p-values in parenthesis)

Characteristic	Matched Firms (Median)	Target Firms (Median)	Diff. (Median)	t-test	
inside directors / aff. blockholders	.10	.05	.05	4.413 (.000)	***
inside directors / executives / aff. blockholders	.12	.07	.05	4.547 (.000)	***
CEO Characteristics					
age of top executive	55.00	55.00	.00	1.000 (.318)	
# of years the top exec. served as a director	9.00	8.00	1.00	2.906 (.004)	***
Indicator: one man management team	1.00	1.00	.00	-1.070 (.284)	
cash compensation top executive (000)	491	518	-27	-0.778 (.436)	

*** denotes significance at the 1.0% level
** denotes significance at the 5.0% level
* denotes significance at the 10.0% level

Table 1.6
Multivariate Logit Results (% of stock owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(1)	(2)	(3)
% of stock owned by:			
inside directors / executives		-1.159 **	-1.152 **
		(.013)	(.013)
all outside directors			1.558
			(.131)
outside directors		0.990	
		(.366)	
gray outside directors		5.318 *	
		(.099)	
unaffliated blockholders		1.490 ***	1.495 ***
		(.000)	(.000)
affliated blockholders		-0.249	-0.248
		(.804)	(.805)
inside directors / executives / affiliated blockholders			
all outside directors / unaffilitate blockholers			
% return on equity	0.125		
	(.188)		
growth-resource dummy	0.182		
	(.325)		
sales growth	-0.407 *		
	(.070)		
liquidity	-1.044 **		
	(.021)		
leverage	-0.026		
	(.440)		
ln of assets	0.092		
	(.079)		
market to book ratio	0.004		
	(.643)		

Table 1.6, Continued
Multivariate Logit Results (% of stock owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(1)	(2)	(3)
price to earnings ratio	0.001		
	(.520)		
constant	-0.639 *	-0.212	-0.212
	(.046)	(.205)	(.204)
Pseudo R^2	0.026	0.038	0.036
Number of observations	653	684	684
Prob > chi^2	(.003) ***	(.000) ***	(.000) ***

*** denotes significance at the 1.0% level

** denotes significance at the 5.0% level

* denotes significance at the 10.0% level

Table 1.6, Continued
Multivariate Logit Results (% of stock owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(4)	(5)
% of stock owned by:		
inside directors / executives		-0.945 **
		(.049)
all outside directors		2.093 *
		(.062)
outside directors		
gray outside directors		
unaffliated blockholders		1.524 ***
		(.000)
affliated blockholders		-0.688
		(.519)
inside directors / executives	-1.029 **	
/ affiliated blockholders	(.018)	
all outside directors	1.482 ***	
/ unaffilitate blockholers	(.000)	
% return on equity		0.183 *
		(.086)
growth-resource dummy		0.215
		(.258)
sales growth		-0.435 *
		(.068)
liquidity		-1.215 ***
		(.010)
leverage		-0.023
		(.509)
ln of assets		0.070
		(.231)
market to book ratio		0.001
		(.900)

Table 1.6, Continued
Multivariate Logit Results (% of stock owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(4)	(5)
price to earnings ratio		0.001
		(.408)
constant	-0.204	0.801 *
	(.220)	(.061)
Pseudo R^2	0.036	0.059
Number of observations	684	653
Prob > chi^2	(.000)	(.000)

*** denotes significance at the 1.0% level

** denotes significance at the 5.0% level

* denotes significance at the 10.0% level

Table 1.7

Hypotheses Results

Hypothesized sign of logit regression coefficients. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired.

	Mgrl. Ownership	Tenure of CEO	% of BOD that are Outsiders	Outside director Ownership	Unaff. Blckhldg Ownership	Liquidity
Fin. Incentive	positive					
Entrenchment	negative	negative				
Discipline	negative		negative	negative	negative	positive
Monitoring	negative		positive	positive	positive	
Irrelevance	no relation	no relation	no relation	no relation	no relation	no relation
G-Resource						
Size						
Market-to-Book						
Price-Earnings						
Results of study	negative	negative	positive	positive	positive	negative

Table 1.7, Continued
Hypotheses Results

Hypothesized sign of logit regression coefficients. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired.

	Leverage	ROE	Growth-Resource Indicator	Book Value Total Assets	Market/ Book Ratio	Price/ Earnings Ratio
Fin. Incentive						
Entrenchment						
Discipline	negative	negative				
Monitoring						
Irrelevance	no relation	no relation	no relation	no relation	no relation	no relation
G-Resource			positive			
Size				negative		
Market-to-Book					negative	
Price-Earnings						positive
Results of study	no relation	no relation	no relation	no relation	no relation	no relation

Table 1.8
Multivariate Logit Results (% of votes owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(1)	(2)	(3)
% of votes owned by:			
inside directors / executives		-1.031 **	-1.022 **
		(.012)	(.012)
all outside directors			1.350
			(.191)
outside directors		0.750	
		(.497)	
gray outside directors		5.105	
		(.105)	
unaffliated blockholders		1.396 ***	1.400 ***
		(.000)	(.000)
affliated blockholders		0.011	0.018
		(.989)	(.983)
inside directors / executives / affiliated blockholders			
all outside directors / unaffilitate blockholers			
% return on equity	0.125		
	(.188)		
growth-resource dummy	0.182		
	(.325)		
sales growth	-0.407 **		
	(.070)		
liquidity	-1.044 **		
	(.021)		
leverage	-0.026		
	(.440)		
ln of assets	0.092		
	(.079)		
market to book ratio	0.004		
	(.643)		
price to earnings ratio	0.001		
	(.520)		

Table 1.8, Continued
Multivariate Logit Results (% of votes owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(1)		(2)	(3)
constant	-0.639	*	-0.188	-0.189
	(.046)		(.252)	(.249)
Pseudo R^2	0.026		0.036	0.034
Number of observations	653		684	684
Prob > chi^2	(.003)		(.000)	(.000)

*** denotes significance at the 1.0% level
** denotes significance at the 5.0% level
* denotes significance at the 10.0% level

Table 1.8, Continued
Multivariate Logit Results (% of votes owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(4)	(5)
% of votes owned by:		
inside directors / executives		-0.897 **
		(.029)
all outside directors		1.934 *
		(.086)
outside directors		
gray outside directors		
unaffliated blockholders		1.450 ***
		(.000)
affliated blockholders		-0.352
		(.690)
inside directors / executives / affiliated blockholders	-0.867 ** (.023)	
all outside directors / unaffilitate blockholers	1.380 *** (.000)	
% return on equity		0.178 *
		(.094)
growth-resource dummy		0.196
		(.301)
sales growth		-0.433 **
		(.067)
liquidity		-1.240 ***
		(.010)
leverage		-0.024
		(.491)
ln of assets		0.070
		(.228)
market to book ratio		0.002
		(.869)
price to earnings ratio		0.001
		(.419)

Table 1.8, Continued
Multivariate Logit Results (% of votes owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(4)	(5)
constant	-0.185	-0.768 *
	(.259)	(.068)
Pseudo R^2	0.032	0.058
Number of observations	684	653
Prob > chi^2	(.000)	(.000)

*** denotes significance at the 1.0% level
** denotes significance at the 5.0% level
* denotes significance at the 10.0% level

Table 1.9
Additional Multivariate Logit Results (% of stock owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(1)	(2)
% of stock owned by:		
inside directors / executives	-0.903 *	-1.007 **
	(.070)	(.035)
all outside directors	2.018 *	2.037 *
	(.074)	(.070)
unaffliated blockholders	1.520 ***	
	(.000)	
affliated blockholders	-0.772	-0.663
	(.477)	(.533)
unaffliated blockholders		1.904 **
repr. on board		(.000)
unaffliated blockholders		0.564
not repr. on board		(.374)
% return on equity	0.183 *	0.180 *
	(.081)	(.098)
growth-resource dummy	0.212	0.202
	(.269)	(.290)
sales growth	-0.485 *	-0.453 *
	(.053)	(.059)
liquidity	-1.118 **	-1.220 ***
	(.019)	(.010)
leverage	-0.026	-0.022
	(.448)	(.528)
ln of assets	0.101	0.056
	(.115)	(.341)
market to book ratio	0.002	0.001
	(.839)	(.905)
age of top executive	-0.006	
	(.588)	
# of years the top exec.	-0.078	
served as a director	(.447)	
Indicator: one man	0.089	
top management team	(.646)	
# of other directorships	-0.156 *	
held by inside directors	(.068)	

Table 1.9, Continued
Additional Multivariate Logit Results (% of stock owned)

Logit results relating the likelihood a firm is acquired to a set of explanatory variables including ownership structure and financial characteristics of a firm. Dependent variable = 1 if the firm was acquired and 0 if it was not acquired. (p-values in parenthesis)

	(1)	(2)
# of other directorships held by outside directors	0.043 (.552)	
constant	-0.486 (.481)	-0.605 (.167)
Pseudo R^2	0.066	0.064
Number of observations	651	653
Prob > chi^2	(.000)	(.000)

*** denotes significance at the 1.0% level
** denotes significance at the 5.0% level
* denotes significance at the 10.0% level

Table 1.10
Hypotheses Results Compared

	Essay 1 (2000)	**Mikkelson & Partch (1990)**	**Song & Walkling (1993)**
Sample Years	1990 - 1997	1972 - 1983	1977 - 1986
Sample Notes	No financials or utilities	No financials or utilities	No financials or utilities
Fin. Incentive	no evidence	no evidence	no evidence
Entrenchment	*evidence*	no evidence	*evidence*
Discipline	no evidence	n.a.	n.a.
Monitoring	*evidence*	n.a.	n.a.
Irrelevance	no evidence	*evidence*	no evidence
G-Resource	no evidence	n.a.	n.a.
Size	n.a.	*evidence*	*evidence*
Mkt-to-Book	no evidence	n.a.	no evidence
P / E	no evidence	n.a.	no evidence

Table 1.10, Continued
Hypotheses Results Compared

	Palepu (1986)	**Shiv. (1993)**	**Hadlock et. all (1999)**
Sample Years	1971 - 1979	1980 - 1988	1982 - 1992
Sample Notes	No financials or utilities	hostile targets only	banks only
Fin. Incentive	n.a.	no evidence	no evidence
Entrenchment	n.a.	*evidence*	*evidence*
Discipline	n.a.	no evidence	no evidence
Monitoring	n.a.	*evidence*	no evidence
Irrelevance	no evidence	no evidence	no evidence
G-Resource	*evidence*	n.a.	n.a.
Size	*evidence*	n.a.	no evidence
Mkt-to-Book	no evidence	*evidence*	n.a.
P / E	no evidence	n.a.	n.a.

APPENDIX 2

TABLES OF ESSAY 2

Table 2.1
Merger Classification: Hostile vs. Non-Hostile

Total successfully merged firms from a population of firms available from 1990 to 1997. Population includes 1.) firms with *CRSP* and *COMPUSTAT* data available, 2.) NYSE and AMEX listed firms only, 3.) United States firms only, 4.) ADR's deleted, 5.) limited partnerships deleted, 6.) SIC's 4900 - 4999 (utilities) and SIC's 6000 - 67999 (financials) deleted. Hostile classification is based on Morek, Shleifer, and Vishny (1988) methodology.

	Successfully Merged Firms				
	Total	Hostile	Non-hostile	Hostile	Non-hostile
1990	43	4	39	9.3%	90.7%
1991	16	2	14	12.5%	87.5%
1992	23	2	21	8.7%	91.3%
1993	26	2	24	7.7%	92.3%
1994	40	3	37	7.5%	92.5%
1995	58	8	50	13.8%	86.2%
1996	70	5	65	7.1%	92.9%
1997	98	7	91	7.1%	92.9%
Total	374	33	341	8.8%	91.2%

Table 2.2
Population Summary, 1990 to 1997

Population of firms available from 1990 to 1997. Population includes 1.) firms with *CRSP* and *COMPUSTAT* data available, 2.) NYSE and AMEX listed firms only, 3.) United States firms only, 4.) ADR's deleted, 5.) limited partnerships deleted, 6.) SIC's 4900 - 4999 (utilities) and SIC's 6000 - 67999 (financials) deleted.

	Total listed firms			Firms delisted due to merger			Mergers as a % of total listed firms		
	NYSE	AMEX	Tot.	NYSE	AMEX	Total	NYSE	AMEX	Tot.
1990	1244	400	1644	28	15	43	2.3%	3.8%	2.6%
1991	1283	400	1683	11	5	16	0.9%	1.3%	1.0%
1992	1345	417	1762	12	11	23	0.9%	2.6%	1.3%
1993	1396	431	1827	19	7	26	1.4%	1.6%	1.4%
1994	1438	428	1866	25	15	40	1.7%	3.5%	2.1%
1995	1518	445	1963	44	14	58	2.9%	3.1%	3.0%
1996	1495	437	1932	51	19	70	3.4%	4.3%	3.6%
1997	1422	414	1836	78	20	98	5.5%	4.8%	5.3%
Avg.	1393	422	1814	34	13	47	2.4%	3.1%	2.6%
				268	106	374	Total Mergers		
						113	Incomplete data avail.		
						25	>50% toehold		
						236	Final Sample		

Table 2.3
Top Manager Turnover for Target Firms: Turnover Frequency, 1990 - 1997

Frequency distribution of changes in the top manager, either CEO or President, for the 5 years prior to the announcement of the takeover and for the 2 years following completion of the takeover of 236 targets over the period 1990 - 1997.

Time Period Relative to Takeover	Rate (Number) of Change(s) in the Top Manager
Year -5	8.1% (19)
Year -4	10.6% (25)
Year -3	14.0% (33)
Year -2	13.6% (32)
Year -1	10.6% (25)
Year +1	69.5% (161)
Year +2	8.1% (19)

Note: Years -5 through -1 are the years preceding the announcement of the merger. Year +1 begins with the announcement of the merger and ends 12 months after the completion of the merger. Year +2 begins 1 year after the completion of the merger and continues for 12 months. The turnover rate is calculated by the number of top manager changes in a year divided by the sample size, 236.

Table 2.4
Top Manager Turnover for Target Firms: Reasons for Turnover, 1990 - 1997

Frequency distribution of reasons for departures of the top managers in 236 successful takeover targets, pre and post merger as indicated in *Dow Jones Interactive*. Pre-merger includes years -5, -4, -3, -2, and -1. Post-merger includes years +1 and +2. Post-merger only includes managers that were in place in the target at the time of the announcement of merger.

	Percent (Number) of Top Managers Departing	
Reason Cited	**Pre-merger (5 years)**	**Post-merger (2 years)**
Normal retirement	26.9% (36)	7.6% (13)
Accepted high-level position in firm (mainly chairman)	22.4% (30)	7.0% (12)
Accepted lower-level position in firm	3.7% (5)	4.7% (8)
Died	2.2% (3)	0.0% (0)
Accepted directorship in firm	2.2% (3)	5.3% (9)
Total Non-disciplinary	57.5% (77)	24.6% (42)
Change in control	3.0% (4)	39.2% (62)
Fired, poor performance cited	3.7% (5)	1.2% (2)
Policy difference	0.7% (1)	0.6% (1)
Early retirement	1.5% (2)	0.0% (0)
Other personal or business interests	22.4% (30)	9.4% (16)
Took similar position with another firm	5.2% (7)	25.7% (44)
No reason given	6.0% (8)	2.3% (4)
Total Disciplinary	42.5% (57)	75.4% (129)
Total	100% (134)	100% (171)

Table 2.5
Top Manager Turnover for Target Firms: Replacement Manager Origin, 1990 - 1997

Frequency distribution of top managers arriving at 236 successful takeover target firms classified according to previous affiliation. Pre-merger includes years -5, -4, -3, -2, and -1. Post-merger includes years +1 and +2. Post-merger only includes managers that were in place in the target at the time of the announcement of merger. (p-values in parenthesis for difference)

	Total Number Of Changes In Top Manager	Percent (Number) Of Top Managers Replaced By: Outsider	Insider
Pre-merger	134	37.3% (50)	62.7% (84)
Post-merger	171	92.4% (158)	7.6% (13)
Difference		55.1% (.00)***	-55.1% (.00)***

***indicates significantly different from zero at the 0.01 level.

Note: An outsider is an individual who was not employed by the target firm at the time he assumed the top manager position. An insider is an individual who was employed by the target firm at the time he assumed the top manager position.

Table 2.6
Turnover Characteristics: Pre-merger vs. Post-merger

Turnover characteristics of the top manager turnover at 236 successful takeover target firms. Pre-merger includes years -5, -4, -3, -2, and -1. Post-merger includes years +1 and +2. Post-merger only includes managers that were in place in the target at the time of the announcement of merger. (p-values in parentheses)

	Top Manager Turnover		
	Pre-merger (N = 134)[a]	Post-merger (N = 171)[a]	Difference
Age of departing top manager	57.93	55.50	2.43 (.01)**
Age of replacement top manager	50.47	52.76	-2.29 (.01)**
Age differential (departing minus replacement)	7.56 (.00)***	2.73 (.00)***	4.84 (.00)***
Tenure of departing top manager	9.78 (.00)***	9.25 (.00)***	.53 (.63)
Top manager remains with firm after turnover event (includes different position with firm, director, and chairman)	.3209 (.00)***	.0290 (.02)**	.2930 (.00)***
Regime change. Dummy variable = 1 if both the titles of CEO and chairman turnover concurrently, 0 otherwise.	.4104 (.00)***	.8953 (.00)***	-.4849 (.00)***
Top manager held both titles CEO and Chairman before turnover event. Dummy variable = 1 if manager holds both titles, 0 otherwise.	.6716 (.00)***	.6802 (.00)***	-.0086 (.87)

[a] Not every pre-merger statistic has 134 observations and not every post-merger statistic has 171 observations due to missing data.

***indicates significantly different from zero at the 0.01 level.
** indicates significantly different from zero at the 0.05 level.
* indicates significantly different from zero at the 0.10 level.

Table 2.7
Pre-Takeover Cumulative Abnormal Returns for Disciplinary and Nondisciplinary Takeover Targets

Cumulative average industry-adjusted returns (CIAR) and cumulative average prediction errors (CPE) over months -48 through -3 relative to the announcement of the takeover of 236 successful takeover target firms classified according to turnover in the top manager during the 2 years following completing of takeovers occurring between 1990 and 1997. The top manager is defined as the individual occupying the CEO position, or, if the firm does not have a CEO position, the presidency. (p-values in parentheses)

Sample	Number Of Firms	CIAR (%)	CPE (%)
Full sample of takeover targets	236	2.84	-3.90
		(.60)	(.75)
Turnover Classification			
Takeover targets with turnover in the top manager	171	-3.92	-11.30
		(.50)	(.25)
Takeover targets without turnover in the top manager	65	20.67	15.64
		(.04)**	(.29)
Difference		24.59	26.94
		(.03)**	(.14)
Replacement Classification			
Takeover target with top manager replaced by an outsider	157	-5.00	-10.13
		(.42)	(.33)
Takeover target with no turnover or top manager replaced by an insider	79	18.43	8.54
		(.04)**	(.52)
Difference		23.43	18.67
		(.03)**	(.29)
Reason Classification			
Takeover targets with reasons indicated as disciplinary.	128	-3.73	-9.00
		(.60)	(.44)
Takeover targets with no turnover in top manager or turnover with reasons indicated as nondiscp.	108	10.64	2.19
		(.14)	(.85)
Difference		14.37	11.18
		(.16)	(.50)

***indicates significantly different from zero at the 0.01 level.
** indicates significantly different from zero at the 0.05 level.
* indicates significantly different from zero at the 0.10 level.

Table 2.8
Cumulative Industry-Adjusted Returns and Cumulative Average Prediction Errors for Various Time Periods Relative to the Merger Announcement.

(p-values in parentheses)

Time Period	CIAR (in percent)			CPE (in percent)		
	Discp. Sample (N=171)	Non-Discp. Sample (N=65)	Diff.	Discp. Sample (N=171)	Non-Discp. Sample (N=65)	Diff.
-48 to -3	-3.92	20.67	24.59	-11.29	15.65	26.94
	(.50)	(.04)**	(.03)**	(.25)	(.28)	(.14)
-48 to -25	6.03	10.92	4.61	0.57	12.05	11.48
	(.22)	(.11)	(.62)	(.94)	(.21)	(.37)
-24 to -3	-9.11	9.75	18.87	-11.10	4.11	15.20
	(.03)**	(.13)	(.01)**	(.04)**	(.58)	(.12)
-12 to -3	-3.58	3.80	7.39	-6.24	-1.12	5.11
	(.16)	(.36)	(.13)	(.04)**	(.80)	(.36)

***indicates significantly different from zero at the 0.01 level.
** indicates significantly different from zero at the 0.05 level.
* indicates significantly different from zero at the 0.10 level.

Table 2.9
Post-merger: Top Manger Remains or Departs

Top manager characteristics and firm financial characteristics at 236 successful takeover target firms. Targets are sub-divided base on if the top manager (immediately preceding the merger) remains on with the new firm or departs post-merger. Post-merger includes years +1 and +2. (p-values in parentheses)

	Target Firm's Top Manager Remains (N = 65)	Target Firm's Top Manager Departs (N = 171)	Difference
Top Manager Characteristics			
Age, pre-merger	55.66	55.12	.54 (.73)
Tenure, pre-merger	10.91	8.98	1.93 (.18)
% of targets stock owned	8.37	5.87	2.49 (.14)
Cash compensation (1996 dollars)	937,729.6	707,264.3	230,465.3 (.09)*
Annual salary, pre-merger (1996 dollars)	608,245.6	448,975.9	159,269.7 (.03)**
Annual bonus, pre-merger (1996 dollars)	324,415.0	244,694.2	79,720.7 (.42)
Target Firm Financial Characteristics			
log of total firm value (1997 dollars)	5.47	5.32	.15 (.56)
log of total assets (1997 dollars)	5.81	5.73	.08 (.73)
free cash flow to assets	.0879	.0694	.0184 (.09)*
return on equity (3 year average)	.0898	-.0252	.1150 (.09)*
dummy variable = 1 if firm has a investment grade bond, 0 otherwise	.5380	.7250	-.1870 (.01)***

***indicates significantly different from zero at the 0.01 level.
** indicates significantly different from zero at the 0.05 level.
* indicates significantly different from zero at the 0.10 level.

Table 2.10
Post-merger: Top Manger Remains or Departs, Continued

Firm characteristics and takeover characteristics at 236 successful takeover target firms. Targets are sub-divided based on if the top manager (immediately preceding the merger) remains on with the new firm or departs post-merger. Post-merger includes years +1 and +2. (p-values in parentheses)

	Target firm's Top Manager Remains (N = 65)	Target firm's Top Manager Leaves (N = 171)	Diff.
Target Firm Other Characteristics			
Staggered voting for board of directors exists. Dummy variable = 1 if staggered voting, 0 otherwise	.6308	.4854	.1454 (.04)**
Two classes of voting shares exist. Dummy variable = 1 if two classes exist, 0 otherwise	.1385	.0994	.0390 (.39)
% of board members classified as insiders	29.2	28.6	.006 (.79)
% of board members classified as outsiders	63.4	67.2	-3.8 (.13)
% of board members classified as gray	7.4	4.2	3.2 (.01)**
Takeover Characteristics			
Takeover classified as hostile. Dummy variable =1 if hostile, 0 otherwise.	.0615	.1053	-.0437 (.30)
Takeover with multiple bidders. Dummy variable = 1 if multiple bidders, 0 otherwise	.1846	.2398	-.0552 (.37)
Foreign acquisition in the U.S. Dummy variable = 1 if acquirer is a foreign firm, 0 otherwise.	.1230	.1400	-.0170 (.73)
Toe holder. Dummy variable = 1 if acquiring firm had toe hold prior to merger announcement	.1231	.0292	.0938 (.00)***

***indicates significantly different from zero at the 0.01 level.
** indicates significantly different from zero at the 0.05 level.
* indicates significantly different from zero at the 0.10 level.

APPENDIX 3

DATA DEFINITIONS

DATA DEFINITIONS

Stock ownership - is the sum of shares owned and options exercisable within 60 days for all classes of stock, divided by total shares outstanding by the firm.

Voting ownership - is the sum of shares owned and options exercisable within 60 days multiplied by votes per share held, divided by the total votes outstanding by the firm.

Firm value (M&P) = (current liabilities + long-term debt + book value of prefered stock + market value of common stock). This variable is adjusted to 1997 dollars.

Total Assets (Palepu) = ln of (total assets). This variable is adjusted to 1997 dollars.

Leverage (M&P) = (current liabilities + long-term debt)/(total debt + book value of preferred stock + market value of common stock)

Net plant, property and equipment to total assets (Billett) = (net plant, property and equipment)/(total assets)

Free cash flow to assets (Billett) = (operating income before depreciation - interest expense - common stock dividends - preferred stock dividends - taxes + deferred taxes)/(total assets)

Leverage (Palepu) = (long-term debt)/(book value of common equity + book value of preferred stock); The leverage ratio is computed for three fiscal years prior to the observation year, and the average is used as the leverage variable. If three years are not available, two years is averaged. If two years is not available, one year is utilized.

Liquidity (Palepu) = (cash and cash equivalents - current liabilities)/(total assets); The liquidity ratio is computed for three fiscal years prior to the observation year, and the average is used as the liquidity variable. If three years are not available, two years is averaged. If two years is not available, one year is utilized.

Sales growth (Palepu) = $[(\text{net sales}_t)/(\text{net sales}_{t-1}) - 1]$; Sales growth is computed for three fiscal years prior to the observation year, and the average is used as the sales growth variable. If three years are not available, two years is averaged. If two years is not available, one year is utilized.

Growth resource dummy (Palepu) - The growth-resource dummy is a 0/1 variable defined on the basis of its three variables; growth, liquidity and leverage defined above. The dummy variable is assigned a value one if the firm has a combination of either low growth-high liquidity-low leverage or high growth-low liquidity-high leverage. The dummy is set to zero for all the other combinations. Each of the three variables growth, liquidity and leverage is defined as 'high' if its value for a firm is larger than the average for all the *COMPUSTAT* firms, otherwise, it is defined as 'low'.

Return on equity (Palepu) = (income before extraordinary adjustments)/(book value of common stock + book value of preferred stock); The return on equity ratio is computed for three fiscal years prior to the observation year, and the average is used as the return on equity variable. If three years are not available, two years is averaged. If two years is not available, one year is utilized.

Market value of common equity = (common stock price at end of calendar year*common shares outstanding). This variable is adjusted to 1997 dollars.

Market-to-book value (Palepu) = (common stock price at end of fiscal year * common shares outstanding)/(book value of common equity)

Price-to-earnings ratio (Palepu) = (common stock price at end of fiscal year)/[(net income)/(common shares outstanding)]

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