Blockholder Ownership and Corporate Control: The Role of Liquidity

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Abstract

This essay addresses the link between the liquidity of a firm's equity and the ability of large shareholders to influence control of a firm. Using a sample of U.S. outside blockholdings from 1994-2005, I examine whether liquidity influences the creation of block holdings. Using an instrumental variable approach, I find that liquidity increases the likelihood of blockholdings. Consistent with prior theory, blockholders of more liquid securities take smaller stakes that do not precommit them to monitor. I find evidence that the threat of exit from a block can discipline managers and that this threat is more effective when liquidity is higher. While liquidity increases exit from existing blocks, I find no evidence that illiquidity forces blockholders to monitor. Finally, blockholders' returns are consistent with liquidity facilitating costly monitoring.

This essay examines a sample of outside blockholdings in U.S. firms to determine whether the liquidity of a firm's equity affects the propensity of block shareholders to engage in activism. Theoretical work such as Shleifer and Vishny (1986) suggests that by purchasing a significant block of shares a blockholder can overcome the free-rider problem inherent in widely dispersed shareholdings. The relative paucity of intervention by blockholders in the U.S. when compared to other countries like Germany or Japan has led several scholars to cite the higher liquidity of U.S. securities as an obstacle to blockholder intervention. Their reasoning follows that higher liquidity lowers the cost of exiting the position (Bhide (1993)) or increases the potential benefits from speculation (Kahn and Winston (1998)). These views neglect to consider why blockholders would rationally establish the block in the first place. In a theoretical work, Maug (1998) counters that more liquid securities will attract more blockholder intervention because blocks become cheaper to acquire and higher liquidity allows the cost of intervention to be borne across more shareholders. The blocks are cheaper in more liquid securities not just because of lower transaction costs, but because the higher liquidity allows blockholders not to precommit to monitoring.

As disagreement exists among theorists regarding the relation of liquidity and blockholder intervention, I examine liquidity's on blockholder intervention empirically using a newly constructed sample of blockholdings in S&P 1500 firms from 1994-2005. The comprehensive nature of this sample also contributes to the literature on blockholders as prior work has focused on either a particular type of blockholder (e.g. 1,902 hedge fund blockholdings in Clifford (2007)) or only activist events (e.g. 244 activist blockholdings in Bethel, Liebeskind, and Opler (1998)). The sample of 18,210 blockholdings includes both active and passive filings from all outside blockholders. The broad coverage of the sample is important as I find that characteristics of the blocks such as size and level of activism vary with the identity of the blockholder and that certain types of blockholders tend to be more passive or active. Their tendency to either engage or refrain from activism correlates with regulatory and

business constraints. By using a well defined set of potential targets, the S&P 1500, I am able to avoid self-selection issues that other papers that only study the characteristics of observed blockholdings suffer.

With this sample, I investigate whether illiquidity reduces the likelihood of new block formation. As illiquidity of a firm's equity and block stock holdings are endogenously determined, I establish causality of the relationship using the decimalization of the stock markets as an instrument for illiquidity. I find that illiquidity decreases the probability of block formation in my sample. This result supports the theoretical claim that more liquid markets encourage the formation of blocks. As blocks will only form when the benefits of monitoring are higher than the cost, the result is consistent the conjecture in Maug (1998) that higher liquidity leads to a higher socially improving level of monitoring, though such a conclusion is difficult to support empirically without observing the cost of monitoring and losses to other stakeholders.

I then turn my attention to the set of observed blockholdings and examine the determinants of the size of the blockholder's stake. The model in Maug (1998) implies that a blockholder will take smaller stakes in more liquid securities all else equal. The blockholder's decision to perform costly monitoring is private information, so the higher liquidity allows the blockholder to engage in more informed trading with liquidity traders. Therefore, blockholders have a greater potential to gain when they are less precommitted to monitoring as they can buy shares for a lower price that does not fully incorporate the benefits of their monitoring activity. As expected, I find that blockholders take a smaller initial position in more liquid securities.

Besides encouraging activism by making blockholdings more profitable, I find that liquidity can enhance governance through the threat of exit. If managerial compensation is sensitive to the share price then blockholders can encourage managers to engage in share price maximizing behavior by threatening to sell their block, an event that would punish

managers. Illiquid securities reduce the credibility of the threat to exit since blockholders would receive lower prices for their shares. I show that firm value is enhanced in situations when the threat to exit is most credible - when managerial sensitivity to the stock price is high and when shares are liquid. This result contradicts the suggestion that liquidity hurts governance.

I also look at existing blockholdings to see if illiquidity encourages blockholders to be more active monitors of management. Though I find that decreasing liquidity increases the propensity for blockholders to exit their position, I do not find any support for illiquidity increasing the propensity to engage in activism. Instead of exiting or fighting management, blockholders of illiquid positions often choose a third option and do nothing. Finally, as building blocks in less liquid firms is more costly, investors will only do so when expected returns from doing so are higher. I find that block holding return measures are increasing in illiquidity as well as more positive when the block holder engages in active monitoring.

This paper contributes to the literature by conducting an empirical test of the effect of illiquidity on a blockholder's decision to intervene. I provide evidence consistent with theoretical models that predict that improved liquidity will enhance monitoring by blockholders by permitting profitable action more often. I find no evidence that illiquidity forces institutions to monitor when exit is costly. Instead, I find that many blockholders are bound by regulatory restrictions or fiduciary responsibility and choose not to engage in shareholder activism.

1 Hypothesis Development

Difficulties in contracting that arise from the separation of ownership and control as stated in Jensen and Meckling (1976) provide small atomistic shareholders with little incentive to exert control. They bear the full cost of monitoring to reduce agency costs and receive only a

small portion of the benefits of their actions. The existing literature suggests that this free-rider problem can be overcome by the presence of a large outside blockholder. For example, Shleifer and Vishny (1986) present a model in which small minority shareholders in widely-held firms have little incentive to incur monitoring costs because each would like to free-ride on the monitoring of the others, but a blockholder can profitably take action if its stake is large enough. Throughout this paper, I use this definition of monitoring - an action by an outside shareholder which can increase shareholder value relative to the value if the outside shareholder takes no action. This is similar to the definition adopted in Maug (1998) and makes no differentiation whether the action increases overall firm value or just expropriates from other stakeholders in the firm. In practice, these actions can take a variety of forms: engaging in conversations with management, starting proxy fights, "vote no" campaigns, the threat of selling the block, and even hostile takeover attempts.

Blockholdings in public companies are commonplace around the world and are found frequently even in the relatively more dispersed U.S public equity market.[1] Using a sample of 1,500 companies,[2] Dlugosz, Fahlenbrach, Gompers, and Metrick (2006) observe that the average firm in their sample has one outside shareholder that controls between 14-18% of the outstanding equity. Despite of this finding regarding the ubiquitous nature of blockholders, evidence of intervention by these blockholders is mixed. Clearly some blockholders, for instance wealthy activist individual investors, play an important role in governance.[3] In recent decades, other types of institutional investors, such as pension funds and hedge funds, have also attracted media and academic attention for their activist actions (e.g. Smith (1996) studies a series of activist interventions by CalPERS).

[1]Faccio and Lang (2002) finds that in Western countries 92% of firms have at least one shareholder with at least 5% of voting rights.

[2]The sample taken from the Investor Responsibility Research Center (IRRC) covers about 90% of the value of the NYSE, AMEX, and NASDAQ markets and covers a set of firms and years similar to the sample used in this paper.

[3]For an example of recent intervention by an individual blockholder, see Carl Ichann's recent involvement with Yahoo!: `http://blogs.wsj.com/deals/2008/07/21/what-can-carl-icahn-do-for-yahoo-now/`

In contrast, Jensen (1989) notes that financial institutions and money management firms, which control over a third of all corporate equity in the United States, are typically uninvolved in the major decisions and long-term strategies of the firms in which they invest. Furthermore, more involved actions such as seeking board representation and engaging in proxy fights are rarer still. Jensen (1989) attributes this perceived passivism to a host of populist laws and regulations approved in the wake of the Great Depression, such as the Glass-Steagall Banking Act of 1933, the Securities Exchange Act of 1933, the Securities Exchange Act of 1934, and the Investment Company Act of 1940. Black (1990) suggests this passivity may be justified by the burden of legal obstacles that hinder rational action in all but extreme cases. Another frequently cited explanation for this lack of shareholder activism is that institutions would rather take the "Wall Street walk"[4] - a colloquialism that implies selling a poorly run stock is much easier than dealing with management to try to improve the firm.

1.1 Trade-off between liquidity and control

Given that blockholders may choose to exit from their blockholding when costly monitoring is needed, highly liquid markets may be a hindrance to effective corporate governance by permitting blockholders an easier and cheaper exit. This view fails to consider that blockholders will rationally consider the liquidity of the security before choosing to form the block. Recent theoretical work, such as in the model presented in Maug (1998), has countered that more liquid markets may actually lead to more monitoring by blockholders as blocks become cheaper to form and liquidity allows the cost of intervention to be shared with the liquidity traders.

[4]The oft-cited "Wall street walk" or "Wall street rule" traces its origins to guidelines published by the American Bankers Association in the 1940s.

In response to a perceived need for improvement in an organization, Hirschman (1970) suggests three possible outcomes: exit, voice, or loyalty. In the case of block ownership, the blockholder can sell their shares (exit), engage in activism (voice), or simply do nothing and maintain their position (loyalty). In this framework, a trade-off occurs between exit and voice if the choice to remain loyal is not viable. Holding all else constant, as the cost of exit is lowered, exit becomes preferable to voice. Previous finance literature have suggested that this relation is an important reason for why the U.S. market displays so little large shareholder intervention - highly liquid securities markets enable blockholders to cheaply dump underperforming firms. Bhide (1993) argues that a natural trade-off between stock liquidity and active investing is inevitable. Active shareholders could reduce agency problems by providing internal monitoring, but the act of monitoring makes these investors informed and thereby reduces the stock liquidity of their position owing to information asymmetry problems. Conversely, stock liquidity discourages internal monitoring by reducing the cost of exit of unhappy shareholders. Bhide (1993) concludes that the public policy choices in the U.S. that have provided a very liquid stock market may come at the cost of foregoing potentially valuable active investing.

The cost of monitoring may also play an important role in which monitoring activities blockholders choose, though inexpensive forms of monitoring may be ineffective. As Black (1990) states, some institutions face legal barriers against accumulating the size of the stake necessary to make value enhancing actions profitable. These legal rules were often intended to protect to mutual fund investors. Their ultimate effect is to render these blockholders inactive. Similarly, Bolton and von Thadden (1998) argue that the liquidity of the stock market will reduce activism as such liquidity encourages them to trade on private information. The incentive to speculate increases with the blockholder's informational advantage over other investors, which will be higher in smaller more opaque firms. These are typically the firms that are traditionally thought to need monitoring by blockholders the most.

The above analysis does not take into account the blockholder's decision to form the block. Kahn and Winston (1998) and Maug (1998) show that liquid markets can help large blockholders overcome the free-rider problem. In particular, Maug (1998) presents a model in which the large stakeholder buys an initial position that is too small in the sense that the capital gain on the initial position does not cover the cost of monitoring. However, the ability to purchase shares on the open market at a price that only partially reflects the blockholder's monitoring efforts gives the blockholder incentive to monitor. A larger toehold that would cover the cost of monitoring would precommit the blockholder to monitor, and thus prices would reflect this precommitment. By making the decision to monitor uncertain, the blockholder creates private information from which it can engage in informed trading. The blockholder gains most when other shareholders are most uncertain about whether the blockholder will monitor. The ability to make greater gains allows the blockholder to intervene profitably in situations with higher monitoring costs. This is the mechanism by which liquidity can enhance monitoring by blockholders. Higher liquidity may lead to a socially improving higher level of intervention (some stakeholders like managers with excessive compensation may be worse off).

Liquidity allows the blockholder to share the costs of monitoring with the small shareholder through informed trading with them overcoming the free-rider problem. Since the blockholder's decision to engage is costly and the blockholder's initial stake does not precommit them to monitoring, the blockholder can make profits by making the private decision to monitoring and then trading with the knowledge that their decision to monitor will improve firm value. The price of the shares will partially reflect the improvement in firm value that monitoring by the blockholder could provide. Therefore, the blockholder can choose to intervene and then buy shares that only partially reflect the full value of the blockholder's monitoring improvements.

In order for this to occur, the decision to monitor must be not deterministic. One plausible

reason that a blockholder would use a random strategy would be that the improvements of the blockholder's monitoring are known to all traders, but only the expected cost of monitoring is known. Once the blockholder takes a toehold, it receives a realization about the true cost of monitoring and then make its decision of whether to monitor based on this realization that is known only to the blockholder. Therefore, equity liquidity should enhance blockholders' ability to engage in costly monitoring as liquidity allows informed trading to spread the cost of monitoring among liquidity traders. As the cost to the blockholder is lower, blockholdings will emerge in firms where the cost of performing monitoring would prohibit profitable blockholdings if the firm's equity was less liquid.

This gives me two testable implications. First, increasing liquidity should encourage the formation of blockholding ceteris paribus. For a given monitoring cost, higher liquidity will allow the blockholder to spread more of that cost to other passive shareholders as liquidity increases. Following the same logic, conditional on a block being formed, when liquidity is higher the initial stake taken by the blockholder will be smaller all else equal.

1.2 Control through threat of exit

Jensen (1989) suggest that institutional investors are "remarkably powerless; they have few options to express dissatisfaction with management other than to sell their shares and vote with their feet". As Admati and Pfleiderer (2008) points out, exit through the "Wall Street walk" is not necessarily an alternative to activism. The threat of exit may itself be a form of corporate governance. While managers might prefer frequent turnover by institutional investors to large active investors that desire to serve on the boards to monitor and correct managers' mistakes, managers would really prefer locked-in passive investors who do not sell their shares. If the liquidation of large block holdings has an adverse effect on the stock price, then managers who have much of their compensation tied to the share price either through stock or option holdings are credibly threatened by the possibility of exit by these

blockholders. While this may not be monitoring in the conventional sense, the presence of the large blockholders can significantly improve firm value by encouraging managers to enhance shareholder value.

This leads to another testable implication. As transaction costs impose a cost to exit, the effectiveness of a large shareholder's threat to exit is increasing in market liquidity. In the Admati and Pfleiderer (2008) model, the discipline effect of a potential exit on the managers decision is increasing in the interaction of liquidity of the large shareholder's position and the fraction of managerial compensation tied to stock performance. In Edmans (2008), the author presents a model in which privately informed blockholders remain even when exit is viable as a way to over myopic investment by management. In either model, the ability to exit enhances the value created by the blockholder. Therefore, I expect to see firm value enhanced when blockholders buy stakes in firms they can credibility use this threat against - firms with high levels of liquidity and also high managerial compensation sensitivity to the share price.

2 Data

The initial sample consists of block share acquisitions of S&P 1500 firms by outside blockholders between 1994 and 2005. Prior work has focused on either on a particular type of blockholder or only activist events. Bethel, Liebeskind, and Opler (1998) survey activism by all types of blockholders in Fortune 500 companies. Several recent papers study U.S. hedge fund activism using Schedule 13D filings. For the period 1998 to 2005, Clifford (2007) studies 1,902 sets of block acquisitions (both active and passive) by hedge funds, focusing on the stock price reaction and changes in operating performance. Using a sample of 194 Schedule 13D filings from 2003 to 2005, Khein and Zur (2006) examine entrepreneurial activists (both hedge funds and non-hedge funds), but focuses on confrontational activism ignoring passive

filings. With a sample of 1,059 Schedule 13D filings from 2001 to 2006, Brav, Jiang, Partnoy, and Thomas (2008) find that hedge fund activists are typically successful in the majority of their activist attempts.

I limit my sample to S&P 1500 firms for two reasons. The first is a data constraint. I need information on managerial stock ownership which I obtain from Standard and Poor's Executive Compensation Database (Execucomp) for some of my empirical tests. The second is that I need a well-defined population, so that I can also observe which firms do not have blockholdings. While the S&P 1500 represents 87 percent of the total U.S. equity market capitalization, the sample selection may limit the applicability of some of the results to other samples. Using a more extensive sample, Cadman, Klasa, and Matsunaga (2007) find Execucomp firms rely more heavily on aggregate financial performance measures, such as earnings and stock returns to determine CEO cash compensation. As the stock incentive effect is integral in order for the threat of exit to provide discipline, this threat may be less credible in non-Execucomp firms.

When a person or group of persons acquires beneficial ownership, that person must file a Schedule 13D with the SEC. Beneficial ownership is defined by the Securities and Exchange commission (SEC) as voting power or investment power (direct or indirect power to sell the security) of more than 5% of a voting class of a company's equity. Schedule 13Ds must be filed with the SEC within 10 days of an entity obtaining 5% or more of any class of a company's securities. Alternatively, the filer can submit the short-form, Schedule 13G, which is intended for passive investments. By filing the Schedule 13G, the filer (i.e. blockholder) cedes the right to effect or influence the control of the target.[5] The penalties engaging in control purposes after filing a Schedule 13G can include losing the right to vote any stock in

[5]Though passive filers may be eligible to file the Schedule 13G, the Schedule 13D is the default filing. Since a filer has to petition the SEC to file as a passive investor, filers that do not choose to do this will file a Schedule 13D even if they have no intentions of engaging in activist activities.

excess of 5%, loss of profits and even criminal sanctions.[6] Filers must update Schedule 13D upon changes in the position, while filers of Schedule 13G must update their holdings only once a year. I use the required subsequent filings (Schedule 13D\A or 13G\A) to determine the post-acquisition changes in holdings. To construct my sample, I obtain 407,809 Schedule 13D and 13G filings and their amendments which have S&P 1500 firms as targets. These filings are available on EDGAR[7] for the years 1994 through 2005. The 407,809 individual filings correspond to 20,684 target-blockholder pairs and give a time-series evolution of each blockholding. I define the holding period as the period from initiation of the block until the blockholder reports a shareholding less than 5% or is no longer required to report (i.e. when holdings drop below 5%). In cases in which multiple blockholders file together on the same Schedule 13D, I consider only the lead filer. This choice should not affect inferences since the group members should share the same incentives.

In my study, I focus on outside block ownership and do not include managerial and employee stock ownership since managers and employees may have additional economic interests other than their interest as shareholders. For example, ownership by managers may have conflicting influences on firm value and agency costs. Managers may value consuming perquisites or keeping their job even when they should be replaced at the cost of other stakeholders, particularly shareholders. Jensen and Meckling (1976) propose that ownership by managers can help align incentives and reduce agency costs. Empirically, Morck, Shleifer, and Vishny (1988) find that while small levels of managerial ownership reduce agency costs, high levels of managerial ownership can serve to entrench management and reduce firm value.

Similarly for rank and file employees, the relation between ownership and firm value is not clear. Ownership by rank and file employees could better motivate and align interests. A recent working paper, Kim and Ouimet (2008), shows that small employee share owner-

[6]For an example of a legal case in which an investor failed to disclose a control purpose as required see *Gulf & Western Industries, Inc. v. Great Atlantic & Pacific Tea Company, Inc.*

[7]`http://www.sec.gov/edgar.shtml`

ship plans (ESOPs) may increase firm value, while large (i.e. greater than 5%) ESOPs do not increase firm value. A large ownership stake by employees may allow them to extract unearned benefits at the expense of other stakeholders. Consistent with this explanation, Faleye, Mehrotra, and Morck (2006) document lowered investment, poor performance and decreased firm value in firms with large ESOPs. As the interests of managerial and employee block ownership are ambiguous, I exclude them from my analysis and focus only on outside block ownership.

The mixed empirical evidence of the effectiveness of outside blockholder activism is not that surprising considering all blockholders do not face the same set of constraints. The ability to take advantage of liquidity may only hold for certain segments of blockholders. Cronqvist and Fahlenbrach (2008) show that blockholders are not a homogeneous group. Some blockholders appear to influence corporate behavior while others seem to passively seek their preferred behavior. One explanation is that some entities, such as hedge funds, have few restrictions and can pursue whatever policy their managers see fit, while other entities face binding institutional constraints. Even for a single entity, the act of acquisition of shares above certain ownership levels may impose constraints. For example, the Exchange Act Section 10(b) requires that blockholders that own more than 10% of a share class report their sales and purchases every month and forfeit profits made from "round trip" transactions. This effectively reduces the short-term liquidity of the position.

Certain institutional investors face a variety of regulatory barriers and potential conflicts of interest that make active monitoring difficult, if not impossible in many cases. Legal or regulatory restraints may prevent some regulated financial firms from accumulating the necessary size block that makes monitoring cost effective. For instance, a diversified fund, as defined in the Investment Company Act of 1940, may hold no more than 5% in any one company, and not more than 10% of any firm's outstanding shares. These constraints are binding for many investors. An investment by the Fidelity Magellan mutual fund of only

0.05% of its portfolio is sufficient to buy the maximum 5% ownership stake in the smallest S&P 1500 firm, Biolase Tech, Inc. (as of August 21, 2008). Likewise, conflicts of interest may exist when mutual funds consider activism against current or potential clients. Davis and Kim (2006) use proxy voting to show that mutual fund companies are less likely to vote against those firms with which they have a business relation. Similarly, pension funds are typically bound by ERISA or "prudent man" regulation. This forces pension funds to only hold prudent securities limiting their investment opportunity set. Also, "prudent investor" rules require high levels of diversification. Given the constraints to holdings, these financial blockholders may find exiting or remaining passive more attractive than trying to acquire a large enough stake in the firm or forming a coalition of like-minded shareholders to cover the costs of performing monitoring.

Like financial blockholders, non-financial companies may establish blockholding in other firms, which I will call corporate blockholdings for the sake of brevity. A large (and somewhat inconclusive) literature exists on the merits of diversification strategies by such firms. Corporate blockholders may also seek other benefits when establishing a blockholding. In a sample of over 10,000 customer-supplier relationships, Fee, Hadlock, and Thomas (2006) studies a firm's decision to invest in trading partners. They find equity stakes can often help overcome contractual incompleteness and also help provide quasi-inside financing to ease financial constraints of trading partners. The presence of these intense trading relationships between firms may mitigate the incentive to provide discipline. Kang and Kim (2006) show that the relatedness of the acquirer and the target is an important determinate of blockholder intervention. They find relatedness negatively impacts action as blockholders do not want to damage business ties through heavy-handed governance. Borokhovich, Brunarski, and Parrino (2001) find that outside blockholders who do not have current or potential business connections to a firm are perceived to be better monitors of management than outside blockholders with such connections. Though corporate blockholders face these conflicts of

interest, they are typically free from ownership level restrictions unlike financial blockholders. Corporate blockholders can and frequently do exercise control through complete corporate control. Partial stakes are often a precursor to takeover attempts. Kyle and Vila (1991) suggest that liquidity enables the formation of a toehold stake necessary for profitable hostile takeovers. Overall, corporations may face lesser regulatory constraints than financial firms, but business relationships between firms may limit aggressive monitoring activity.

Activist investors such as hedge funds and individuals are typically free from the regulatory barriers and conflicts of interest that limit activism by financial firms and corporations. Recently, hedge fund activism has been a hot topic both in the media and academic literature. Unlike mutual funds, hedge funds can take much larger undiversified positions since they are not subject to the Investment Act of 1940 that stifles activism by mutual funds. Brav, Jiang, Partnoy, and Thomas (2008) note that hedge fund managers typically have strong incentives to generate returns and often require investors to "lock-up" funds for long periods of time allowing greater flexibility in trading. While the academic literature typically focuses on hedge funds as a special type of activist, the characteristics attributed to them are not unlike those of wealthy individual investors. Entrepreneurial investors, such as Carl Ichann, Ronald Pereleman, George Soros, and Warren Buffett, can and frequently do acquire blockholdings and sometimes engage in activism.

I combine both individual and hedge fund entities in the Individual/partnership category for a variety of reasons. First, there is no generally accepted definition of a hedge fund.[8] Since the main issue of this paper is to examine the effect of liquidity on governance by blockholders, lumping individuals with hedge funds is natural since both face a similar lack of constraints on their ability to engage in activism. Among the distinguishing features of hedge funds mentioned in prior literature are highly incentivized managers, lack of regulation,

[8]See http://www.sec.gov/spotlight/hedgefunds/hedge-vaughn.htm for a variety of opinions and definitions.

ability to take concentrated undiversified positions, and the use of derivatives and leverage. Clearly, most wealthy individual investors have extremely similar features. Khein and Zur (2006) also note that both hedge funds and activist individuals are both relatively free from regulatory controls of the Security Act of 1933, the Securities and Exchange Act of 1934, and most importantly the Investment Company Act of 1940.

Other categories of blockholders such as church plans and endowment are harder to classify cleanly into any of the aforementioned categories. To cover blockholders that do not natural fall into the financial, corporate and individual/partnership categories, I create a category called other. On one hand, these blockholders may be exempt from the legal restrictions that apply to financial blockholder and the conflicts of interest that emerge in corporate blockholdings. However, these entities may have many other self-imposed or social oriented constraints.

I exclude from my block formation sample filings from trusts, estates and foundations that represent the passing of an already established block from one owner to another.[9] Similarly, I exclude filings reporting ownership in a new company which was formed from an existing company in which the filer had a blockholding (e.g., a merger or spin-off).

I use the Compustat Execucomp database to find directors and executives of target firms. I then compare these with the filing to eliminate insider blockholdings from the sample. The use of the Execucomp dataset limits my sample to the years 1994-2005 and coverage of firms in the S&P 1500.[10] Since blockholdings must be reported only if the filer owns at least 5% of the target, this restriction limits the amount of blockholding observed compared to the set of all publicly traded firms since my sample is biased toward large cap firms. To eliminate

[9]These positions frequently result from deaths and divorces and are almost exclusively for investment purpose only.

[10]Technically, I use the intersection of my blockholdings data and Execucomp, but I refer to the sample as the S&P 1500 for brevity. Execucomp covers the S&P 1500 (excluding ADRs) plus companies that were once part of the 1500 plus companies removed from the index that are still trading, and some client requests. All told Execucomp contains over 2500 companies, both active and inactive.

ESOPs and other profit sharing plans, I examine the self-reported filer classification on the Schedule 13D and Schedule 13G. I eliminate blockholdings in cases when the ESOP invests in the firm which employs the participants of the ESOP. (I do retain ESOP investments in other "outside" firms).

One important caveat is that I only observe equity ownership. I may miss control actions when an outside shareholder uses empty voting. Empty voting occurs when investors borrow shares by short selling for the primary purpose of voting on corporate matters. The practice creates a larger control position relative to the economic position. Hu and Black (2006) notes that derivative positions are not fully disclosed in these filings. To the extent that this practice occurs in lieu of using equity, the results will underreport the amount of activism.

2.1 Summary statistics

On Schedule 13D, Item 14 of the cover page asks the filer to self-classify the "Type of reporting person." Item 12 reports a similar classification on the Schedule 13G. The SEC provides thirteen possible classifications. To make analysis tractable, I classify all filers into one of four types based on the similarity of the constraints they face: financial, corporate, individual/partnership, and other. I classify any filer that reports as either a broker-dealer, bank, insurance company, investment company, or investment adviser as a financial blockholder. As "type of reporting person" is self-reported, I add an additional screen. Since one major feature that I am trying to capture is the presence of regulatory restrictions, I collect all filings required under the Investment Company Act of 1940 during the sample period from the EDGAR website and classify any blockholder that files these forms as a financial blockholder. Using the response to Item 14, I classify any filer that reports as either a corporation or parent holding company as a corporate blockholder. This group consists of both private and publicly traded companies. Again using the response to Item 14, I label any filer that reports as either a individual or partnership as an individual/partnership blockholder.

This group contains venture capital funds, hedge funds, private equity and wealthy private investors. Since I employed a CIK match to identify firms that are subject to the Investment Company Act of 1940, the individual/partnership group correctly contains hedge funds sponsored by large financial institutions that are legally separate and therefore not subject to the same legal restrictions. In the final group, I include those entities which are difficult to group with the prior three. The final group includes filers that report as employee benefit plan (excluding ESOP that represent employees of the target firm), endowment fund, savings association, church plan, and other.

In Table 1 Panel A, I breakdown the filings by blockholder type. Financial blockholders are by far the common blockholder type comprising nearly two thirds of the sample. As the previous literature suggests, financial blockholders are predominantly passive blockholders - only filing a Schedule 13D 3.24% of the time. As a group they have the smallest initial position size, 7.46% and rarely exceed a 20% ownership stake in the target firm. This is consistent with the legal and structural constraints they face. Corporate blockholders comprise around 10% of the sample. They have a higher degree of activism, filing a Schedule 13D 28.2% of the time and often take large initial positions as a third of the initial blockholding exceed 10% ownership of the target. A close reading of Item 4 "Purpose of Transaction" shows that many of these positions are taken as a toehold in a merger agreement. Corporate blockholders are unique in that they can create synergies through cross-ownership with the target company that other blockholders may not be able to realize. As expected, the highest occurrence of activism is seen among the individual/partnership blockholders. While much of the existing hedge fund literature has focused on activist filings with Clifford (2007) being the notable exception, over half the filings by individual/partnership blockholders are passive. This suggests that previous studies of activist hedge funds may not capture the entire role of hedge funds as blockholders. Overall, the ownership patterns of the other category most closely resembles the financial group, which is not surprising since the main constraints

governing the other group include ERISA and "prudent investor" rules. These findings are consistent with the differences in constraints faced by each group.

In Table 1 Panel B, the difference in blockholdings between active (Schedule 13D) and passive (Schedule 13G) filings becomes evident. The initial stake in an active Schedule 13D filing is nearly twice the size of the stake in a passive Schedule 13G filing. Interestingly, Schedule 13D filings typically have a longer holding length (30.75 months vs. 23.12 for passive).[11] This finding is interesting since hedge funds and other activist investors are often accused of short-termism by critics. Despite the low frequency of activism by financial blockholders, they still account for 22.49% of the active filings due to the sheer number of financial blockholders. I create an indicator variable that equals one if the blockholder subsequently increases the size of their holding above their initial filing ownership level and zero if they keep the same size stake or decrease it from the initial level. The probability of the position being increased is slightly lower for Schedule 13D filings; however, the increase size of the ownership position is greater for Schedule 13D filings. This is suggestive of larger but less anticipated increases in positions for the active filings consistent with Maug (1998).[12]

Table 2 presents the summary statistics of the 2,456 unique targets of block share acquisitions from 1994-2005. To control for other firm characteristics that could impact the decision to intervene, I collect firm size as the logarithm of the market capitalization (a proxy for public monitoring as in Merton (1987)), leverage (a proxy for monitoring by debt holders which may lower monitoring costs), and Tobin's Q (a proxy for the need for monitoring). Using Compustat, I obtain accounting data for all firms in my sample years. I calculate ROA, leverage, and Tobin's Q for all Compustat firms and winsorize at the 1% and 99% levels. I then calculate industry adjusted values for ROA, leverage, and Tobin's Q using the Compustat universe.

[11] In this table, I exclude those Schedule 13D filings that are not closed out by the end of the sample period, so this may downward bias my duration figure.

[12] Since initial positions below 5% cannot be observed, this result must be interpreted with caution.

As a metric of managerial share price sensitivity, I calculate the incentive ratio as suggested in Bergstresser and Philippon (2008). The metric is defined as the ratio of (0.01 * Price * (Shares + Options) denoted ONEPCT over (ONEPCT + Salary + Bonus). The ONEPCT corresponds to the increase in manager's wealth caused by a one percent increase in the stock price. The incentive ratio captures the relative value of short-term compensation.

Though there are many definitions of liquidity, the term typically refers to an asset's ability to be easily converted through an act of buying or selling without causing a significant movement in the price and with minimum loss of value. The existing literature conventionally expresses liquidity proxies in terms of trading cost or price impact, which are decreasing in liquidity. One commonly used measure is the effective cost. The effective cost of trading is usually estimated from transaction-level trade and quote data. On the buy side, the effective cost is the execution price less the midpoint of the prevailing bid and ask quotes (and the opposite for the sell side). Hasbrouck (2006) proposes a Gibbs estimate of effective cost that is based on daily closing prices. In a broad sample of U.S. firms over a sample period similar to the one I use (1993-2005), an annual Gibbs estimate based on daily data achieves a correlation of 0.965 with the intra day TAQ value of effective cost.[13] The effective cost contains both the trade-related temporary and permanent (price impact) components of the price change.

Using correlations with intra day measures, Goyenko, Holden, and Trzcinka (2008) find that the Amihud ratio from Amihud (2002) does a good job of capturing the price impact. The Amihud illiquidity ratio is the yearly average (using daily data) of $1000 * \sqrt{|Return|/(Dollar\ Trading\ Volume)}$. As a third alternative, I use the proportion of zero return days which I call the *Z-Index*. Lesmond, Ogden, and Trzcinka (1999) provides a theoretical justification for using this as a proxy of liquidity. Given an arbitrary informative

[13] I thank Dr. Hasbrouck for providing the Gibbs estimates on his website, `http://pages.stern.nyu.edu/~jhasbrou/Research/GibbsEstimates2006/Liquidityestimates2006.htm`

signal, x, a market participant will only trade if the transactions costs are less than x or otherwise there will be no trade and hence zero return. As transaction costs increase, for the same set of informative signals, zero returns will be observed at a higher frequency.

In the sample, these measures are highly but not perfectly correlated suggesting that each measure may capture slightly different components of liquidity. In Table 2, I report the raw values of each illiquidity measure. Since the measures are not directly comparable, I use a standardized version of each illiquidity measure in all subsequent tables. Unreported univariate tests do not show an economically significant difference in liquidity between target and non-targeted firms.[14] Large differences in size may mask differences in univariate tests as the Schedule 13D censor blockholding observations below 5%.

Several features in Table 2 are worth noting. Industry-adjusted ROA is negative for active blockholders and nearly zero for passive blockholders suggesting that active targets have more severe performance issues relative to industry peers. As expected, active blockholders target smaller firms than passive blockholders since all else equal a smaller firm will require less capital for a fixed position size. One must keep in mind that these statistics are conditioned on being targeted by a blockholder. So even though active targets have higher illiquidity (lower liquidity) than passive targets, it is incorrect to infer that active blockholders prefer illiquid firms. Instead, passive blockholders seem to target relatively more liquid firms.

3 Empirical results

3.1 Blockholder preferences

I predict increasing liquidity should encourage the formation of blockholding ceteris paribus. The blockholder can recoup the cost of monitoring through capital gains to its initial block-

[14] I also tried running my tests using a liquidity measure derived from a principal component analysis of the various measures of liquidity as suggested in Korajczyk and Sadka (2008). All my main results are qualitatively unaffected.

holdings and also through informed trading with liquidity traders, since only the blockholder know if it will monitor. If the blockholder did precommit to monitor, then the other shareholders would only sell at a price that reflects the full value of monitoring, thereby reducing the blockholders incentives to monitor. Some value improving monitoring opportunities will be lost because other shareholders will free ride. As the blockholder receives more of the benefits of monitoring, blockholdings will occur more often, all else equal. For fixed monitoring costs, higher liquidity will allow the blockholder to spread more of that cost to other passive shareholders as liquidity increases.

Observing such a relationship in the data is problematic. Monitoring cost is unobservable, and even if a good proxy could be found, monitoring cost may vary depending on the characteristics of the blockholder. Another major concern is the endogeneity between block ownership and liquidity. Heflin and Shaw (2000) attempt to look at the effect of the presence of blockholders on liquidity and find that both inside and external blockholders decrease subsequent liquidity. In equilibrium, blockholders will set their holding levels according to the level of liquidity in the market. Block formation are also self-selected in the sense that they are only observed in the cases in which the blockholder believes the potential benefits of owning the block exceed the cost.

To get around these issues and in order to estimate how liquidity affects the propensity for block formation, I appeal to an instrumental variables approach using an exogenous shock to liquidity to identify the effect on block formation. For the measure of liquidity shock, I use an indicator variable for the post-decimalization era of the stock exchanges. The NYSE switched stock pricing from eighths to decimals starting with 7 firms in August 2000 and all firms by January 2001. The SEC ordered all U.S. stock markets to convert to decimal pricing by April 9th, 2001. Pricing in decimals decreased the minimum tick size. Chakravarty, Wood, and van Hess (2004) find quoted and effective bid-ask spreads on the NYSE declined significantly following decimalization. Furfine (2003) documents that

though decimalization leads to smaller spreads it also lead to lower depth therefore causing a theoretically ambiguous change to market liquidity. From his empirical work using price impact measures, he concludes that actively traded stocks (like the ones used in my study) generally experienced an increase in liquidity following decimalization. Thus, decimalization meets the criteria of a good instrumental variable as it is significantly correlated with liquidity and there is not a plausible reason to believe that block formation (or the unobserved cost to monitor) should be correlated with decimalization except through liquidity. In order to control for other potentially influential target characteristics, I include log(market cap) and leverage as proxies for monitoring by other stakeholders and Tobin's Q and ROA as proxies for the need for monitoring.

To implement the test, I collect a sample of 195,984 firm-month observations for all the S&P 1500 firms between 1994 and 2005. I create an indicator variable that is equal to one if a new block filing occurs in the firm-month and zero otherwise, and a second indicator variable that is equal to one if the firm-month observation is post-decimalization and zero otherwise. In the reduced form equation, I regress the liquidity proxies on the decimalization indicator and the exogenous control variables. In the structural equation, I use the indicator variable for new block filing as the dependent variable. I estimate the instrumental variable probit model using maximum likelihood estimation.

Table 3 reports the results of the estimation. In the first column of each specification, Table 3 shows the reduced form model estimates for liquidity. In all three specifications, the illiquidity measure has a negative and statistically significant coefficient for the decimalization indicator variable. This further supports that decimalization is a reasonable choice for an instrumental variable. The estimates of the structural model are reported in the right column of each specification in Table 3. In each of the three specification, the coefficient on illiquidity measure is negative and statistically significant. This finding is consistent with the view that block formation is less likely in lower liquidity firms. The unconditional prob-

ability of block formation is 4.8%. A one standard deviation decrease in illiquidity causes the probability of block formation to increase by .8 to 1.6% depending on specification. So given the relative paucity of new block formation, higher liquidity significantly enhances the likelihood of forming a block. For all three specifications, I reject the hypothesis that the error terms in the structural equation and the reduced-form equation for the liquidity are uncorrelated, suggesting endogeneity was a legitimate concern. The information asymmetry may arise when a blockholder acquires a position as the blockholder becomes more informed about the potential cost to monitor the firm. This information asymmetry could manifest in reduced liquidity.

I also find that the coefficients of the control variables are consistent with the ex-ante predictions. The negative coefficient on ROA implies that block formation is more likely when the firm is performing poorly. Poor firms may have more opportunity for improvement, and the gains to monitoring may be greater when firms are underperforming their peers. I also observe that block formation is more likely when leverage is higher. This is consistent with the interpretation that debt holders may help encourage monitoring by sharing monitoring costs. The coefficient on log(market cap) is negative and strongly statistically significant across all three specifications. This result is likely due to how the sample was constructed. Since I only observe blockholding when the holding exceeds 5% of the firm, the same dollar value ownership position in a small firm will not be observable in a larger firm.

In summary, the analysis of block formation supports the hypothesis that blocks are more likely to form when liquidity is higher. The results also suggest that the instrumental variable methodology was valid and necessary as decimalization impacted liquidity and block formation and liquidity are endogenously determined.

3.2 Liquidity and Precommitment

According to the model in Maug (1998) in an equilibrium market, large shareholders will buy an initial stake that will not precommit them to monitoring. That is, the capital gain on their initial position due to monitoring is insufficient to cover the cost of monitoring. However, the blockholder can gain two ways: capital gains to its blockholdings and informed trading with liquidity traders. When liquidity is higher, the blockholder prefers to buy a smaller stake because it can do so at a lower price because shares do not fully reflect the increase in value of the blockholder's monitoring. If the blockholder did precommit to monitor, then the other shareholders would only sell at a price that reflects the full value of monitoring, thereby reducing the blockholders incentives to monitor. In more liquid markets, the blockholder can profit from additional shares purchased from the other shareholders. Conditional on a block being acquired, as liquidity decreases a larger initial stake is needed to be purchased so that the blockholder can capture capital gains on the initial stake.

To test this empirically, I create a sample of 18,210 blockholder acquisitions in which the blockholder obtains a 5% or greater stake in any S&P 1500 firm between 1994 and 2005. I run a regression to predict the size of the blockholding conditional on liquidity and control variables. The dependent variable is the ownership percentage as recorded in the initial blockholding filing (i.e. Schedule 13D or Schedule 13G). As I did before, to control for other potentially influential target characteristics, I include log(market cap) and leverage as proxies for monitoring by other stakeholders and Tobin's Q and ROA as proxies for the need for monitoring. To avoid issues with simultaneity, I use the values of the illiquidity measures and control variables one year before block acquisition. I also include an indicator variable for an active (Schedule 13D) filing. Since active filings will involve more costly monitoring, the size of the position should be larger, ceteris paribus. I include an interaction between active filing and illiquidity. Since liquidity is more valuable when the blockholder engages in costly monitoring and liquidity reduces the necessary size of the initial position, I predict

a positive coefficient on the interaction of illiquidity and active. That is, in a more illiquid market, the blockholder needs a bigger stake in order to recoup its monitoring cost since the capital gain on the initial block must be larger.

I estimate the model using a tobit model censored at 5% and report the results in Table 4. In each of the three specifications, I find a positive and significant coefficient on illiquidity indicating that the blockholder buys a smaller stake in a more liquid market. To understand the economic significance, I find that a one standard deviation increase in Z-Index corresponds to a 0.85% reduction in initial ownership stake. These results support the hypothesis that the size of the blockholding will decrease with liquidity as blockholders rely more on capital gains on their initial position in illiquid markets and on informed trading in liquid markets.

3.3 Threat of exit

In the model presented in Admati and Pfleiderer (2008), a large shareholder can reduce agency costs by discipling managers through the threat of exit. This implies that the stock price should react favorably to a partially unanticipated acquisition by a large block holder, though this prediction is not unique to Admati and Pfleiderer (2008). Admati and Pfleiderer (2008) show that the effectiveness of the threat to exit as a discipline action increases when the large shareholder can more credibility exit its position. If the security is highly illiquid, then the threat to exit is not credible as the blockholder does not want to suffer a large loss in value to exit its position. In those situations where the threat is credible, the blockholder can influence managerial behavior to be more aligned with shareholders by threatening the managers. The amount of influence should be proportion to the size and credibility of the threat. Therefore, the disciplining effect of a potential exit on the managers decision is increasing in the interaction of the position's liquidity and the importance of managerial compensation tied to stock performance.

In equilibrium, the current price reflects the expected firm value based on existing public information. A positive announcement return indicates that the market believes that the new blockholder will make the firm more valuable. If the threat of exit can encourage managers to increase shareholder value, then abnormal returns should increase when this threat is more credible, that is, when market liquidity is high and managers are highly sensitive to share prices. To test this empirically, I compute the abnormal return using the standard event-study methodology. I obtain my estimates of the market model by using 200 trading days of return data beginning 220 days before and ending 21 days before the announcement of the block share purchase. I use the CRSP value weighted return as the market return. I sum daily abnormal returns to get the cumulative abnormal return $CAR(t_1, t_2)$ from day t_1 before the announcement date of the block share purchase to day t_2 after the announcement date.

I used the file date listed on Schedule 13D or Schedule 13G. Mikkelson and Ruback (1985) note that the Schedule 13D only needs to filed within 10 days of crossing the 5% threshold, and this causes difficulty in determining the correct event date. The problem is worse for Schedule 13G which only needs to be filed within 45 days of crossing the 5% threshold. The acquiring blockholder also may spread its purchases over several weeks triggering a filing only when it crosses the 5% threshold. This will reduce the power of my tests as I cannot percisely identify when knowledge of this new blockholding becomes public. To the extent that this information falls outside the window, the tests will be less likely to find a significant result.

I regress the abnormal return experienced when the blockholder acquires the block on the illiquidity measures, the incentive ratio and the interaction of the two. Include the illiquidity measure and incentive ratio as separate terms to control for other explanations that do not involve the threat of exit. Table 5 presents the announcement returns estimates. Since I am using illiquidity measures, I interpret a negative coefficient on the interaction

term as evidence of the threat of exit improving firm value. In Table 5, I observe that the results are generally consistent with the implications of the Admati and Pfleiderer (2008) model. I find that the coefficient on the interaction of incentive and illiquidity is negative suggesting that in cases where managers have highly aligned incentives illiquidity reduces the validity of the threat to exit. These results suggest that liquid markets allow blockholders to influence managerial behavior to be more aligned with shareholders by threatening to exit blockholdings.

3.4 Loyalty, exit, or voice decision

The prior empirical tests only speak to the creation of new blocks. When reevaluating their existing positions, blockholders may respond differently to liquidity. Using the Hirschman (1970) nomenclature, the blockholder could remain loyal, exit, or exercise voice. Once a block is formed, liquidity could hinder activism (voice) as liquidity allows exit from the block to be a cheaper solution than actively monitoring. To test whether increased liquidity encourages existing blockholders to take the exit via "Wall Street walk" rather than exercise voice and take an active stand against management, I create a sample of passive blockholdings (i.e. blockholdings where the initial filing was a Schedule 13G). On Schedule 13D, the blockholder is required to report if the blockholder has previously filed a statement on Schedule 13G to report the acquisition which is the subject of this Schedule 13D. I use this entry to create an indicator for a switch to activism. So for each month, every existing passive blockholding has three possible outcomes. The position can remain passive, the "loyal" case. Alternatively, the blockholder can file a Schedule 13D and exercise "voice". The other possible outcome is the blockholder can simply "exit" and sell the blockholding.

Since I have three possible outcomes, I employ a multivariate logit regression to analyze the determinants of these three outcomes. I make the loyalty or do nothing case the omitted or base outcome. If liquid markets hinder activism, then I should see a positive relation

between illiquidity and activism. That is, if illiquidity encourages blockholders to be more active in monitoring because they are stuck in their position, I should observe a positive coefficient of illiquidity in the "voice" outcome. If liquidity lowers the cost of exit, then I should see a negative coefficient on the illiquidity measures for the "exit" outcome. I also consider other factors that may affect the choice of exit, voice or loyalty. Demsetz and Lehn (1985) argue that blockholders as long-term investors have strong incentives to monitor management. So I include the length of the time in months that the block has been held as an explanatory variable.[15] Kang and Shivdasani (1995) argues that activism is more valuable when the firm is performing poorly. Therefore, I include the blockholdings cumulative stock market performance to date.

Table 6 presents the results of the multivariate logit estimation. Consistent with the theory of the trade-off between liquidity and control, higher liquidity (or lower illiquidity) increases the probability of exit for the Z-Index and Amihud measures, though surprisingly the result is reversed (but not statistically significant) for the Gibbs measure. This gives mixed support that liquidity increases a blockholders propensity to exit - only the Gibbs measure is marginally statistically significant. More interestingly, there exists no significant relationship between "voice" and liquidity. This suggests that even if blockholders are locked into a blockholding position they will choose to remain passive rather than engage in monitoring. The implication is that there is no trade-off between liquidity and control. Even if liquidity leads to more exit, a blockholder who is unable to exit due to low liquidity is unlikely to engage in monitoring. One reasonable explanation follows from Table 1. Passive blockholders tend to be the more constrained financial blockholders who have regulatory restrictions that inhibit their ability to be effective active monitors. Following the results of the previous section, financial blockholders may be more inclined to exert discipline by exit

[15] I do this instead of the total holding period of the block, since the total holding period is not known prior to termination of the blockholding. This avoids any spurious inferences that could be caused by including information that is not in the information set at each block-month observation.

when faced with restrictions on engaging on more traditional forms of monitoring. Consistent with Shleifer and Vishny (1986), the size of the position has a strong negative effect on exiting, and a positive influence the propensity to engage in activism. Blockholders can reap more of the potential benefits from engaging in monitoring when they control a larger stake. Consistent with presence of wealth constraints on building a significant position in the largest of firms and presence of other public forms of monitoring for well known firms, blockholdings in larger targets are more likely to stay remain passive as the coefficients of log(market cap) is negative for both "voice" and "exit".

3.5 Blockholder Gains from Activism

The free-rider problem mentioned in Shleifer and Vishny (1986) suggests that a blockholder will only intervene when the amount of benefits from their stake exceeds the cost of monitoring. Unfortunately, the cost of monitoring is difficult, if not impossible, to observe. I make the natural assumption that in equilibrium, blockholders will only actively monitor when the expected compensation they receive from the action exceeds the expected cost of taking the action. I use the realized values to proxy for the expected compensation for the blockholder. This allows me to compare the returns to active and passive blockholding as well as among types of blockholders.

I calculate the holding period returns for each of the blocks using the closing CRSP prices on the file date of the block announcement and the file date when the block drops below 5% ownership. As holding lengths vary considerably, I create three more measures to attempt to make meaningful comparisons. First, I simply look at the holding return for one-year after the initiation of the block. Second, I take the holding period return and annualize it based on the holding period length. Note, the annualization may overstate the returns that the blockholder is able to achieve since a return for short holding periods may not necessarily be scalable over the full year (i.e. reinvestment risk). Finally, I take the constant from the

regression on the Fama-French three factor model as a measure of alpha. For the alpha calculation, I require at least one year of monthly observations. One important caveat is that these returns do not necessarily reflect the profits the blockholders actually make. I do not have actual prices for their trades and these figures do not take into account the possibility that the blockholder held a sub 5% stake before the filing date (or retained a sub 5% ownership stake post-blockholding). In the most illiquid securities, a blockholding will only be observed if the high cost of monitoring can be compensated with equally high returns. As liquidity increases, blockholders can monitor in more marginally beneficial situations, so therefore I expect a positive relation between illiquidity and blockholder returns. Table 7 contains the holding period return, one-year return, annualized holding period return, and Fama-French three factor alpha. Despite the mentioned caveats, these results are consistent with the positive relation of illiquidity and returns. Also, the results imply that individual/partnerships can engage in more costly monitoring and also the greater ability of these blockholders to take risk in the absence of constraints that bind the other types of blockholders. Though the relation of illiquidity and returns is not an original finding, the size of the effect on returns due to illiquidity is too high to be attributed only to trading costs. One possible explanation is that illiquidity captures some type of unobserved risk. To the extent that engaging in monitoring activities creates risky payouts, the illiquidity premium may capture this return to blockholders.

3.6 Blockholder success

Blockholders often make very general or boilerplate demands in the Purpose section of the Schedule 13D filing. While this is done to keep open a wide host of potential remedies for poor firm performance, this also makes empirical measurement of blockholder success of achieving their stated purpose difficult. I thereby focus on two specific types of purposes that have very clearly defined objectives: mergers and CEO turnover. An example text is

listed in the Appendix. First, I identify all blockholdings in which the blockholder states that the objective of the blockholding is to support or oppose a merger of the target with another firm. I then use Factiva and the CRSP delisting data to determine whether the blockholders objective was accomplished. Similarly, I examine the statement of purpose for calls for resignation of the CEO and use Factiva and the Compustat Execucomp database to determine whether the CEO was removed during the blockholding period. Overall, I identify 416 cases and blockholders are successful in gaining their stated objective in over half the cases. In Table 8, I examine the possible predictors of blockholder success. Observable firm specific characteristics do not provide statistical significant predictive ability in the first specification. The size of the initial blockholding and market reaction both prove to be important factors in predicting blockholder success. This is consistent with my earlier finding that size of the initial blockholding is related to the liquidity. When blockholders enter into illiquid securities, they require a higher return to offset the higher cost of being committed to the position. By holding a larger position the blockholder can have greater influence and be more likely to achieve success of their stated purpose. The finding that the market reaction can predict success and that is result still holds even when including the firm and blockholding characteristics suggest that market participants can better predict the successfulness of the blockholders.

4 Conclusion

In this paper, I empirically examine the role of the liquidity of a firm's equity in allowing blockholders influence control over targets. By using decimalization of the stock exchanges as an instrument to break the endogeneity between block formation and liquidity, I find illiquidity negatively influences the creation of blockholdings. Also consistent with theory, blockholders take smaller stakes that do not precommit them to monitor firms with more

liquid securities. I also find that blockholders can use liquidity to influence management. I find evidence that the threat of exit from a block can improve firm value and that this threat is more effective when liquidity is higher. I fail to find evidence of a trade-off between liquidity and control. While liquidity increases exit from existing blocks, I find no evidence that illiquidity forces blockholders to monitor. Blockholders' returns are consistent with liquidity facilitating costly monitoring.

An interesting extension of this work would be to examine success rates of all forms of blockholder activism. Maug (1998) predicts that blockholders will prefer more effective methods of control like takeovers over lower cost methods like the "vote no" campaigns discussed in Del Guercio, Wallis, and Woidtke (2008) when liquidity is higher. Given the large sample size such an undertaking would not be trivial as applying consistent evaluations of success would require extensive hand coding of events.

Table 1
Summary of block acquisitions

The initial sample of 18,210 blockholder acquisitions in which the filer that obtains a 5% or greater stake in any S&P 1500 firm between 1994 and 2005. I obtain the sample of block acquisitions from SEC Schedule 13D and 13G filing and their amendments as provided by EDGAR. This table reports values based on the initial 13D by the acquiring blockholder. The classification of blockholders into *Financial*, *Corporate*, and *Individual/Partnership* is based on the blockholder response to Item 14 on Schedule 13D (or Item 12 on Schedule 13G). The *Initial position size* is based upon the ownership percentages reported by the blockholder. *Holding period* is the number of months a block is held. It is determined using the first date that the blockholder exceeds the 5% threshold until the blockholder reports a sub 5% stake or does not make a required filing (indicting that the position no longer exists). *Conditional Increase Size* is the percentage change from the initial stake conditional on an increase occurring. *Active* means that the blockholder states that it pursues action by the management of the target as reported on the Schedule 13D. The actions range from discussing business strategy to a hostile takeover attempt. (See the Appendix for SEC instructions for reporting Item 4 - Purpose of Transaction)

Panel A: Block holding summary by blockholder type

Type of blockholder	Sample size	Schedule 13D	Initial position size	Holding period (months)	Odds of increasing	Conditional Increase Size	Initial >10%	Initial > 20%
Financial (subject to Investment Company Act of 1940)	11884	3.24%	7.46	22.37	37.98%	2.98	13.20%	0.90%
Corporate	1872	28.24%	11.6	22.73	24.69%	3.11	33.33%	11.43%
Individuals/ partnerships	1128	44.17%	9.78	26.92	30.35%	4.08	24.84%	6.91%
Other (church plan, endowments, etc...)	3326	9.14%	8.58	29.6	44.73%	3.88	26.33%	2.19%
Total	18210	9.57%	8.26	23.85	37.07%	3.22	18.31%	2.68%

Panel B: Block holding summary by purpose

	Sample size	Financial	Corporate	Individual/ partnership	Initial position size	Holding period (months)	Odds of increasing	Conditional Increase Size	Initial > 10%	Initial > 20%
Passive	16335	71.09%	9.02%	3.85%	7.61	23.12	38.14%	3.06	15.47%	0.90%
Active	1875	22.49%	33.52%	28.74%	14.33	30.75	26.99%	5.43	45.19%	19.47%
Total	18210	66.44%	11.36%	6.23%	8.26	23.85	37.07%	3.22	18.31%	2.68%

Table 2
Summary statistics

The sample consists of 2456 unique U.S targets of 18,210 block share acquisitions between 1994 and 200. I obtain group targets into *Passive* and *Active* based on which type of schedule filed and the response to Item 4 on the Schedule 13D, if applicable. *G-Index* is the Governance index as reported in Gompers, Ishii, and Metrick (2003). *log(market cap)* is the logarithm of book market capitalization as reported by Compustat. *Tobin's Q* is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity) and is adjusted by industry. *ROA* is the industry adjusted return on assets defined as EBITDA/(lagged assets). *Leverage* is the industry adjusted book leverage ratio defined as debt/(debt + book equity of equity). *Z-Index* is defined as the proportion of zero return days in the preceding year. *Amihud* is defined as in Amihud (2002) - the yearly average (using daily data) of $1000 * \sqrt{|Return|/(Dollar\ Trading\ Volume)}$. *Gibbs* is the Gibbs estimate of effective cost of trading from Hasbrouck (2006). *Incentive ratio* is defined as in Bergstresser and Philippon (2008) as the ratio of (0.01 * Price * (Shares + Options) denoted ONEPCT over (ONEPCT + Salary + Bonus). All target variables from Compustat are industry-adjusted. *New block* is the proportion of firms in which a new blockholder files within the given year.

Panel A: Summary statistics of targer firms

	Passive				Active				Total				Difference	
	N	Mean	Median	SD	N	Mean	Median	SD	N	Mean	Median	SD	Mean	T-test
G-Index	10,962	9.116	9	2.676	1157	9.113	9	2.734	12119	9.115	9	2.682	0.00	0.03
ROA	16,715	0.000	-0.002	0.101	1964	-0.032	-0.016	0.117	18679	-0.004	-0.004	0.103	0.03	12.73
Leverage	16,370	-0.021	-0.034	0.225	1904	0.028	0.009	0.257	18274	-0.016	-0.031	0.229	-0.05	-8.83
Tobin's Q	15,398	-0.048	-0.278	1.376	1801	-0.198	-0.370	1.306	17199	-0.064	-0.287	1.369	0.15	4.38
log(market cap)	17,254	6.724	6.633	1.420	2033	6.288	6.222	1.623	19287	6.678	6.595	1.449	0.44	12.89
Incentive ratio	14,300	0.213	0.134	0.221	1541	0.209	0.128	0.227	15841	0.212	0.133	0.222	0.00	0.73
Z-Index	17,522	0.076	0.048	0.075	2052	0.114	0.094	0.090	19574	0.080	0.052	0.077	-0.04	-21.22
Amihud	16,296	0.109	0.067	0.128	1884	0.162	0.095	0.182	18180	0.115	0.069	0.135	-0.07	-15.02
Gibbs	16,296	0.005	0.004	0.004	1884	0.006	0.005	0.005	18180	0.005	0.004	0.004	-0.00	-15.10

Panel B: Summary statistics of all sample firms by year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Z-Index	.173	.171	.152	.111	.072	.076	.068	.029	.020	.021	.017	.018
Amihud	.181	.155	.134	.120	.121	.117	.123	.120	.111	.084	.056	.050
Gibbs	.007	.006	.006	.005	.005	.006	.007	.005	.005	.003	.003	.002
New block	.042	.040	.047	.060	.063	.054	.053	.051	.049	.048	.056	.058

Table 3
Likelihood of being targeted by a blockholder

The sample consists of 195,984 firm-month observation of S&P 1500 firms between 1994 and 2005. I employ an instrumental variables probit approach for each specification using decimalization of the NYSE and NASDAQ as an instrument for my illiquidity proxy. The dependent variable, *Block*, equals one when a new block is formed in a particular firm-month and zero otherwise. I estimate the model simultaneously using Maximum Likelihood Estimation. *G-Index* is the Governance index as reported in Gompers, Ishii, and Metrick (2003). *log(market cap)* is the logarithm of book market capitalization as reported by Compustat. *Tobin's Q* is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity) and is adjusted by industry. *ROA* is the industry adjusted return on assets defined as EBITDA/(lagged assets). *Leverage* is the industry adjusted book leverage ratio defined as debt/(debt + book equity of equity). *Z-Index* is defined as the proportion of zero return days in the preceding year. *Amihud* is defined as in Amihud (2002) - the yearly average (using daily data) of $1000 * \sqrt{|Return|/(Dollar\ Trading\ Volume)}$. *Gibbs* is the Gibbs estimate of effective cost of trading from Hasbrouck (2006). I standardize *Z-Index*, *Amihud*, and *Gibbs* for ease of comparison. *Incentive ratio* is defined as in Bergstresser and Philippon (2008) as the ratio of (0.01 * Price * (Shares + Options) denoted ONEPCT over (ONEPCT + Salary + Bonus). Standard errors are clustered by target firm. T-statistics are in parentheses. The symbols *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Spec 1		Spec 2		Spec 3	
	Z-Index	Block	Amihud	Block	Gibbs	Block
Decimalization	-1.12		-0.07		-0.36	
	(63.88)***		(4.63)***		(21.32)***	
Z-Index		-0.05				
		(4.69)***				
Amihud				-0.67		
				(3.99)***		
Gibbs						-0.14
						(4.32)***
G-Index	0.00	0.00	-0.01	-0.01	-0.03	-0.01
	(0.68)	(0.78)	(2.69)***	(2.90)***	(6.31)***	(2.31)**
ROA	-0.16	-0.40	-0.68	-0.60	-0.37	-1.47
	(2.98)***	(2.27)**	(5.09)***	(4.02)***	(4.14)***	(8.98)***
Leverage	0.09	0.33	0.30	0.36	0.14	0.09
	(2.48)**	(6.12)***	(5.65)***	(3.79)***	(2.40)**	(2.00)**
Tobin's Q	-0.02	0.00	0.02	0.05	0.10	0.00
	(0.28)	(2.58)***	(5.21)***	(1.37)	(0.43)	(7.93)***
log(market cap)	-0.21	-0.07	-0.33	-0.40	-0.09	-0.23
	(28.30)***	(13.77)***	(4.92)***	(28.47)***	(10.29)***	(21.93)***
Constant	-1.13	1.87	-0.50	0.89	-0.93	1.96
	(27.66)***	(28.37)***	(26.17)***	(14.35)***	(12.07)***	(4.06)***
Observations	148,852	148,852	148,852	148,852	148,852	148,852
Wald test of exogeniety		61.97		8.63		16.44
Prob $> \chi^2$		0.000		0.003		0.000

Table 4
Determinants of the size of initial blockholding

The initial sample of 18,210 blockholder acquisitions in which the filer that obtains a 5% or greater stake in any S&P 1500 firm between 1994 and 2005. The dependent variable is the ownership percentage as recorded in the initial blockholding filing (i.e. Schedule 13D or Schedule 13G). *G-Index* is the Governance index as reported in Gompers, Ishii, and Metrick (2003). *log(market cap)* is the logarithm of book market capitalization as reported by Compustat. *Tobin's Q* is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity) and is adjusted by industry. *ROA* is the industry adjusted return on assets defined as EBITDA/(lagged assets). *Leverage* is the industry adjusted book leverage ratio defined as debt/(debt + book equity of equity). *Z-Index* is defined as the proportion of zero return days in the preceding year. *Amihud* is defined as in Amihud (2002) - the yearly average (using daily data) of $1000 * \sqrt{|Return|/(Dollar\ Trading\ Volume)}$. *Gibbs* is the Gibbs estimate of effective cost of trading from Hasbrouck (2006). I standardize *Z-Index*, *Amihud*, and *Gibbs* for ease of comparison. *Incentive ratio* is defined as in Bergstresser and Philippon (2008) as the ratio of (0.01 * Price * (Shares + Options) denoted ONEPCT over (ONEPCT + Salary + Bonus). *Active* means that the blockholder states that it pursues action by the management of the target as reported on the Schedule 13D. The actions range from discussing business strategy to a hostile takeover attempt. (See the Appendix for SEC instructions for reporting Item 4 - Purpose of Transaction) T-statistics are in parentheses. The symbols *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Spec 1		Spec 2		Spec 3	
	Z-Index	Size	Amihud	Size	Gibbs	Size
Decimalization	-1.07		-0.07		-0.33	
			(6.29)***		(21.33)***	
Z-Index		0.82				
		(7.73)***				
Amihud				12.98		
				(4.94)***		
Gibbs						2.74
						(7.26)***
Active	0.16	6.57	0.13	4.92	0.04	6.56
	(6.78)***	(34.54)***	(7.41)***	(10.25)***	(1.64)	(31.80)***
G-Index	0.01	-0.11	0.00	-0.17	-0.02	-0.06
	(4.78)***	(5.34)***	(2.38)***	(4.82)***	(6.18)***	(2.50)**
ROA	-0.27	-0.72	-0.33	3.42	-1.24	2.61
	(3.61)***	(1.16)	(5.40)***	(2.68)***	(14.82)***	(3.25)***
Leverage	0.42	0.39	0.18	-1.59	-0.03	0.85
	(13.73)***	(1.50)	(7.43)***	(2.47)**	(0.88)	(3.09)***
Tobin's Q	-0.03	-0.01	0.02	-0.27	0.07	-0.24
	(4.22)***	(0.23)	(3.42)***	(2.85)***	(9.92)***	(3.80)***
log(market cap)	-0.24	0.21	-0.39	5.01	-0.23	0.64
	(46.44)***	(4.21)***	(93.01)***	(4.95)***	(39.20)***	(6.56)***
Constant	1.81	7.23	2.47	-23.26	1.73	3.99
	(43.76)***	(19.35)***	(74.49)***	(3.61)***	(37.55)***	(5.57)***
Observations	10188	10188	9818	9818	9818	9818

Table 5
Cumulative Abnormal Returns (CARs) for Targets around Announcement Dates

The sample consists of 18,210 block share acquisitions between 1994 and 2005. I compute the abnormal normal returns using the market model. I estimate the market model using 200 trading days of return data ending 21 days before the block acquisition filing. I use the CRSP value weighted return as the market return. *Incentive ratio* is defined as in Bergstresser and Philippon (2008) as the ratio of (0.01 * Price * (Shares + Options) denoted ONEPCT over (ONEPCT + Salary + Bonus). *Z-Index* is defined as the proportion of zero return days in the preceding year. *Amihud* is defined as in Amihud (2002) - the yearly average (using daily data) of $1000 * \sqrt{|Return|/(Dollar\ Trading\ Volume)}$. *Gibbs* is the Gibbs estimate of effective cost of trading from Hasbrouck (2006). I standardize *Z-Index*, *Amihud*, and *Gibbs* for ease of comparison. T-statistics are in parentheses. The symbols *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Z-Index		Amihud		Gibbs	
Dependent Variable	CAR(5,5)	CAR(20,20)	CAR(5,5)	CAR(20,20)	CAR(5,5)	CAR(20,20)
Incentive * Illiquidity	-0.14	0.03	-0.23	-0.38	-0.16	-0.30
	(1.93)*	(0.23)	(3.14)***	(2.65)***	(2.33)**	(2.23)**
Active	1.90	4.14	1.93	3.99	1.95	4.20
	(6.38)***	(7.24)***	(6.50)***	(7.02)***	(6.60)***	(7.39)***
Incentive ratio	-0.12	-0.40	-0.10	-0.24	-0.14	-0.42
	(1.65)*	(2.85)***	(1.36)	(1.65)*	(1.96)**	(3.03)***
Z-Index	0.06	0.73				
	(0.28)	(1.92)*				
Amihud			-0.09	0.72		
			(0.39)	(1.60)		
Gibbs					0.02	0.12
					(0.11)	(0.32)
Constant	-0.18	0.27	-0.14	0.70	-0.21	0.20
	(0.96)	(0.76)	(0.72)	(1.95)*	(1.16)	(0.58)
Observations	14715	14648	14715	14648	14715	14648

Table 6
Multivariate logit estimates for likelihood of Voice and Exit

The sample consists of 213,947 blockholder-month observations in which the blockholder initially files a Schedule 13G. The dependent variable equals "voice" if the blockholder switches to a Schedule 13D filing, "exit" if the blockholder reports a ownership level less than 5%. The omitted case is if the blockholder continues to be passive (filing the required Schedule 13G every year). *Age of position* is the number of months since the initial blockholder filing. *log(market cap)* is the logarithm of book market capitalization as reported by Compustat. *Change in size* is the change in percentage of shares of the target owned by the blockholder from the initial filing. *Cumulative return* is the stock return since the initial blockholder filing. *Z-Index* is defined as the proportion of zero return days in the preceding year. *Amihud* is defined as in Amihud (2002) - the yearly average (using daily data) of $1000 * \sqrt{|Return|/(Dollar\ Trading\ Volume)}$. *Gibbs* is the Gibbs estimate of effective cost of trading from Hasbrouck (2006). I standardize *Z-Index*, *Amihud*, and *Gibbs* for ease of comparison. The classification of blockholders into *Financial*, *Corporate*, and *Individual/Partnership* is based on the blockholder response to Item 14 on Schedule 13D (or Item 12 on Schedule 13G). Standard errors are clustered by target firm. The symbols *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Spec 1		Spec 2		Spec 3	
	Voice	Exit	Voice	Exit	Voice	Exit
Z-Index	-.101	-0.115***				
	(-0.84)	(-7.43)				
Amihud			-.045	-0.187***		
			(-0.41)	(-6.23)		
Gibbs					-0.324*	.027
					(-1.69)	(1.57)
Cumulative return	.049	.010	.050	.010	.052	.011
	(1.32)	(0.94)	(1.36)	(0.95)	(1.48)	(0.99)
log(market cap)	-0.358***	-0.104***	-0.355***	-0.151***	-0.445***	-0.0648***
	(-3.43)	(-9.21)	(-2.78)	(-9.50)	(-3.56)	(-5.64)
Age of position (months)	.013	-0.00125*	.014	.000	.013	.000
	(1.32)	(-1.77)	(1.40)	(-0.045)	(1.37)	(-0.40)
Change in size %	.046	-0.0550***	.046	-0.0543***	.045	-0.0542***
	(1.42)	(-6.14)	(1.43)	(-6.33)	(1.38)	(-6.23)
Financial	-.173	0.342***	-.154	0.371***	-.156	0.368***
	(-0.45)	(9.39)	(-0.39)	(10.2)	(-0.40)	(10.1)
Corporate	0.832**	0.617***	0.845**	0.637***	0.844**	0.628***
	(2.01)	(11.6)	(2.03)	(12.1)	(2.04)	(11.8)
Individual/partnership	1.524***	0.223**	1.556***	0.267***	1.547***	0.247***
	(4.13)	(2.51)	(4.15)	(2.95)	(4.18)	(2.75)
Controls	YES	YES	YES	YES	YES	YES
Observations	213,947	213,947	213,947	213,947	213,947	213,947

Table 7
Blockholding returns

I calculate the holding period returns for each of the block using the closing CRSP prices on the file date of the block announcement and the file date when the block drops below 5%. The one-year return is the return from acsquition date to one year after acquisition. The annualized holding period return is the holding period return annualized based on the holding period length. The alpha is the constant for the regression on the Fama-French three factor model. For the alpha calculation, I require at least one year of monthly observations. *Z-Index* is defined as the proportion of zero return days in the preceding year. *Amihud* is defined as in Amihud (2002) - the yearly average (using daily data) of $1000 * \sqrt{|Return|/(Dollar\ Trading\ Volume)}$. *Gibbs* is the Gibbs estimate of effective cost of trading from Hasbrouck (2006). I standardize *Z-Index*, *Amihud*, and *Gibbs* for ease of comparison. The classification of blockholders into *Financial*, *Corporate*, and *Individual/Partnership* is based on the blockholder response to Item 14 on Schedule 13D (or Item 12 on Schedule 13G). Standard errors are clustered by target firm. The symbols *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Z-Index				Amihud				Gibbs			
	Holding period return	One-year return	Annualized return	Fama-French Alpha	Holding period return	One-year return	Annualized return	Fama-French Alpha	Holding period return	One-year return	Annualized return	Fama-French Alpha
Illiquidity	0.20	0.04	0.03	0.15								
	(17.22)***	(8.15)***	(4.68)***	(4.64)***								
Financial	-0.18	-0.02	0.00	-0.01	-0.18	-0.01	0.00	0.02	-0.19	-0.01	0.00	0.01
	(5.81)***	(1.31)	(0.17)	(0.08)	(5.52)***	(0.35)	(0.18)	(0.22)	(5.93)***	(0.70)	(0.08)	(0.15)
Corporate	-0.22	-0.01	0.01	0.17	-0.20	0.00	0.02	0.22	-0.23	-0.01	0.01	0.14
	(4.78)***	(0.70)	(0.59)	(1.34)	(4.16)***	(0.07)	(0.74)	(1.61)	(4.74)***	(0.61)	(0.38)	(1.00)
Individual/partnership	0.06	0.09	0.06	0.44	-0.03	0.07	0.02	0.21	0.03	0.09	0.04	0.23
	(1.12)	(4.11)***	(1.96)**	(2.84)***	(0.46)	(3.05)***	(0.79)	(1.29)	(0.49)	(3.75)***	(1.42)	(1.40)
Constant	0.62	0.21	0.19	0.34	0.62	0.20	0.19	0.33	0.63	0.20	0.19	0.34
	(22.47)***	(18.24)***	(13.16)***	(4.45)***	(21.60)***	(17.55)***	(12.42)***	(4.15)***	(21.74)***	(17.72)***	(12.56)***	(4.21)***
Observations	19466	19464	18536	15026	18116	18115	17256	13955	18116	18115	17256	13955

Table 8
Predicting blockholder success

The sample consists of 416 blockholdings in which the blockholder initially files a Schedule 13D requesting a change in cheif executive officer or completion or rejection of a proposed merger. I use a probit model in which the dependent variable equals 1 if the desired outcome is obtained during the block holding period. *log(market cap)* is the logarithm of book market capitalization as reported by Compustat. *Tobin's Q* is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity) and is adjusted by industry. *ROA* is the industry adjusted return on assets defined as EBITDA/(lagged assets). *Leverage* is the industry adjusted book leverage ratio defined as debt/(debt + book equity of equity). *G-Index* is the Governance index as reported in Gompers, Ishii, and Metrick (2003). The symbols *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Firm Char.	Blockholder	Market	All
Initial Own %		0.01		0.02
		[2.26]**		[2.34]**
CAR(5,5)			0.02	0.03
			[3.48]***	[3.62]***
ROA	0.09			-0.03
	[0.08]			[0.02]
Leverage	-0.59			-0.82
	[1.32]			[1.76]*
Tobin's Q	-0.10			-0.14
	[1.07]			[1.41]
G-Index	-0.05			-0.05
	[1.62]			[1.41]
log(market cap)	0.00			0.02
	[0.01]			[0.27]
Constant	0.64	0.00	0.16	0.09
	[1.11]	[0.03]	[2.46]**	[0.15]
Observations	208	416	400	204

Appendix

Instructions for filing Schedule 13D:

> Item 4. Purpose of Transaction
>
> State the purpose or purposes of the acquisition of securities of the issuer. Describe any plans or proposals which the reporting persons may have which relate to or would result in:
>
> a. The acquisition by any person of additional securities of the issuer, or the disposition of securities of the issuer;
>
> b. An extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the issuer or any of its subsidiaries;
>
> c. A sale or transfer of a material amount of assets of the issuer or any of its subsidiaries;
>
> d. Any change in the present board of directors or management of the issuer, including any plans or proposals to change the number or term of directors or to fill any existing vacancies on the board;
>
> e. Any material change in the present capitalization or dividend policy of the issuer;
>
> f. Any other material change in the issuer's business or corporate structure, including but not limited to, if the issuer is a registered closed-end investment company, any plans or proposals to make any changes in its investment policy for which a vote is required by Section 13 of the Investment Company Act of 1940;
>
> g. Changes in the issuer's charter, bylaws or instruments corresponding thereto or other actions which may impede the acquisition of control of the issuer by any person;
>
> h. Causing a class of securities of the issuer to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association;
>
> i. A class of equity securities of the issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Act; or
>
> j. Any action similar to any of those enumerated above.

Below is an example from a Schedule 13D filed on September 4th, 1996 by Clover Capital Management for its investment in California Microwave, Inc.

> Item 4. Purpose of Transaction. The subject securities were acquired and continue to be held by the Reporting Persons for investment purposes. Each reserves

the right to acquire or dispose of the subject securities. On August 28, 1996 representatives of Clover met with the Chief Executive Officer and Chief Financial Officer of the Company and recommended that the Chief Executive Officer be replaced because in Clover's opinion (1) the Company s credibility in the investment community has suffered because of earnings forecasts made by the Chief Executive Officer that have failed to materialize, (2) the Company s performance has been and continues to be inferior to the Company s competitors, (3) certain of the Company s fundamental business strategies are flawed and (4) the Company has not provided a credible strategy as to how it will maximize shareholder value. In the future, Clover may present specific business strategies to the Board of Directors or otherwise provide advice regarding the business of the Company and possible ways to maximize shareholder value. Except as set forth in this Item 4, the Reporting Persons have no present plan or proposals that relate to or that would result in any of the actions specified in clauses (a) through (j) of Item 4 of Schedule 13D of the Securities Exchange Act of 1934.

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