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EXIT, VOICE, AND THE ROLE OF CORPORATE DIRECTORS: EVIDENCE FROM ACQUISITION PERFORMANCE[*]

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ABSTRACT

This study examines the characteristics of corporate boards for 82 companies that attempted 106 acquisitions during the 1980s. We find that poor performance is more likely to occur in firms that have recently experienced higher turnover of outside and lower turnover of inside directors. Companies with smaller boards, more reputable members, and larger equity holdings also outperform their counterparts. Our results do not suggest that more outside directors lead to improved performance but that outsiders often resign from the board instead of challenging managerial shirking. We conclude that choosing directors for whom board exit is costly will better reduce agency costs.

EXIT, VOICE, AND THE ROLE OF CORPORATE DIRECTORS:
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I. Introduction

The growing consensus among financial economists is that entrenched managers are able to destroy substantial portions of shareholder wealth without being personally disciplined by internal or external control devices. Jensen (1989) goes so far as to suggest that the public corporation has "outlived its usefulness in many sectors of the economy." The failure of the board of directors to effectively oversee and enforce the internal control devices that constrain managerial behavior is commonly blamed.[1] Much recent theoretical and empirical work has focused upon the role of corporate directors and the optimal corporate board structure.

In the seminal work on this topic, Fama (1980) and Fama and Jensen (1983a, 1983b) note that outside directors are most commonly expert decision makers in other organizations. Their performance as outside directors serves as a signal of their abilities in other similar capacities. One of the central underpinnings of Fama and Jensen's (1983a) theory is that outside directors are motivated to protect shareholders' interest because of their desire to protect their professional reputations. They conclude that outside directors are generally effective in controlling agency problems.

Other researchers, including Mace (1971), Nader et al. (1976), and Eisenberg (1976) have suggested that in many corporations outside directors are not able to actively voice their opinions but are dominated by inside directors. In an apparent conversion, Jensen (1989, 1993) has also

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[1] For example see Jensen (1993) and the forty-four references cited on this point therein.

become a proponent of the view that internal corporate control devices headed by the board of directors most commonly fail to protect shareholder interests. This is attributed to something called *board culture*. Arguably, competent outside directors in such an environment will resign in order to protect their reputations as opposed to making futile attempts at change. Using survey data, Mace (1971) confirms that most directors choose to resign rather than challenge the status quo. Similarly, he finds that those directors whom do choose to challenge management's position are often forced to resign.

This study adds to the existing literature by including previous director turnover as an explanatory variable in addition to using the traditional measures of corporate board structure. The inclusion of director turnover allows us to both better measure board culture and more to confirm the Mace's (1971) survey evidence concerning director exit. The failure of past studies to consider such factors may have resulted in imprecise measurements of the relation between board structure and firm performance. There is a great deal of difference between the importance of outsider influence across two boards with the same percentage of outsiders when the outsiders on one board have several years of experience and the outsiders on the other are a part of a process that sees outside directors moving through a revolving door.

II. The Theory of Corporate Boards

A. Theory

The traditional view of corporate boards and the view put forth by Fama and Jensen (1983a, 1983b) places directors at the top of the corporate hierarchy. These directors are responsible for representing and protecting the interests of shareholders. The existing empirical

research concerning the role of corporate boards has focused heavily on board composition. Focusing only on the number and not the influence of outside directors may ignore many key aspects of corporate boards. Fama and Jensen (1983a) note that insiders are necessary because they have valuable firm specific informa tion and knowledge.[2] Direct contact between corporate officers and outside directors in an environment where they see themselves as equals increases the likelihood that valuable information will be passed between the two groups. This makes it easier for both insiders and outsiders to better evaluate the CEO's performance. Mace (1971) and Hermalin and Weisbach (1988) also suggest that this allows the outside directors to better evaluate the potential pool of future CEOs.

Outside directors are most invaluable in their ability to provide advice and counsel to managers in the Fama and Jensen model . Many corporate decisions concern business and legal situations that outsiders may have previously encountered. This advice and counsel can be the difference between good and bad decisions. When managers fail to consider the opinions of these outsiders they are apt to make poor decisions. It is when outside directors will not or can not function in this role that the internal corporate control mechanism is most likely to fail.

One of the principal proposi tions of the original thesis propounded by Fama (1980) and Fama and Jensen (1983a, 1983b) is that outside board members are profession al referees. In this view these referees have the incen tive to develop reputations as experts in decision control. Their performance as outside directors serves as a signal of their abilities in other similar capacities. This reputational capital provides the outside directors with an incentive to monitor managerial

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[2] We define inside directors to include officers, former officers, and those directors with family ties to officers or former officers throughout our analysis. This also seems to be consistent with the usage of these terms by Fama and Jensen (1983a).

decisions. Outside directors do not want to be associated with poorly performing companies.

Fama and Jensen (1983a) suggest that outside directors who find themselves in a non-receptive environment should be able to replace the top manager with another who does allow the outsiders to function in their proper roles. They note that:

"The decision process of some open corporations seem to be dominated by an individual manager, generally the chief executive officer. In some cases, this signals the absence of separation of decision management and decision control, and, in our theory, the organization suffers in the competition for survival. We expect, how ever, that the apparent dominance of some top managers is more often due to their ability to work with the decision control systems of their organization than to their ability to suppress diffuse and separate decision control. In any case, the financial press regularly reports in stances where apparently dominant executives are removed by their boards."

This view assumes that outside directors not only have the ability but also the motivation to replace managers who do not act in the best interest of shareholders even when inside directors are present on the board.

Mace (1971), Eisenberg (1976), Nader et al. (1976) have a different view of the corporate board. They claim that far too often outside directors do not have the power to discipline managers and that internal corporate control devices most commonly fail to protect shareholders . Even Jensen (1989, 1993) has seemingly changed his view of the effectiveness of corporate boards. Consider the following statements from Jensen (1993):

"The recent GM board revolt (as the press has called it) which resulted in the firing of CEO Robert Stempel exemplifies the failure, not the success, of GM's gover nance system."

"The job of the board is to hire, fire, and compensate the CEO, and to provide high-level counsel. Few boards in the past decades have done this job well in the ab sence of external crisis."

This view suggests that outside directors are not able to influence the decision making process. Much of the support for this view is based upon Mace's (1971) finding and the commonly held

view that that outside directors are much more likely to resign from the corporate board than they are to challenge managers.

Such a view is normally accompanied by an insistence that regulations requiring boards to be composed of a majority of outsiders will lead to improved corporate performance. Jensen (1993) suggests that the CEO should be the only insider serving on the board of directors. Advocates of outsider dominated boards claim that it is impossible for upper level managers who work directly under the CEO to critically evaluate and monitor the CEO. This view assumes that outsider dominated boards are more likely to challenge and discipline the CEO that does not act in the best interest of the shareholders.

We are left with two competing views of board composition. We find ourselves more in agreement with the view originally put forth by Fama and Jensen that both inside and outside directors have important roles to play on the board of directors. At the same time we are in complete agreement with Mace's findings and Jensen's (1993) suggestion that outside directors are more likely to resign from the board than challenge managers. We do not think that these two views are necessarily inconsistent. The problem is one of confusing board composition with board culture or environment.

The suggestion that giving outsiders more power and influence is likely to solve agency problems ignores a key point. Outsiders that *do* have the ability to change the status quo may also choose to resign. The personal cost of resigning is usually minimal for outside directors. In most cases resignation allows the outside director to distance himself from the poorly managed companies before his reputation is tarnished. The personal cost to any given outside director of opposing the CEO even when the opposition is successful and beneficial to shareholders is likely to be far

greater than the personal benefits of this action or the costs of exit. Jensen (1993) suggests that even in situations where outside direc tors have the necessary influence to alter managerial decisions, the existence of a board culture that emphasizes "polite ness and courtesy at the expense of truth and frankness" often leads capable outsiders to resign in order to avoid open conflict. Therefore, one would expect that even powerful outsiders may choose to resign from the boards of poorly managed companies.

Only when it is costly for the outsider to resign would we expect the outsider to fight the CEO. Otherwise outsiders have very little incentive to rock the boat even if they can mount a successful challenge to managers. For example, Roe (1991, 1994) suggests that the failure of the corporate governance process in the United States is due to government restrictions preventing those with the greatest incentives to monitor managers from serving on the board of directors. Corporate debtholders are essentially precluded from serving on the boards of directors leaving only large equity holders as the outside directors with incentive s to challenge managers . However, large equity holders are not very common and when they do exist it is in the form of banks, insurance companies, mutual funds or pension funds that are severely restricted by a myriad of state and federal regulations from entering the corporate governance process. In most cases these institutions are precluded from or severely restricted in obtaining a controlling interest or appointing someone to the board of directors of corporations in which they have an interest. [3]

Upon fully considering this notion of board culture one comes to the conclusion that in order to protect their individual reputations directors are often more likely to exit the boards of poorly performing compa nies than they are to attempt to sanction the managers of these corpora-

tions. This is likely to be true for both insider and outsider dominated boards. Hence, it is not clear

 whether these directors resign because they are powerless to change the status quo, because they have no incentives to change the status quo, or because they were forced to resign after challenging the status quo. It may be that voluntary "exit" is a less costly option than is "voice" for many of these outside directors.[4] If so, then drastically altering board composition without providing outside directors with the proper incentives may have little effect on director behavior.

It is also possible that resignation from a board of directors may leave the director with an unwanted reputation as a quitter, or as being weak. Our argument is that the alternatives of staying on the board will do more damage to a director's reputation than resigning especially in those cases where corporate insiders are fully entrenched. If the director believes managers are not acting in the best interest of the shareholders, then remaining on the board without challenging managers may lead to a greater loss of reputational capital than resignation. Likewise, staying on the board and challenging managers is costly, may not be successful, may lead to forced resignation, and may leave the director with a reputation as a troublemaker. The evidence from Mace (1971) suggests that most outside directors believe resignation is the least costly alternative.

B. Predictions of the Theory

We empirically investigate this notion of board culture by including director turnover as a measure of corporate board structure. If outside directors leave—either voluntarily or by forced resignation—when they become critical of management's decisions and if they are more critical

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[3] See Roe (1994) for a detailed discussion of how both state and federal regulations restrict these potentially powerful players in the corporate control process from becoming active participants.
[4] See Hirschman (1970) for a further discussion of the role of exit and voice.

when management is making bad decisions, then poorly performing companies should have a history of higher outside director turnover. The prediction is that performance should be associated with board culture as measured by the turnover of outside directors. Unfortunately, such evidence will not allow us to determine whether the turnover is the result of managerial dominance or a lack of incentives for outside directors. Nonetheless, a straightforward prediction of the theory is that performance and turnover should be inversely related.

The reason for this poor performance is a break down in the internal governance stru cture of the firm. Managerial decisions are not being properly monitored or challenged by outside directors. Ultimately this will lead to decisions being made that are not in the best interest of the shareholders. Competent outside directors recognize such problems and choose to either voluntarily exit the board or are forced out when they seek change. Given their unique positions, we expect that outside directors recognize the quality of existing and potential future decisions before the market reaches a similar conclusion. The prediction is that director turnover precedes but does not necessarily cause poor performance. However, to the extent that a revolving door of outside monitors further weakens internal control devices it may also increase both the speed and the magnitude of managerial shirking.

Inside directors also have an incentive to depart firms where their advice is being ignored but most of the insiders' reputational capital is firm specific. This makes it likely that the unsatisfied inside directors are more likely to work within the firm to make changes. We also realize that successful insiders often develop CEO specific capital in addition to firm specific capital. In these cases insiders are more likely to quietly follow the CEO's leadership rather than mount opposition. If this is the case, then insider tenure is more likely to be a signal of manage rial

entrenchment than of manage rial ability and is more likely to be associated with poor performance. In either case we think it is important to treat insider and outsider turnover separately.

It is possible that once board culture is controlled for that board composition is still important. Insider dominated boards are likely to be a sign of managerial entrenchment but they need not be. We do not discount the fact that inside directors have an incentive not to cross the CEO but we also recognize that insiders often have strong incentives to point out the CEO's shortcomings. Fama (1980) has also pointed out that because a large part of the inside directors' human capital is firm specific they have a vested interest in making sure that the compa ny is not mismanaged. Because of their firm specific human capital, it is often more costly for insiders to exit the board under similar circumstance s. Therefore, we expect that in some cases inside directors are more likely to put forth resistance to the CEO than are the outside direc tors.[5]

Alchian and Demsetz (1972) stress the fundamental question: Who monitors the monitor? Proposals like those of Jensen (1993), advocating outsider dominated boards, ignore the fact that outside directors have no less incentive to expropriate share holder wealth than do inside directors . Giving outsiders complete domination over the decision control function may also allow these outsiders to assume control of the decision manage ment function as well. In order for a board with a large number of insiders to sacrifice sharehold er welfare one must assume that it is costly

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[5] Again what is important is that outsiders interest be closely aligned with those of shareholders so that have an incentive to promote those policies that best serve shareholders and that managers must consider these opinions. If this is accomplished it is not obvious that outsiders must compose a majority of the outside directors. For example, Ramirez (1995) reports that *J.P. Morgan & Co.*, arguably one of the single most important sources of capital for industrial firms in the late nineteenth and early twentieth century, normally requested only a single seat on the board of directors in which they made large capital investments.

and difficult for share holders to replace the board. If this is the case, then it is equally difficult for shareholders to replace a board composed mainly of outsiders.

Control of the board of directors effectively leads to control over the corporation. It is important to remember that inside and outside directors are both just agents of the shareholders and that as such agency problems arise with each group. Problems will arise any time the fortunes of the agents are sufficiently separated from those of the shareholders. What is important is that the corporate board structure allows for both an adequate discussion of performance and the removal of the decision makers that do not act in the best interest of the shareholders. We expect that this is most likely to be true when *both* insiders and outsiders are present. Our expectation is that there will be only a weak correlation between board composition in this dimension and corporate performance in our context.

Prior research seems to support this prediction. For example, Hermalin and Weisbach (1991) find little evidence of a relationship between board composition and firm performance. Byrd and Hickman (1992) find that the relation between acquisition performance is a positive but decreasing function of the percentage of outsiders on the board suggesting an optimal board structure composed of both inside and outside directors. Brickley, Coles, and Terry (1994) find a similar relationship between board composition and the announcement effects of poison pill adoption. Klein (1998a, 1998b) argues that non-independent directors serve specific roles on the board that can not be duplicated by outsiders and finds no systematic relationship between specific measures of director type and firm performance. In the only study to date that examines performance over a long horizon, Bhagat and Black (1998) find a *negative* relationship between the increased presence of outside directors and firm performance. Similarly, Agrawal and Knoeber

(1998) find that Tobin's Q is negatively related to the percentage of the board composed of outside directors for a large sample of firms even after controlling for interrelationships with other control variables. These results do not imply that board composition is not important or that outsiders can not play a valuable role in protecting shareholder interests. The problem is that simple board composition measures do not fully capture outsider influence.

In addition to director turnover, the theory suggests a number of other variables to measure corporate board structure. For a number of reasons, we expect that board size may negatively affect corporate performance. All of the problems of team production come into play in large group settings. The effect of any given director's influence on the board is small which creates an incentive for the directors to shirk. Johnson (1990), Lipton and Lorsch (1992), and Jensen (1993) argue that reducing board size will make it easier for outsiders to participate in an active manner. Yermack (1996) and Eisenberg, Sundgren and Wells (1998) find that firm performance is negatively related to board size; Bhagat and Black (1998) find that the relationship is weaker and not statistically significant over the long term.

As director ownership increases, we expect that firm perfor mance will improv e because director's interests become more closely aligned with those of share holders. Larger equity holdings also make it more costly for these directors to exit the board instead of voicing their opinions. However, Demsetz (1983), Demsetz and Lehn (1985), and Fama and Jensen (1983a) have pointed that significant levels of director ownership, especially among inside directors can also serve to entrench poor managers. Morck, Shleifer, and Vishny (1988), McConnell and Servaes (1990), Hermalin and Weisb ach (1991), and Byrd and Hickman (1992) all find that

performance initially increases but eventually decreases with increased levels of managerial or directorial ownership suggesting some optimal level of ownership .

Board reputation, as measured by the number of other directorships held by board members, is likely to be associated with better performance. More reputable board members should be better board members; firms that are able to attract and keep these directors are more likely to be well managed firms (Kaplan and Reishus (1990), Gilson (1990), and Shivdasani (1993)). We expect corporate performance to be related to corporate board structure in many ways. It is our purpose to attempt and measure to what degree board culture, board composition, board size, director reputation, and director holdings affect corporate performance.

III. Empirical Relationship between Board Structure and Performance

A. The Sample

One of the central problems encountered in examining the impact of corporate board structure is classifying companies as well or poorly managed. We propose to solve this problem by arguing that when a company is the object of a takeover attempt following a history of bad decisions, then it is most likely to be a poorly managed company. Poor performance alone, whether measured by accounting or market returns, is at best a noisy signal of managerial shortcomings. Industry and economy-wide factors outside the control of management affect performance. At the same time, the market for corporate control is not universally directed at sanctioning poor management; a catalyst for takeovers may also be new synergistic association. However, when a corporation becomes a takeover target following a history of poor performance we have a double filter in sifting out bad management.

Mitchell and Lehn (1990) provide a ready-made sample formed along these lines. They report data on acquisition performance for all 1981 Value Line companies for the years 1982-1986. Mitchell and Lehn rank companies by acquisition performance and then examine the sample to see which companies were themselves the object of takeover attempts. Importantly for our research effort, they find that the firms with the lowest stock price returns when they acquired other enterprises were the ones most likely to be sanctioned by the takeover market. From their sample, we can identify a set of firms that are arguably classified as poorly managed and compare these to a set where acquisition performance was exceptionally profitable.

For our purposes, acquisition performance is an excellent measure of overall corporate performance. Since companies are never forced to expand, this managerial decision is purely discretionary and, hence, is the clearest signal of managerial quality. While acquisition performance is a publicly available indication of managerial quality, it is not likely to be the first signal to that effect received by corporate directors. Given that the bad acquisitions decrease the market value of the firm by as much as 23% and by 4.1% on average across the sample it is clear that bad acquisitions impose a significant cost upon sharehold ers. This lack of ability or lack of concern for shareholder wealth on the part of management is surely recognized much earlier by the board members.

The Mitchell and Lehn (19 90) data set includes 401 acquisitions during the years 1982-1986 made by 289 companies tracked by Value Line in 1981. We use a subset of this sample that is broken into two groups, B and G. All of the firms that were the object of takeover attempts and that made acquisi tions with negative stock-price announcement reactions are classified as Group B. This group numbers 50 firms. An equally sized group from the set of firms not the object of

takeover attempts and making the most profitable acquisi tions was formed. These are the best of the good bidder, non-target firms. The set is called Group G. For Group B we were able to get information from the *SEC File* on the board composition at the time of the acquisition announcement for 41 companies and 53 acquisitions. We were able to obtain data for 41 of the Group G firms and 53 acquisitions for a combined sample of 82 firms and 106 acquisitions.

Our sample selection process is not intended to produce a random selection of firms. Our goal is to uncover those characteristics of corporate board structure that distinguish well managed firms from poorly performing firms. Our double filter for choosing the Group B firms coupled with the Group G firms being the most successful acquirers makes it more likely that we have successfully separated the two groups of firms than would the alternative of constructing samples based upon size or industry classification. Having these two separate, distinct groups makes it more likely that we are truly measuring differences between well and poorly governed firms. [6]

Excluded from our sample is a group of firms which made poor acquisition decisions but were not the disciplined by external control forces. This is motivated by our desire to be able to identify a set of firms where the internal control devices have failed. Within this excluded set of firms are some well managed and well governed firms which made a bad decision not indicative of the overall governance of the organization. There are also firms that may have made good acquisition decisions but in so doing revealed other information about the firm that was

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[6] For example, Khorana and Zenner (1998) find that large acquirors in the 1980s were more likely to be firms where executive compensation was positively related to firm size. However, breaking the sample into good bidder and bad bidder groups reveals that post acquisition compensation only increases for the good bidders. Looking at the entire sample suggests that compensation policy may motivate unnecessary corporate growth while directly comparing good and bad bidders makes this hypothesis less likely.

interpreted negatively by the market. [7] Also included are some poorly managed firms where internal corporate governance devices have not broken down completely and managers are effectively disciplined internally. Finally there are some firms which are poorly managed and poorly governed where managers have eluded external discipline as well. The inclusion of such firms would make it difficult to effectively separate those firms where managers have come to dominate the decision making process without shareholder supervision.

Acquisition performance is measured as the three-day, abnormal return cen tered on the day the announcement was carried by the Dow Jones Broadtape. By construction, the acquisition returns vary dramatically between the two groups. Table 1 presents summary statistics on acquisition returns for the entire sample and for each group. Returns for Group G average +5.5 percent for 53 acquisitions; returns for Group B averaged -4.1 percent across 53 purchases[8].

The combined sample is composed of 82 firms from 48 of the 51 Value Line industry categories. Of the 39 Group B firms, eight are in industries not repre sented in Group G. Similarly, nine Group G firms have no matching industries in the Group B set. In general, the firms and acquisitions in this cross section do not seem to be bunched by industry classifica tion.

Table 1 also gives summary statistics for a control variable that repre sents the percentage of the acquisition purchase that is financed by cash. This variable was found to be positively related

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[7] The most likely case would be an acquirer that offers stock as payment. This is likely to be interpreted by the market as suggesting the acquiring firm's managers consider its stock as overvalued. See Asquith et al (1987) for example.

[8] Firms with multiple acquisitions may have both positive and negative returns. We used the average returns across all of their acquisitions in the Mitchell and Lehn data set to classify the firm as Group G or Group B. This results in the possibility of Group G (Group B) having negative (positive) announcement returns.

to acquisition performance by Asquith, Brunner, and Mullins (1987), Travlos (1987) and Mitchell and Lehn (1990). The mean values indicate that Group G firms offer a higher percentage of cash than Group B firms for our sample as well.

To measure the characteristics of the board we examined the proxy statements associated with the election of the board that was seated at the time of the announcement of the acquisition.

When available we also collected information from the proxy statements for the four preceding years in order to compute director turnover. When the proxy statement in the preceding years was not available, we obtained informa tion about director turnover by examining the relevant company data from *Moody's*.

Using the infor mation included in the proxy we define the term *inside director* to include officers and former officers of the company, as well as any director who has family relations with officers and/or former officers of the firm. Our approach differs from that of the existing literature concerning board composition in that we do not include those directors that have business ties or dealings with the firm as an inside direc tors.[9] This approach is motivated primarily due to lack of complete information. For the earliest period of our sample needed to compute director turnover, the proxy statements do not normally contain this information. We must also rely on sources other than the proxy statements to create the series of director turnover when the proxy statement is unavailable. These alternative sources do not allow us to distinguish these affiliated outsiders from independent outsiders. For the more simple measure of board composition, we can and do correctly

identify these gray directors. Unlike a number of other studies we do not find that such a distinction makes a difference for board composition.

B. A Simple Test of the Theory

Table 2 provides the summary statistics for the board size, director tenure, director age, director turnover, board composition, managerial hold ings and other directorships variables. The

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[9] For example see Rosenstein and Wyatt (1990), Baysinger and Butler (1985), and Byrd and Hickman (1992).

results of several of our conjectures are revealed by these simple statistics. Board size varies from 6 to 21. The mean is around 11.6 members. However, the Group B firms have boards that are over 2 members larger on average than the Group G firms. This is consistent with the view that large boards are not as effective as small boards. For the full sample, outsid ers make up 65.1% of the board members. For group G firms this number is slightly lower at 64.6% and slightly higher for Group B firms at 65.6%. These data do not reveal any obvious difference in board composition between well managed and poorly managed companies.

We calculated the percentage of outside directors and inside directors that left the board in each of the four years prior to the takeover announcement. This is our board turnover variable. The average annual turnover of board members for the whole sample is 7.7% for insiders and 7.2% for outsiders. Group G firms and Group B firms have similar rates of turnover for inside directors. *However, the turnover rate of outside directors in Group B firms is much higher than the rate of turnover for outside directors among Group G firms.* Outside directors in poorly managed firms turnover at the rate of 9.1% per year. Only 5.2% of the outsiders on the boards of well managed firms turnover per annum. It seems that outside directors flee the boards of poorly managed companies.

Group G firms have outsiders with higher average ages of about 0.5 years than Group B firms. The average age of insiders is higher in Group B firms by about 1.5 years. The turnover variable suggests that Group G firms have much higher turnover of outsid ers but similar rates of turnover of insiders as Group B firms. The age variables suggest that differences in turnover across the groups are not due to age differences.

The total stock holdings of all the members of the board, that is, the sum of the amounts held by each member averages around 8.7 percent of the total outstanding shares of common stock. It ranges from almost zero to nearly 60 percent. Director holdings on average are approximately 4 percentage points higher in Group G firms than Group B, suggesting a positive relation between holdings and performance. [10]

Table 2 also presents the sample statistics concerning firm size, as measured by equity value, on the last trading day of the calendar year preceding the year of the takeover announcement and past overall performance, as measured by the average annual abnormal return as measured relative to *CRSP* equally weighted market return. The sample statistics show that Group B firms are 60% larger on average and have slightly less negative past abnormal returns. Given that many of the board structure variables are likely to be correlated with past performance and firm size, we attempt to control for these factors later in the paper to ensure that the board structure variables are not a proxy for these observed differences.

C. Cross-tab Analysis

Equally important as to how the board composition variables differ across groups is how acquisition performance varies across the different levels of these variables. In Table 3 we have split the sample into two groups based upon the median value of the composition variable in question and then calculated the summary statistics for acquisition returns across these two groups. Those firms where the percentage of inside directors greater than the median value have mean acquisition returns of 1.0% while those with a lower percentage of insiders have mean

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[10] Mitchell and Lehn (1990) find the stock holdings variable to be positively related to acquisition returns.

returns of 0.3%. However, this difference is not statistically significant. Those firms with greater than the median director holdings have average returns of 1.24% while those with fewer director holdings have returns of only 0.1%. Again this difference is not statistically significant.

Those firms with outside director turnover greater than the median value of our sample experience average acquisition returns of -1.3%. Those firms with lower than the median value of outsider turnover have acquisition returns of 2.7%. This difference is significant at the 1% level. In the case of inside director turnover, both groups have average returns of 0.7% suggesting that outside director turnover has a stronger effect than does inside director turnover in our sample.

Lower than median values of other directorships is associated with average returns of 1.2%, while those firms with higher values of other directorships have average acquisition returns of 0.1%. This difference is not statistically significant. Firms with boards larger than the sample median experience average returns of -0.7%. Firms with smaller boards have significantly higher acquisition returns with an average of 2.0%. In addition to smaller board size being associated with higher acquisition returns, smaller firm size is associated with higher average returns. Firms with market capitalizations greater than the sample median experience average returns of -0.3% while those with smaller capitalizations have returns of 1.6% on average. However, this difference is not statistically significant at conventional levels.

The summary statistics shown in Table 2 and Table 3 support many of our hypotheses. It seems that Group B firms have large boards, higher turnover of outside directors and smaller equity holdings by directors as predicted. The turnover of outsiders stands out especially strong in distinguishing between good and bad corporate performance. Our category of well managed firms has significantly lower outsider turnover than the group classified as poorly managed. Moreover,

outsider turnover effectively splits the sample when we look at performance directly. However, before any strong conclusions can be drawn from these data, multivariate controls are in order.

IV. Multivariate Analysis of Board Composition and Acquisition Returns

A. *Model Specification & Results*

To examine the relation between corporate board structure and firm performance in a multivariate setting , we regress the three-day abnormal return associated with the firm's acquisition announcement on measures of corporate board structure and control vari ables.[11] The board structure variables include board composition, director stockholdings, director turnover, board size, and number of other directorships held. The control variables are the percentage of cash used to finance the acquisition, firm size (equity value), and past overall performance (market returns).

The existing research concerning board composi tion find s differing relations between board composition and perfor mance at different levels of outsider representation using piecewise transformations of the variables and suggests breaking the board composition variable into three different classes representing 0 to 40%, 40% to 60%, and greater than 60% insiders. While we would like to be consistent with these earlier studies, using these breaks with our sample results with exactly two thirds of the observations falling in the 0 to 40% insiders range and only one observation in the upper range. Hence, we choose to break our sample so that a nearly equal number of observations fall into each class. These breaks occur at 27.3% and 40% insiders. The variable *inside directors less than 27.3%* is equal to the percentage of the board composed of

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[11] The three day abnormal return is estimated over the [-1,+1] event window for each firm.

inside directors if this number is less than 27.3% and is equal to 27.3% otherwise. If the percentage of inside directors is greater than 27.3% but less than 40% then the variable *inside directors between 27.3% and 40%* equals the percentage of inside directors less 27.3%. If the percentage of insiders exceeds 40% then this variable equals 12.7%. If the percentage of insiders exceeds 40% then *inside directors greater than 40%* is equal to the percentage of insiders less 40%. Otherwise this variable is equal to zero.

We also consider the relation between ownership levels of the board and firm performance at different levels of ownership using the same piecewise analysis . However, in the case of director holdings we break the sample at director ownership levels of 1 .7% and 6.6%. These breaks are again consistent with a nearly equal number of observations being in each class. The use of piecewise variables allows us to take note of any differences in the effect of changing these variables when the initial starting values may differ. All other variables are as previously defined.

Table 4 presents the estimat es of our model. The principal results are the following :

1. *The percentage of insiders on the board has no impact on managerial performance.*

The board composition dummy variables suggest little relation between insiders as a per-centage of the board and acquisition returns in our sample. [12] While this result is consistent with our general claim that inside and outside directors are both important and that other aspects of board culture are more important than board composition, we can not completely rule out the notion that board composition does matter. In a similar sense, these results do not contradict

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[12] The same is true if we replace the piecewise specification with variables representing the percentage of inside directors and the percentage of inside directors squared.

those of Byrd and Hickman (1992) because we use a different definition of insiders. When they

use a definition of insiders similar to ours they also fail to uncover such a relation. So it is difficult

to determine whether our differing results are unique to our definition of inside directors, the fact

that we control for other aspects of corporate board structure, or due to our different samples.[13]

At all events, there is no evidence presented here to support the claim that packing the board with

outsiders will automatically enhance performance.

2. *Stock holdings of directors has some impact on managerial performance.*

The relation between acquisition performance and director holdings is consistent with our

expectations. At low levels of director ownership firms with director ownership levels of less than

1.7% experience return increases at a rate of 6.4% per 1% increase in director ownership. The

difference is significant at the 1% level. Increasing managerial ownership by 1% when managerial

ownership is between 1.6% and 6.6% leads to a decrease in returns of 0.8 %. This difference is

significant at the 5% level. Increasing managerial ownership when ownership is greater than 6.6%

leads to an increase in acquisition returns but this difference is not significant at conventional

levels. Our results suggest that increased managerial holdings do effectively combat agency prob-

lems but that the effect becomes weaker as director holdings become large enough to allow for

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[13] Again data limitations do not allow us to use the Byrd and Hickman (1992) definition of insiders with our measure of director turnover. However, we did estimate our model using our definition of insiders for the turnover variable and using the definition used by Byrd and Hickman (1992) for board composition purposes. Using breaks of 40% and 60% insiders for the composition variables yields results almost identical to those reported in Table IV suggesting that the different definition of insiders used by us is not the main determinant of our result.

entrenchment. [14] This result is consistent with the results of Morck, Shleifer, and Vishny (1988) and Hermalin and Weisbach (1991).

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[14] Replacing the piecewise variables for board holdings with a director holdings and a director holdings squared yields similar results. The holdings variable is positive and significant while the holdings squared term is negative and significant.

3. *Director turnover is predictably linked to managerial performance.*

The board culture variables follow the outline of the theory. The outsider turnover variable is negatively related to performance and is significant at the 10% level. The insider turnover variable is positively and significant ly related to performance at the 5% level. These variables suggest that well managed compa nies have higher turnover of inside directors and lower levels of outsider turnover and that this effect is still present when other factors are simulta- neously controlled for. These results provide support for our view that outsiders exit the boards of poorly performing companies and that entrenched insiders are likely to be a sign of poor management. These results provide evidence that board culture does matter to firm perfor mance.

4. *Board size is negatively related to performance; director reputation is positively related.*

Larger boards are associated with poorer performance. Increasing board size by one member is associated with a decrease in acquisition returns of one half of one percent. Finally, we also find that the more other directorships held by the board members, the better is performance. This is consistent with the findings of Shivdasani (1993).

5. *The form of financing and past performance are related to acquisition performance in the predicted manner.*

The various control variables reveal their expected relation to performance. Acquisition returns are positive ly related to the percentage of cash used to finance the acquisition. This is consistent with the findings of other research ers. In addition, the control variable for past overall performance is positive and significant suggesting that   current managerial performance is closely

associated with the overall past performance of the firm. The inclusion of this variable also helps us to ensure that the director turnover variable is not simply a proxy for past performance but is at least in part an indication of directors beliefs about managerial ability. [15] While the firm size variable is not significant, its inclusion does help alleviate concerns that the board size variable is actually capturing a firm size effect due to larger firms having larger boards. [16]

Given that directors often leave firms for reasons unrelated to managerial performance and that director turnover is only one potential proxy for board culture, it is asking a lot of the data to reveal a strong relation between turnover and performance. Therefore, to further uncover the relation between director turnover and firm performance we refine our measure of board turnover to emphasize the distinction between high and low values of insider and outsider turnover. The variable *high outsider turnover* is equal to one if outsider turnover is greater than the median sample value for outsider turnover of 6.6% and zero otherwise. Similarly, *high insider turnover* is equal to one if insider turnover is greater than 8.3% and zero otherwise. The results of estimating our model using these alternative turnover variables is presented in column 2 of Table 4.

The use of these dummy variables yields coefficient estimates that are consistent with our theory and are also statistically significant at higher levels of confidence. Firms with higher than

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[15] In addition to the three year average reported here we also used one to five year averages for this variable with little effect on the results reported in the text. We also use annual averages of the firm's past market to book ratio as a proxy for past perfomance. Changes in the measure of past performance have little effect upon the board composition variables. We choose the reported measure because it captures the strongest relation between current managerial performance and past overall performance. Estimates of the alternative specifications are available upon request.

[16] In a further attempt to control for the relationship between board size and firm size we also replaced the board size variable with the residual from the regression of equity value on board size to have a measure of board size that was unrelated to firm size. The results were not meaningfully different from those reported here. Similarly we also used this procedure to control for any relationship between past performance and director turnover. Again the results were little changed. Finally, given the potential for a strong degree of correlation between all of the independent variables used we always tested for multicollinearity but found no evidence that it was a significant problem.

average levels of outside turnover experience announcement returns of 2.8% less than those with below average levels of turnover. Firms with higher than average turnover of inside directors experience acquisition returns of almost 3.9% more than those with lower levels of inside director turnover. The insider and outsider coefficients are significant at the 1% and 4% level respectively.

These results suggest that companies that make bad acquisition decisions are more likely to have experienced higher levels of outside director turnover and lower level of inside director turnover. That higher turnover of outside directors is associated with poorer performance is consistent with the idea that board culture is important and supports the ideas put forth by Mace (1971) and Jensen (1993) that outside directors are more likely to exit companies with bad managers than they are to replace these managers.

The relationship between past performance and turnover merits further elaboration. Those companies where managers do not pay heed to the warnings of outside directors are more likely to have experienced both poor performance and higher director turnover in the past. Our theory suggests that outside directors exit not only because of the poor performance they witness but also because they expect future performance to suffer as dominant insiders continue to ignore their suggestions. The director turnover variable is potentially a reflection of both current performance and the directors' perception of managerial ability. Separating out this effect is important.

If director turnover is solely a reflection of past performance, then it is possible that poorly performing companies have higher turnover of outside directors because these outside directors are responsible for the poor performance or because those firms in trouble require different types of outside directors. Simply finding a negative relationship between past director turnover and

current performance does not allow us to distinguish between our theory and these alternative explanations. [17] However, our control for past performance argues that the turnover result is due to outside directors' beliefs about the quality of management and expected *future* performance. Moreover, our results imply that even if outsiders are replaced because the firm is experiencing financial troubles, their replacement is costly to the firm.

The relation between inside director turnover and performance suggests that poorly managed firms are more likely to have entrenched inside directors that have neither exited the board nor actively voiced their dissatisfaction with the decisions of top management. This result is also consistent with the fact that well managed companies are more likely to produce good managers that are wooed by other companies. Hence, we would expect that well managed companies with properly functioning organizational structures would tend to have higher turnover rates as upper level managers depart to become top managers in other organizations. Again all of this is operating in addition to the financial condition of the firm as measured by its prior stock market performance.

B. Alternative Specifications

Given that our sample selection process leads to a sample composed of the best of the good bidders and the worst of the bad bidders we realize that our results are possibly influenced by outliers in the dependent variable. To account for the possibility that our results are spurious and solely the product of our sample selection technique, we estimate a logit specification of the

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[17] It should also be noted that the regression of turnover on past overall performance yields an adjusted R^2 of zero.

two models presented in Table 4 where the dependent variable is equal to one if the firm is in Group B and zero if the firm is in Group G. The coefficients represent the marginal change in the probability that the firm is a bad bidder based on changes in the independent variables . These results are presented in Table 5.

The main diff erences in the logit specification can be summarized as follows. The outsider director turnover variable becomes more significant in both specifications. The director holdings of less than 1% variable, and the board size variables become less significant but are still significant at conventional levels. The inside director turnover variable is only significant at conventional levels in the second specification. While the past perfor mance, cash financing, and other directorships variables all exhibit the same fundamental influence upon acquisition performance, they are no longer signific ant at conventional levels in predicting managerial classification. This is as it should be in regard to the performance and financing variables. Nothing in the theory argues that well managed firms will never engage in stock mergers or that they will never experience hard times. The theory says that they will never bring the hard times on themselves.

In addition, we are aware that *on average* larger, more diversified firms seem to make poorer acquisition decisions. Hence, a sample selection procedure such as ours is likely to produce two distinct types of firms. This is evidenced by the fact that our *Group B* firms are on average larger than our *Group G* firms. If larger, more diversified firms also tend to have higher outside director turnover, lower inside director turnover, smaller director holdings, and larger boards, or less reputable directors then it is difficult to determine if our results suggests that these variables are important or just a proxy for firm size and type. We have already attempted to

alleviate this concern somewhat by including firm size in our model. Likewise, we further attempt to control for this result by including dummy variables representing each firm's two digit SIC code in the estimation of our original model specifications. This should eliminate much of the possibility that our results are driven by selecting different types of firms.

However, before turning to those results we would like to make several points. If we do find that our results are mainly a reflection of certain board characteristics being associated with firm size and type, then it is not necessarily a reflection that these variables are unimportant. Big, diversified firms may make poorer acquisition decisions precisely because they are more likely to create a board environment that fails to properly monitor, motivate, and discipline managers. This would seem to be a much better explanation than relying on firm size alone as the cause of the firm's problem. If anything, our expectation should be that big firms are better not worse performers. Otherwise we have a difficult time explaining how these firms came to be large firms and why they continue to be large firms.

The results from including the SIC dummies are presented in Table 6. Both the simple outside turnover variable and the dummy for high outsider turnover are more negative and more significant than in the original model specification. The insider turnover variable is no longer significant at conventional levels in the simple specification but is positive and significant with the use of the insider turnover dummy. The low insider stockholding variable indicates that increasing director holdings within that range is still associated with improved performance. The board size, other directorships, and cash financing variables all exhibit the same general relationship to performance and are still significant in both specifications. So controlling for the type of firm does not seem to dramatically alter the results for our board composition variables.

It is important to note that the firm size variable is now positive and significant in both specifications. This suggests that once we control for board structure and industry type that larger firms seem to make significantly better acquisition decisions. While this may seem to be at odds with existing views that larger firms make poorer acquisition decisions over this time period, it is not at odds with traditional economic theory. Larger firms are more likely to achieve this result by being better managed firms. However, bigness does seem to present particular problems for corporate governance mechanisms. The firms that are able to successfully deal with these problems by providing the proper board structure and culture continue to perform well. Those firms unable to establish the proper board environment are more likely to make bad decisions.

We are left with the conclusion that director holdings, board culture, director reputation and board size are all important determi nants of corporate performance. However, we do not find evidence that suggests that board composition is strongly associated with performance. These results are not at odds with the theory. Fama and Jensen's (1983a) original model indicates that insider control can be a good thing when properly checked by strong outsider influence. Likewise, those skeptical of the board of directors' ability to sanction top managers have also noted the importance of the board environment. We find that board culture, as measured by outside director turnover, does seem to be highly correlated with performance suggesting that it is not the number but the influence of outside directors that is important to safeguarding the interests of shareholders.

V. Conclusions

This research has investigated the influence of boards of directors in the market for corporate management and corporate governance. Specifically, we attempt to test the proposition that board culture influences board and ultimately firm performance. The evidence that we uncover, using a select sample of companies where there is little doubt about the inadequacy of management in one part of the sample and the superiority of management in the other, supports much of the recent characteriza tions of the board of directors. For example, our results indicate that outsiders are more likely to resign from the board than they are to replace top managers as suggested by Mace (1971) and Jensen (1993). We find that higher insider and lower outsider director turnover is associated with improved perfor mance.

The importance of our findings is that managerial entrenchment leads to an exodus of board outsiders as they flee to protect their reputations. In addition, we also find that smaller boards are related to improved acquisition perfor mance. Another indication that the boards operating environment is an important determinant of the boards influence. Our results also provide more support for the growing contention that increasing director holdings leads to improved performance when director holdings are initially low.

As a final point, the policy implications of our results are not obvious. We find that poorly managed companies have outsiders on the board who recognize the failure of management and reveal this by "voting with their feet". Our results say that it is most important that outside directors be listened to, but this is a hard edict to implement by regulatory fiat.

While our results are consistent with the prevailing view that outside directors are ineffective in protecting shareholder wealth, we see little support for what seems to be the prevailing policy prescription to solve this problem. We find little in economic theory or our results to suggest

that outsider dominated boards will significantly improve corporate governance problems.   This is not to suggest that outsider supervision and outside directors are not important. However, agents are agents. It matters not whether we refer to them as insiders or outsiders if they have no incentives to protect the principals. If such a result is to be accomplished, then we expect it will be necessary to make it more costly for outside directors to exit the board and hence more likely that the y will voice their opinion. As our results indicate one way of doing this would be to increase director holdings or resurrect the active investor as Jensen (1993) suggests. The most likely way to achieve such an outcome would be to loosen or remove state and federal restrictions that make it difficult for banks, insurance companies, mutual funds, and pension funds from becoming active players in the corporate governance process. Each of these groups has an incentive to force the frank, open discussions necessary to make the board operate effectively. Our results suggest that fewer, as opposed to more, restrictions on who can serve as corporate directors may be more likely to lead to improved corporate performance.

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TABLE 1
Summary Statistics for Acquisitions

	Mean	Median	Std Dev	Maximum	Minimum
Acquisition Returns					
Full Sample	0.0068	-0.0002	0.0671	0.2236	-0.2285
Group G	0.0546	0.0490	0.0504	0.2236	-0.0387
Group B	-0.0410	-0.0272	0.0437	0.0264	-0.2285
Percentage Cash used in Financing Acquisitions					
Full Sample	0.8405	1.0000	0.3285	1.0000	0.0000
Group G	0.8994	1.0000	0.2565	1.0000	0.0000
Group B	0.7815	1.0000	0.3808	1.0000	0.0000

TABLE 2
Summary Statistics for Variable Measuring Corporate Board Structure

	Mean	Median	Std Dev	Maximum	Minimum	t-stat
Insiders as a % of all Directors						
Full Sample	0.3510	0.3333	0.1379	0.6875	0.1429	0.51
Group G	0.3551	0.3000	0.1428	0.6667	0.1429	
Group B	0.3415	0.3333	0.1291	0.6875	0.1667	
Director holdings of common stock						
Full Sample	0.0874	0.0342	0.1282	0.5947	0.0005	1.95**
Group G	0.1103	0.0530	0.1380	0.5947	0.0008	
Group B	0.0627	0.0241	0.1126	0.5520	0.0005	
Outsider Age						
Full Sample	59.069	58.889	3.6305	70.125	47.250	0.75
Group G	59.345	59.400	4.2086	70.125	47.250	
Group B	58.823	58.818	2.8465	64.700	49.750	
Insider Age						
Full Sample	57.055	57.200	4.8892	68.000	42.000	1.59
Group G	56.374	57.400	5.0609	66.500	42.000	
Group B	57.813	57.750	4.2216	68.000	49.333	
Outsider Turnover						
Full Sample	0.0718	0.0663	0.0565	0.3472	0.0000	4.29*
Group G	0.0521	0.0357	0.0453	0.3472	0.0000	
Group B	0.0915	0.0783	0.0491	0.3472	0.0000	
Insider Turnover						
Full Sample	0.0773	0.0833	0.0708	0.2708	0.0000	0.01
Group G	0.0773	0.0833	0.0717	0.2708	0.0000	
Group B	0.0772	0.0833	0.0601	0.2333	0.0000	
Other Directorships						
Full Sample	2.0693	2.0000	0.9692	4.3571	0.2000	
2.47**						
Group G	1.8703	1.8667	1.0144	4.3570	0.2000	
Group B	2.3549	2.3333	1.0088	4.9933	0.7000	

	Mean	Median	Std. Dev.	Max	Min	t-statistic
Board Size						
Full Sample	11.613	11.000	3.1910	21.000	6.0000	3.80*
Group G	10.547	10.000	2.6859	15.000	6.0000	
Group B	12.764	13.000	3.2884	21.000	6.0000	
Equity Value (in Millions of Dollars)						
Full Sample	87.297	55.553	99.858	532.45	2.0138	2.20**
Group G	66.376	41.276	76.945	344.43	2.0138	
Group B	108.22	81.957	115.42	532.45	2.1331	
Three Year Abnormal Return						
Full Sample	-0.0399	-0.0370	0.1792	0.4175	-0.6115	0.15
Group G	-0.0373	-0.0386	0.1272	0.2369	-0.3503	
Group B	-0.0425	-0.0344	0.2207	0.4175	-0.6115	

Notes to Table 2:

[a] The t-statistic is the absolute value from the test of the differences in the mean value of the respective variable across Group G and Group B firms. The level of statistical significance is indicated by stars mark ing the t-statistics. One star indicat ed the 1 percent level of significance; two stars, 5 percent; three stars, 10 percent.

TABLE 3
Mean Acquisition Returns by Corporate Board Variable Group

	Mean	Median	Std Dev	Maximum	Minimum	t-stat[a]
Insiders as a % of all Directors						
> Median Value	0.0104	-0.0001	0.0635	0.1683	-0.1361	0.54
<= Median Value	0.0032	-0.0067	0.0711	0.2236	-0.2285	
Director holdings of common stock						
> Median Value	0.0011	-0.0002	0.0625	0.1667	-0.1456	0.87
≤ Median Value	0.0124	-0.0001	0.0714	0.2236	-0.2285	
Outsider Turnover						
> Median Value	-0.0134	-0.0219	0.0696	0.2236	-0.2285	3.26*
≤ Median Value	0.0272	0.0250	0.0584	0.1683	-0.0855	
Insider Turnover						
> Median Value	0.0073	-0.0002	0.0756	0.2236	-0.1456	0.05
≤ Median Value	0.0066	-0.0013	0.0615	0.1380	-0.2285	
Other Directorships						
> Median Value	0.0015	-0.0099	0.0682	0.2236	-0.1456	0.61
≤ Median Value	0.0121	0.0117	0.0663	0.1683	-0.2285	
Board Size						
> Median Value	-0.0075	-0.0118	0.0686	0.2236	-0.2285	2.11**
≤ Median Value	0.0197	0.0122	0.0636	0.1683	-0.1456	
Equity Value						
> Median Value	-0.0025	-0.0067	0.0645	0.2236	-0.1456	1.45
≤ Median Value	0.0163	0.0117	0.0685	0.1683	-0.2285	

Notes to Table 3:

[a] The t-statistic is the absolute value from the test of the differences in the mean value of acquisition returns across each group. The level of statistical significance is indicated by stars marking the *t*-statistics. One star indicated the 1 percent level of significance; two stars, 5 percent; three stars, 10 percent.

TABLE 4

The Relation between Corporate Board Structure and Acquisition Returns[a]

Variable	Coeff/(t-stat)	Coeff/(t-stat)
Inside Directors less than 27%[b]	0.0589 (0.25)	-0.0591 (0.26)
Inside Directors greater than 27% less than 40% [c]	-0.0739 (0.40)	-0.1220 (0.68)
Inside Directors greater than 40%[d]	0.1497 (1.35)	0.1776 (1.68)
Director Stock Holdings less than 1.7%[e]	6.4064 (4.31)*	6.6657 (4.40)*
Director Stock Holdings greater than 1.7% less than 6.6% [f]	-0.8021 (1.97)**	-0.6880 (1.70)***
Director Stock Holdings greater than 6.6%[g]	0.1046 (1.59)	0.0976 (1.49)
Outsider Turnover	-0.0523 (1.80)***	
Insider Turnover	0.0567 (2.51)**	
High Outsider Turnover[h]		-0.0279 (2.11)**
High Insider Turnover[i]		0.0393 (2.99)*
Board Size	-0.0075 (3.05)*	-0.0077 (3.12)*
Other Directorships	0.0175 (2.17)**	0.0179 (2.24)**
Firm Size[j]	0.0001 (1.28)	0.0002 (1.97)***

Performance[k]	0.2180	0.2248
	(2.59)**	(2.70)*
Percentage of Purchase paid for with Cash	0.0388	0.0389
	(2.20)**	(2.24)**
Intercept	-0.0703	0.0822
	(0.98)	(1.15)
R^2	0.3530	0.3714
ADJ-R^2	0.2616	0.2826
# of observations	106	106

Notes to Table 4:

[a] The dependent variable is the three-day, abnormal return associ ated with each firm's acquisition announce ment at time. The level of statistical significance of the coefficients is indicated by stars mark ing the *t*-statistics, which are shown in parentheses below the coeffi cients. One star indicat ed the 1 percent level of significance; two s tars, 5 percent; three stars, 10 percent.

[b] Inside Directors less than 27% is equal to the percentage of the board composed of insiders i f this number is less than 27.3% and 27.3% otherwise.

[c] If the percentage of the board composed of inside directors is greater than 27 .3% but less that 40%, then this variable equals the percentage of insiders less 27.3%. If the percentage of the board composed of inside directors is greater than 40%, then this variable equals 12.7% , else the variable is equal to zero.

[d] If the percentage of the board composed of inside directors is greater than 40%, then this variable equals that percentage less 40%, else the variable is equal to zero.

[e] The variable Director Holdings less than 1 .7% equals the percentage of the company's common stock owned by all board members if that percentage is less than 1 .7% and 1.7% otherwise.

[f] If the percentage of the firm's common stock owned by all board mem bers is greater than 1.7% but less than 6.6%, then Director Holdings greater than 1 .7% less than 6.6% is equal to that percentage less 1.7%. If the percentage of common stock owned by all the firm's directors is greater than 6.6%, then this v ariable equals 4.9%.

[g] If the percentage of the firm's common stock owned by all board mem bers is greater than 6.6%, then Director Holdings greater than 6.6% is equal to that percentage less 6.6%, else it is equal to 0.

[h] If the firms average annual outside director turnover exceeds 6.5%, then this variable is equal to one, else this variable equals zero.

[i] If the firms average annual inside director turnover exceeds 8. 3%, then this variable is equal to one, else this variable equals zero.

[j] As measured by market equity value (in millions of dollars) on the last day of the calendar year preceding the takeover announcement.

[k] The performance variable is the average annual abnormal common stock return for the three calendar years preceding the takeover announce ment.

TABLE 5
Logit Model—The Relationship between Board Structure
and the Probability of being in Group B

Variable	Coeff/(X^2)	Coeff/(X^2)
Inside Directors less than 27%	-3.7823 (0.16)	-5.3753 (0.30)
Inside Directors greater than 27% less than 40%	-0.3210 (0.00)	3.4579 (0.20)
Inside Directors greater than 40%	0.3036 (0.00)	-2.0605 (0.21)
Director Stock Holdings less than 1.7%	-118.00 (3.76)***	-119.20 (3.50)***
Director Stock Holdings greater than 1.7% less than 6.6%	5.1078 (0.10)	-3.2053 (0.04)
Director Stock Holdings greater than 6.6%	-1.7852 (0.42)	-1.0200 (0.15)
Outsider Turnover	3.3660 (6.59)**	
Insider Turnover	-1.4496 (2.26)	
High Outsider Turnover		1.3912 (6.45)*
High Insider Turnover		-1.2869 (4.35)**
Board Size	0.2305 (5.08)**	0.2528 (5.54)**
Other Directorships	-0.1841 (0.33)	-0.1625 (0.25)
Firm Size	-0.0016 (0.61)	-0.0037 (1.40)

Performance	-2.5980	-282.20
	(0.45)	(0.65)
Percentage of Purchase	-1.1781	-1.2788
paid for with Cash	(2.04)	(2.47)
Intercept	0.8147	1.6985
	(0.08)	(0.32)
Model X^2	31.80	31.82
# of observations	106	106

Notes to Table 5:

[a] The dependent variable is one if the firm is a member of Group B and is equal to zero if the firm is a member of Group G. The level of statisti cal significance of the coefficients is indicated by stars marking the X^2-statistics, which are shown in parentheses below the coefficients. One star indicated the 1 percent level of significance; two stars, 5 percent; three stars, 10 percent. All other variables are as defined in Table 4.

TABLE 6
The Relation between Corporate Board Structure
and Acquisition Returns when Controlling for Industry Effects[a]

Variable	Coeff/(t-stat)	Coeff/(t-stat)
Inside Directors less than 27%	-0.0043 (0.01)	0.0320 (0.12)
Inside Directors greater than 27% less than 40%	0.0166 (0.07)	-0.0266 (0.12)
Inside Directors greater than 40%	0.1926 (1.36)	0.1916 (1.49)
Director Stock Holdings less than 1.7%	6.3020 (3.49)*	5.9981 (3.51)*
Director Stock Holdings greater than 1.7% less than 6.6%	0.1756 (0.33)	-0.338 (0.65)
Director Stock Holdings greater than 6.6%	-0.0227 (0.22)	0.1916 (1.49)
Outsider Turnover	-0.0817 (2.06)**	
Insider Turnover	0.0336 (1.27)	
High Outsider Turnover		-0.0597 (3.59)*
High Insider Turnover		0.0366 (2.32)**
Board Size	-0.0086 (2.40)**	-0.0077 (2.28)**
Other Directorships	0.0335 (2.84)*	0.0276 (2.51)**
Firm Size	0.0002 (1.98)**	0.0003 (2.99)*

Performance	0.1691	0.1299
		(1.31)　　(1.06)
Percentage of Purchase paid for with Cash	0.0465 (2.14)**	0.0420 (2.09)**
Intercept	0.8147 (0.08)	1.6985 (0.32)
Industry Class[b]	[0.6531]	[0.3406]
R^2	0.5733	0.6285
ADJ-R^2	0.2656	0.3606
# of observations	106	106

Notes to Table 6:

[a] All variables other than Industry Class are as defined in Table 4.　One star indicated the 1 percent level of significance; two stars, 5 percent; three stars, 10 percent.

[b] Industry Class is a set of dummy variables based on each firm's two-digit SIC code. The coefficients on these dummy variables are not reported for convenience. The F-statistic testing the significance of the classification by industry is reported in brackets in place of the coefficients.