Lehman's and lemons: A study of institutional investment in U.S. firms

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Abstract

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1. Introduction

Institutional investors can play an important role in constraining agency costs by monitoring management. The spectacular growth in institutional investment and stock turnover that reached 215% in 2007 changed the investor landscape. Cornetta et al. (2007) note that as institutional investors increased their stakes, their roles as monitors and advisors gained importance. Nonetheless, they observe that the impact of institutional investors on firm performance has most widely been investigated in their role as activists in replacing poorly-performing CEOs or sponsoring shareholder proposals. Less focus has centered on linkages between firm performance and institutional ownership. One of our objectives in this study is to investigate the effect of different classes of institutional owners on Tobin's Q.

The growth of institutional holdings means that sophisticated money movers, the so-called smart money, now dominate market trends (Bebchuk and Weisbach, 2010; French, 2008; Stein, 2009). However, the role of 'smart money' is controversial. Ben-David et al. (2012) provide evidence of a significant exit of hedge fund investors between 2007 and 2009. These exits created waves and ripples throughout the market that left mutual fund owners with massive losses as they remained in place with their holdings. Although the mutual fund sell-off was more muted compared to hedge fund liquidations during this period, mutual fund returns were far worse.

In this paper, we examine the impact of institutional investment on firm performance as measured by Tobin's Q. The time frame we consider encompasses the near-collapse of financial markets in 2008. We have three main contributions: (i) we examine the impact on Q for sub-categories of institutional investors based on the premise that institutional investors can differ widely in their objectives and planning horizons; (ii) we isolate the impact on Tobin's Q from four infamous institutional investors: Lehman Brothers, Bear Stearns, Merrill Lynch, and Wachovia; and (iii) we conduct a detailed examination of the corporate shareholdings of Lehman, Bear, Merrill and Wachovia. Our results show that institutional investors are heterogeneous: bank ownership coincides with lower Q while investment by mutual funds, financial firms and insurance companies does not significantly impact performance. Generally, we find that with the exception of Merrill Lynch, failed bank ownership negatively impacts Tobin's Q. We investigate the failed banks' revealed investment strategies and discover that the failed banks generally seemed to select poorly performing firms with entrenched management.

We organize the rest of our paper as follows: in Section 2, we position our paper by reviewing studies that investigate potential links between institutional ownership and firm value metrics. The research design follows in Section 3. We place empirical results in Section 4 and conclusions in Section 5.

2. Review of literature

2.1. Do institutional owners monitor?

The willingness to engage in monitoring differs across institutional investor classes due to monitoring costs and incentives, information asymmetry, and investment planning horizon. Morck and Steier (2005) note the special role of institutional investors in corporate governance. Their preeminence (in the aggregate) in corporate ownership structures suggests that institutional owners could wield considerable power in disciplining self-serving managers. However, Morck and Steier (2005) ultimately position institutional investors as mainly a benign group, that rarely take ownership stakes that would allow them influence in the boardroom. In spite of this, they offer a prescient warning: "In bank capitalism, oversight by bankers substitutes for shareholder diligence. Bankers monitor the governance of firms, and intervene to correct the mistakes… *if a few key banks are themselves misgoverned, the ramifications are much worse and can create problems across all firms that depend on that bank for capital* (pg. 6 Morck and Steier, 2005).[1]

There is substantial evidence favoring a monitoring role for institutional owners; Shleifer and Vishny (1986,1997) see a positive role for institutional investment by making take-over threats more plausible. Hartzel & Starks (2003) show that institutional ownership fulfils a monitoring role in regard to executive compensation. Similarly, Holderness (2003) concludes that external blockholders monitor executive pay and insiders do not use their position to extract higher compensation. Chung et al. (2002) find that earnings management is less likely in firms with significant institutional ownership. More recently, Mian et al. (2010) isolate a role for institutional investment in heightening the information content of earnings announcements. Hartzell et al. (2011)

[1] Our italics added.

examine the issue of the diversification discount in REITs and find that the discount diminishes in the presence of institutional investors who take an active monitoring role. On the other hand, several studies examining the Calpers Effect yield mixed evidence of the monitoring role of activist institutional investors (Smith, 1996; English et al. 2004; Nelson, 2006; Wahal, 1996).

Recent scholarship stresses institutional owner identity as the key to disentangling the ownership/governance/performance relationship. In doing so, the differing objectives of institutions arising from differences in monitoring costs and investment time horizons are taken into account. Woidtke (2002) is one of the first scholars to examine the implications of diverse institutional owners' interests by exploring the incentives inherent in public and private institutional fund administrators. She argues that private funds have better compensated managers and positively affect firm performance as measured by Tobin's Q. Public funds, like Calpers, on the other hand, tend to focus upon shareholder proposals/proxies and the overall impact of ownership on Q is negative. Other researchers like Almazan et al. (2005) show that pay for performance sensitivity links positively to active institutional ownership but find no significant role for passive institutional investors. Matvos and Ostrovsky (2010) report a wide variation in proxy voting behavior across mutual funds but note that funds are more likely to oppose management if peer investors do so. Interestingly, some funds appear consistently more management friendly than others. Ng. et al. (2009) add to this debate and discover that mutual funds consider prior firm performance in making proxy voting decisions.

Several studies examine the relationship between portfolio characteristics and institutional monitoring. Schnatterly et al. (2007) provide evidence for the monitoring advantage of large institutional investors, specifically the holdings of the largest institutional investor. Although Dharwadkar et al. (2008), find that larger average holdings, and greater blockholdings in the institutional investor's portfolio are associated with reduced monitoring (as measured by executive compensation), they suggest that such investors may focus their monitoring, concentrating on their most significant shareholdings or on 'problematic' investments. Growing evidence suggests differences in the objectives and monitoring ability of institutional investors (Chen et al., 2007; Ruiz-Mallorqui & Santana-Martin, 2011; Burns et al., 2010; Schnatterly et al., 2008). Further, Dharwadker et al. (2011) show that monitoring also depends upon the investment portfolio held by the institutional investor. The investment planning horizon of institutional owners seems central to assessing monitoring potential and effectiveness. Several studies argue that dedicated or long-term institutional investment is associated with greater monitoring (Chen et al., 2007; Attig et al., 2012; Elyasiana & Jai, 2010). Zhang and Yan (2009), however, find that short-term institutional investors possess superior information and have favorable impact on future share price.

Indeed, investment horizon may be an insufficient criterion to delineate activist and passive investors, particular in the current environment where turnover has risen so tremendously along with the overall level of institutional ownership. Exit may be as worthy a threat to the firm as intervention in terms of improving governance/performance. Bharath et al. (2012) argue that the interplay of institutional holdings and the liquidity of the firm‟s stock work in tandem to reinforce an exit threat in

poorly performing firms. Their work coincides with Duan and Jiao (2011) who conclude that mutual funds play an active role in corporate governance whether through voice or exit. Moreover, the decision to exit appears to depend upon the investing firm‟s specific characteristics including the size of ownership stake, the extent that institutional investors have additional business relationships with the firm, and the investing institution‟s planning horizon. They find that exercising voice through voting against management occurs only when it is value enhancing to do so. In a similar vein, McCahery et al. et al. (2010) provide results of a survey of institutional investors and find that the catalyst for investor activism on the part of institutions is not poor stock performance but rather strategic weakness. Moreover, they find important differences in the goals of various kinds of institutional investors. Their respondents also indicated a preference for exit rather than voice in general, but many were willing to engage executives or the board when unsatisfied. McCahery et. al. conclude that much of the impact of institutional investors may take place behind the scenes.

Our overview of institutional monitoring clearly indicates that institutional investors are heterogeneous both in their desire to monitor and the manner in which they exert their influence. Liquidity, information, monitoring cost, and investment horizon are instrumental in determining whether owners will exhibit activist or passive profiles. Importantly, exit may be a viable threat that resulting in better governance and potentially increased firm value.

2.2. Lehman Brothers and failed banks

The 2008 financial crisis astounded markets with the failure of five major banks: Bear Stearns, Lehman Brothers, Merrill Lynch, Wachovia, and Washington Mutual. Four of these banks were widely invested in corporate firms (Washington Mutual was not). Banks were roundly criticized in the after-math of the 2008 financial crisis for taking on excessive risk.

There is speculation that executives in these firms may have been incentivized to adopt risky strategies. Evidence on this topic is mixed. The links between executive compensation and firm strategy and performance have largely been examined in non-financial firms, with evidence supporting a relationship between executive compensation and firm risk taking (Coles et al., 2006; Miller et al., 2002). The recent attention given the failures of major banks and financial institutions, including mortgage lenders, suggests that troubled firms often pursued excessively risky strategies. Suntheim (2010) and Balachandran et al. (2010) find that executive compensation may have promoted excessive risk taking. However, Fahlenbrach and Stulz (2011) and Murphy (2012) find no support for the hypothesis that bank CEO incentives contributed to the credit crisis or depressed the performance of banks. Indeed, Beltratti and Stulz (2012) and Ferreira et al. (2012) show that 'better governed' firms, those more open to shareholder pressures, performed worse during the financial crisis. Interestingly, Fahlenbrach and Stulz (2011) point out that significant CEO stakes might well produce greater focus on the long-term. Three of the four failed banks that we investigate in this study had CEOs named as having the top five equity positions at the end of fiscal year 2006: Cayne (Bear Stearns, $1,062 million), Richard Fuld (Lehman Brothers, $911.5 million), and Stan O'Neal (Merrill Lynch, $349 million); in the top three positions as ordered.

We are just beginning to understand how intertwined the four failures were within the overall financial system. Commonly, excessive executive compensation that incentivized managers to take on high risk endeavours is partly blamed for the collapse of these institutions. The outcry for pay for performance was largely motivated by disclosure of the huge pay packages awarded bank executives. Bebchuk, Cohen and Spamann (2010) provide evidence of excessive pay at Bear Stearns and Lehman. In a comparative case study of top management compensation at the two firms between 2000 and 2008 they report that:

"…the top-five executive teams of these firms cashed out large amounts of performance-based compensation during the 2000-2008 period. During this period, they were able to cash out large amounts of bonus compensation that was not clawed back when the firms collapsed, as well as to pocket large amounts from selling shares. Overall, we estimate that the top executive teams of Bear Stearns and Lehman Brothers derived cash flows of about $1.4 billion and $1 billion respectively from cash bonuses and equity sales during 2000-2008. These cash flows substantially exceeded the value of the executives' initial holdings in the beginning of the period, and the executives' net payoffs for the period were thus decidedly positive. The divergence between how the top executives and their shareholders fared implies that it is not possible to rule out, as standard narratives suggest, that the executives' pay arrangements provided them with excessive risk-taking incentives." (page 4)

Fernando et al. (2012) examine industrial companies with which Lehman had investment banking relationships to determine whether Lehman ties in the corporate sector colored their investment strategy. Their evidence suggests this was the case.

They report that clients that used Lehman for multiple underwriting services were especially adversely affected following the announcement of Lehman‟s bankruptcy. Kovner (2010) looks at firm performance among newly public firms whose IPO was sponsored by one of the four failures. The four failed banks are special and different from their peers. Kovner finds that the stocks of newly public firms that used Bear, Lehman, Merrill, or Wachovia fell more sharply than other newly public firms when the four banks looked as though they were about to fail. Aragon and Strahan (2012) look at hedge funds that used Lehman as a broker. When Lehman failed, these hedge funds were twice as likely to fail as non-Lehman brokered funds. Furthermore, stocks brokered by Lehman and held by hedge funds were less liquid than similar non-Lehman peers when the Lehman bankruptcy crisis began to roll out.

3. Research design

We draw ownership data from BVD Osiris and financial data and summary institutional ownership data from ValueLine for the period between 2004 through 2009. We exclude financial firms when reviewing the holdings of institutional investors. Further, although initial data collection includes observations from 2009, this year is not included in analyses.

3.1. Variables

3.1.1. Dependent variable

Tobin's Q: We define performance using Tobin's Q that we approximate as the ratio of the market value of equity plus the book value of debt to total assets. Data are from Value Line.

3.1.2. Main independent variables: Ownership

Using ownership data involve some significant challenges particularly discrepancies in reporting dates and distinctions made by BVD between direct and total ownership. To accommodate these issues we define ownership by type of investor as the greater of direct or total ownership as reported by BVD Osiris.[2] Observations where either direct or indirect ownership is 'unavailable' also raises issues. We treat "not available" as zero investment. This treatment does not induce the bias one would think since a zero observation in total investment is usually offset by a non-zero observation in direct ownership or vice-versa. However, if both direct and total are "not available" these observations are omitted from analyses. Note that we do not follow this procedure for mutual fund investment as we require that all firms in the sample have non-zero mutual fund investment. This restriction really amounts to correcting errors in data collection. The sample of firms provided by BVD Osiris includes many diversified funds that mimic broad stock indices. Thus, it is reasonable to assume that all firms in the sample must be held at least by these broadly diversified funds. To ensure that our sample ownership data are comparable to other sources (ValueLine as well as empirical studies) we aggregate ownership by banks, mutual funds, insurance companies and financial companies and compare the sum to institutional investment reported by these other sources. We expect discrepancies since our aggregate measure excludes certain categories of institutional investors such as hedge funds, private equity investors and foundations.[3] Considering non-linearity of the ownership/performance effect, we use the

[2] We delete the few cases where reported ownership exceeded 100% in empirical analysis

[3] We do not report this comparison but note that aggregate ownership by banks, mutual funds, financial companies and insurance companies approximates institutional investment as reported by ValueLIne.

square of ownership variables in empirical analyses. We measure Institutional ownership as follows:

Mutual represents the percentage of the firm held by mutual funds.

Bank represents the percentage of the firm held by banks.

Financial represents the percentage of the firm held by financial companies.

Insurance represents the percentage of the firm held by insurance companies.

Aggregate Institutional is the sum of ownership by mutual funds, banks, financial companies and insurance companies.

ValueLine Ownership is the total institutional ownership as reported by ValueLine.[4]

Ownership by Failed Banks: The 2008 financial crisis led to the failure of five important banks: Lehman Brothers, Bear Stearns, Wachovia, Washington Mutual, and Merrill Lynch. However, the corporate shareholdings of Washington Mutual are negligible and we drop them from further investigation. For the remaining four banks, we isolate ownership by these institutions according to their direct and total ownership of companies in our sample from 2004 to 2009, with 2009 being set to zero. We define ownership by each of these banks as the greater of direct ownership or total ownership from BVD Osiris. We also create a series of dummy variables that equal unity if either direct or total ownership is recorded from each of the four banks; and zero otherwise.

3.1.3. Control variables

[4] ValueLine institutional ownership is used in unreported regressions and descriptive statistics to verify our sample is comparable in terms of ownship to previous studies. Results are available upon request.

We control for firm size, two-digit SIC classification (when appropriate in panel regression) and leverage. We measure size as the natural logarithm of total assets. Leverage is the market debt/equity ratio. We create a series of nine dummy variables to represent nine broad industry classifications. Data are from ValueLine.[5]

3.1.4. Financial and governance variables

Our investigation of the investment habits of the failed banks in the panel logistic regression model and the treatment effects model makes use of additional firm specific characteristics based on prior research. These variables are as follows:

(i) *Volatility* is the three-year standard deviation of the stock price return. We include this variable to determine if the risk appetite of the failed banks extended to their portfolio holdings.

(ii) *ROA* is a proxy for short-termism.

(iii) As liquidity is important to investors requiring an exit strategy, we include a measure of turnover which is the ratio of volume of shares traded to shares outstanding. For interpretation convenience of estimated coefficients, we deflate this measure to average daily turnover by dividing by 260 days.

(iv) We include the ratio of cash to total assets and hypothesize that higher ratios could be consistent with failed banks taking aim at cash rich targets that coupled with entrenched management may enhance private benefit consumption.

[5] When we use fixed effects panel regression we do not need to incorporate SIC dummy codes. In the panel logistic regression and treatment effects models, however, dummy SIC variables are included.

(v) As a benchmark for the quality of corporate governance, we include Bebchuk, Cohen, and Ferrell's (2009) entrenchment index (E-Index). This index distils the 24 corporate governance measures in the Investor Responsibility Research Center (IRRC) to six critical provisions: staggered boards, limits to shareholder bylaw amendments, poison pills, golden parachutes, and supermajority requirements for mergers and charter amendments. The E-Index goes from 1 to 6 representing the number of entrenchment indicators recorded for the firm where higher scores indicate greater board entrenchment.

Table 1 contains descriptive statistics for ownership and Table 2 reports descriptive statistics for all other variables used in our study.

[Insert Tables 1& 2 about here]

3.2. Methodology

3.2.1. Panel regression

We use three main statistical techniques to ascertain the relationship between firm performance metrics and institutional ownership structure. We first employ a panel regression model with dependent variable Tobin's Q. In panel regression, researchers must choose between a fixed or random effects model. This choice must be guided by data characteristics. A generalized form of the model is:

$$y_{it} = x_{it}\beta + z_i\pi + \varepsilon_{it} \quad (1)$$

where:

y_{it} is the dependent variable observed for firm(i) at time (t)

x_{it} are explanatory variables observed for firm (i) at time (t)

$z_i\pi$ is the firm-specific effect where z contains a constant term and a set of firm-specific variables.

That is: $\alpha_i = z_i\pi$.

In fixed effects panel regression the dependent variable (y) and explanatory variables (x) are converted as deviations from group means. This implies that observations across time vary around a baseline level specific to the firm. The determinants of firm performance can be estimated by equation (1) and we reproduce in short-hand form our main independent variables and control variables. As noted earlier, the ownership characteristics of the firm are expressed in several ways. We include more precise specifications of the ownership characteristics in our results section.

$$Performance_{it} = f(Size, Leverage, Industry, Ownership)^{6} \quad (2)$$

In using panel regression, we need to determine whether a fixed or random effects model is most appropriate to our data. We make this selection based on the results of

[6] Industry dummies would be included only if the Hausman test indicates that a random effects model is appropriate. Empirically, we determine that fixed effects panel regression models are required. Thus estimation proceeds without SIC dummy variables.

the Hausman test. Following Peterson (2009), we re-estimate the appropriate model (fixed or random effects) and cluster standard errors by firm I.D.

3.2.2. Logistic panel regression

We investigate the revealed investment strategy of the failed banks by employing a random effects logistic panel regression model. As explained earlier, we use the characteristics of the sample in ascertaining whether a fixed or random effects panel regression model is required. However, when using panel logistic regression methods no such simple test exists. Rather, when the dependent variable is dichotomous, we need to reply on economic intuition to select between a fixed or random effects model. In fact, there are a number of serious drawbacks to using a fixed effects logistic regression model. Honoré (2002) provides a good discussion of these issues. To illustrate, our dichotomous failed bank dummy variables are likely to have a persistent quality to them. That is, if Bear Stearns has invested in a company it may vary the overall percentage holding but may always maintain a position in the company. This implies that the probability of changing from having invested in a company (1) to withdrawing completely (0) is explained by ($\chi_{i1} - \chi_{i2}$) where χ_{i1}, χ_{i2} are observations on explanatory variables for the i^{th} firm in periods (1) and (2). The statistical application of a fixed effects logistic regression model will remove groups that exhibit persistent investment or lack of investment, leaving only those groups of firms that display changes in (0,1) through time. Using a fixed effects logistic model therefore answers the question of why initiating or completely abandoning a firm position occurs. In a random effects model, in contrast, we can identify the characteristics of target (invested) firms

that make it more or less likely that a failed bank would invest. Thus, the random effects panel regression model allows the intercept in the estimated model to differ for individual firms thus allowing capture of firm-specific factors.

The generic model is given in Eq. (3) by:

$$y_{it} = g(x_{it}, \varepsilon_{it}, \alpha_i; \beta_i) \tag{3}$$

where y_{it} are four dependent variables that equal unity if investment by Lehman's, Bear, Merrill or Wachovia is recorded; and zero otherwise.

y_{it} is specified as:

$$y_{it} = \begin{cases} 1 \;\; if \; x_{it}\beta + \alpha_i + \varepsilon_{it} \geq 0 \\ 0 \;\; otherwise \end{cases} \tag{4}$$

and:

χ_{it} is a vector of explanatory variables for firm (i) in period (t)

ε_{it} is independently or logistically distributed and independent of (x_{it}, α_i)

α_i is a time-invariant individual firm effect

β_i is the vector of parameters to be estimated.

For a sequence of outcomes for the i[th] firm, the marginal likelihood is given by:

$$L_{it}^{B}(\underline{\beta}) = \int \left[\prod_{t=1}^{T_i} \frac{[\exp(\underline{\beta}' \underline{x}_{it} + \varepsilon)]^{y_{it}}}{1 + \exp(\underline{\beta}' \underline{x}_{it} + \varepsilon)} \right] f(\varepsilon) d\varepsilon \quad (5)$$

The random effects logit estimator is:

$$\text{logit}(p_{it}) = \alpha_i + x_{it}\beta \quad (6)$$

$$\text{logit}(p_{it}) = \alpha_i + (Size_{it}, Industry_{it}, FirmCharacteristics_{it})^{\beta}; \; i = 1,\ldots, N, \; t = 1,\ldots T$$

For firm characteristics we consider that the probability of ownership by Lehman's, Bear, Merrill, or Wachovia; is affected by control variables of size, leverage and industry and firm characteristics: Tobin's Q: ROA, volatility, liquidity, the ratio of cash to total assets, and the entrenchment index.

3.2.3. Treatment effects model

We suspect endogeneity issues to arise in the specification of the relationship between some ownership variables and Tobin's Q. Specifically, we do not think that the broad categories of ownership: bank ownership, financial ownership, insurance ownership, or mutual fund ownership; present significant endogeneity issues since broadly these owners hold diversified portfolios. However, ownership by Lehman, Bear, Wachovia or Merrill presents potential causality questions. For example, any of these owners might have targeted a typical "Q" profile prior to investing. Alternatively, did the "Q" profile emerge because of monitoring or threat of exit, or some other factors that influence Q? For example, did companies like Lehman's select poorly governed firms

with entrenched management in order to exploit future business relationships as several authors previously uncovered? To address endogeneity issues we take a treatment effects approach.

We consider that the presence of one of these investors in the ownership structure and not the size of the stake may be what drives the relationship between Q and ownership. We use dummy variables as earlier defined to represent failed bank ownership. We incorporate these dummy variables into a treatment effects model that allows us to evaluate the impact of a binary endogenous variable (the decision by the failed bank to invest) on the dependent variable (Tobin's Q)

$$Q_i = X_i \beta + \delta Z_i + e_i \quad (7)$$

Where;

Q_i = Tobin's Q as previously defined.

X_i = set of firm level control variables (size, leverage, and industry) as previously defined and the square of aggregate institutional ownership.

Z_i = an endogenous variable, the binary decision by one of the four failed banks to take an investment position. The decision is modeled as the outcome of an unobserved latent variable assumed to be a combination of exogenous covariates w_i (previously defined) and a random component u_i. That is:

$$Z_i^* = \quad w_i\,\gamma \quad + \quad u_i$$

$$Z_i \quad = \begin{cases} 1, & Z_i^* > 0 \\ 0, & otherwise \end{cases}$$

We model the unobserved latent variables using ROA, volatility, liquidity, the ratio of cash to total assets and the entrenchment index.

We assume error terms e and u are bivariate normal with mean 0 and covariance matrix:

$$\begin{bmatrix} \sigma^2 & \sigma\rho \\ \sigma\rho & 1 \end{bmatrix}$$

We estimate Equation (7) using maximum likelihood estimation.

4. Results

4.1. Panel regression

We begin first by examining potential links between ownership characteristics and performance measures by estimating equation (1). We statistically justify the selection of a fixed versus random effects model based on the application of the Hausman test. In all our regressions, the Chi-square statistic produced by the Hausman test is significant and we therefore select a fixed effects model. In the fixed effects specification it is unnecessary to include dummy variables to control for industry effects as the intercept captures them. Standard errors are clustered by firm. The results of our investigation of the impact of institutional ownership on Tobin's Q using a fixed effects panel regression model are contained in Tables 3 and 4.

[Insert Tables 3 and 4 about here]

In Table 3, we report results for contemporaneous ownership. Panel A considers four broad institutional ownership categories. Panel B adds percentage ownership by the four failed banks and Panel C replaces failed bank percentage ownership with failed bank dummy variables. The models are all highly significant. Among the broad institutional ownership categories, bank ownership is inversely related to Tobin's Q. The other categories of institutional ownership are not significant. When we examine holdings by the four failed banks in Panels B and C of Table 3, we find that ownership by Lehman Brothers is inversely related to Q; while other failed banks ownership does not display significant coefficients.

Table 4 replicates Table 3 but we replace contemporaneous ownership by ownership that is lagged one period. Bank ownership maintains the inverse relationship with Q that we report in Table 3; and all other institutional investment categories are not significant. However, in Panel B of Table 4 we report a significant positive relationship between Q and the percentage ownership by Lehmans. The inverse relationship does not carry over in Panel C when we substitute percentage ownership with the Lehman dummy ownership variable. However, in Panel C of Table 4 we see that coefficients for both Wachovia and Merrill dummy variables are negative and significant; although the percentages held by these failed institutions (reported in Panel B) are not significant.

What do the results in Tables 3 and 4 imply for the monitoring role of institutional owners? Briefly, our results show that institutional owners do not function as monitors and, in fact, bank ownership negatively affects performance. This finding is consistent

with Morck and Steier (2005) who argue that institutional owners are typically non-responsive as monitors but should banks, in particular, be poorly governed this could create problems for all firms. Viewed in this light, we suggest that some failed banks (all except Bear) negatively impact Q. The sign reversal for the Lehman effect (positive for lagged ownership and negative for contemporaneous ownership) suggests that while Lehmans might have targeted high Q firms, the impact of Lehman ownership is ultimately deleterious. Our findings regarding an inverse relationship between lagged ownership by Wachovia and Merrill support McCahery et al. (2011), who conclude that institutions seek investment targets with strategic weaknesses.

4.2. Panel logistic regression

We turn our attention to the investment strategy of the four failed banks by estimating a random effects panel logistic regression model. We report how the probability of holdings by Lehman, Bear, Merrill, and Wachovia is impacted by Tobin's Q, ROA, volatility, liquidity, the ratio of cash to total assets and the entrenchment index. Table 5 contains the results of this analysis using contemporaneous values of these explanatory variables and Table 6 reports results using lagged values. The inclusion of the entrenchment index in the model reduces sample size due to data non-availability. We report estimation results in Panels A and B for each failed bank according to whether the estimation occurs with the E-Index. We interpret contemporaneous results and lagged results as follows: lagged values represent proxies for the investment criteria that the failed banks employed; while contemporaneous values illustrate the kinds of firms that the failed banks held in their portfolios.

Insert Tables 5 and 6 about here

Beginning with Tobin's Q, we find that the probability of having Lehman ownership is not significantly related to contemporaneous Q but is positively related to Q when we include the entrenchment index in the model. Lagged Q, however, is inversely related to the probability of Lehman's ownership in both models. Lehmans appears to have targeted weak Q firms and there is some evidence that current holdings are positively related to Q. The probability of having either Bear or Wachovia ownership is inversely related to lagged Q in both models while contemporaneous Q is not significant for Wachovia in both models and not significant for Bear when the entrenchment index is included in the estimation. However, when we exclude the entrenchment index the relationship between Q and Bear ownership are inversely related. For Merrill, contemporaneous Q is positively associated in both models with the probability of ownership but lagged Q is not significant. When we blend the results for Q and ownership probabilities with the previous panel regression model results displayed in Tables 3 and 4, we are convinced that Q and failed bank ownership are surrounded by endogenaiety issues. We will address this issue further on by using a treatment effects model.

We find that ROA significantly influences the probabilities of failed bank ownership except in the case of Merrill. The coefficients are uniformly positive and significant for lagged ROA regardless of whether we incorporate the entrenchment index into the estimation procedures. Contemporaneous ROA produces some mixed results but when there are significant coefficients the sign is positive. We conclude that the failed banks targeted high ROA firms and their contemporaneous ownership for the

most part maintains this positive relationship. The focus on ROA in investment strategy may be indicative of short-term investment horizons.

The failed banks stand accused of excessive risk-taking. We report in Table 5 that the probability of failed bank ownership is positively associated with the standard deviation of the stock return of their holdings. There is also some evidence contained in Table 6 to suggest that the failed banks hunted firms with volatile stock returns, except in the case of Wachovia where lagged volatility is not significant in either the model that includes the entrenchment index or the model that excludes the index.

Share price liquidity may be an important element in guiding the investment strategy. Liquid stocks facilitate exit if necessary and we see that for Lehman, Bear, and Wachovia, the probabilities of ownership are positively related to stock turnover both lagged and contemporaneous. For Merrill, stock liquidity does not appear to be an investment criterion given the non-significant coefficient on turnover but Merrill ownership is consistent with current stock liquidity in Table 5.

Did the failed banks search for poorly governed firms? There is some evidence that ownership is dependent on cash holdings. Large cash balances may be a proxy for potential abuse of free cashflow, particularly in poorly governed firms. We find some support for the failed banks preferring investments in firms with larger cash holdings and this effect is most pronounced when lagged cash holdings figure in the model and more especially, when we consider the smaller sample of firms for which estimation is carried out using the entrenchment index.

Lastly, we note that ownership by the failed banks is not significantly influenced by contemporaneous values of the entrenchment index but as reported in Table 6, the coefficients on lagged values of the index are positively related to failed bank ownership. It would seem that the failed banks sought out firms with weak governance.

4.3. Treatment effects model

The panel logistic regression results indicate that the failed banks pursued investment strategies that targeted low Q firms with high ROA, larger cash balances, volatile stock returns, high stock liquidity and entrenched management. Given this revealed investment strategy, how does failed bank ownership impact the current Tobin's Q of the banks' corporate holdings? Does failed bank ownership lead to an improvement in Q that indicates monitoring or does the failed bank ownership depress Q which would indicate private benefit consumption? To answer this question we estimate a treatment effects model that considers contemporaneous failed bank ownership (represented by dummy variables). We report in Table 7, the results of this analysis for estimation samples that consider failed bank ownership to be determined by stock volatility, ROA, stock liquidity, the ratio of cash to total assets and the entrenchment index. We control for size, leverage, aggregate institutional ownership, and industry in estimating Tobin's Q. We do not report coefficients for the industry dummy variables but note some are significant.

Insert Table 7 about here

Ownership by three failed banks contributes to lower Tobin's Q. The coefficients for Lehman's, Bear, and Wachovia are all negative. Notably Merrill ownership is consistent with higher Tobin's Q.

5. Conclusions

In this paper, we investigate the impact of institutional investment on Tobin's Q. Prior studies of institutional investment impact usually rely on examining specific decisions, such as executive compensation, proxy voting behavior, and earnings management. Examination of direct influence on long-term profitability is rarer. In our examination of Q and ownership, we consider both contemporaneous as well as lagged ownership. However, we acknowledge that the relationship is complex and potentially endogenous when considering the corporate holdings of four failed banks: Lehman's, Bear, Merrill, and Wachovia.

We find that institutional ownership is indeed heterogeneous. In our sample of firms, ownership by banks is inversely related to Tobin's Q but other categories of institutional owners have no significant relationship to Q. We therefore cannot confirm a monitoring role to any kind of institutional investment. To the contrary, bank ownership impedes profitability. Certainly, the events of the financial crisis of 2008 provide copious anecdotal evidence regarding the private agendas of poorly governed banks that in the end almost caused a collapse of the global financial system.

We conduct a detailed examination of the holdings of four failed banks: Lehman Brothers, Bear Stearns, Wachovia, and Merrill Lynch. It seems that these banks designed investment strategies that favored short-term profitability, volatile but liquid

corporate holdings, and firms with entrenched management. This profile is consistent with findings of Fernando et al. (2012) who report that Lehman's investment strategy was influenced by their investment banking relationship with their corporate holdings. We find that when the investment strategy of the failed banks is considered, all except Merrill Lynch were left holding poorly performing portfolios. Using a treatment effects model to cope with the endogeneity of failed bank holdings and Tobin's Q, we find that Lehman, Bear, and Wachovia holdings are inversely related to Q. Only for Merrill is the relationship significant and positive. Hence, we add to the empirical evidence on the uniqueness of at least three of the failures. The excessive risk taking they stand accused of was not simply limited to the huge mortgage derivative bets associated with the housing bubble. For the most part, the failures preferred entrenched management, perhaps in order to more easily promote business relationships with the firms they invest in. On balance, moreover, the failures reveal a preference for short-term investing. All these stylized facts are consistent with the hypothesis that failures in corporate governance provoked the 2008 financial crisis. Executives at the failed banks were incentivized to take on excessive risk and their investment habits confirm they did so. With the exception of Lehman, the banks were too big to fail, but were it not for their systemic role in the financial system, Wachovia and Bear probably deserved to fail. Merrill Lynch seems to stand out from the other three and subsequent research could examine why this occurs and if indeed Merrill was simply caught up in systemic crisis.

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Table 1: Descriptive Statistics Ownership

(obs=2670)

Variable	Mean	Std. Dev
Mutual	0.2729	0.1311
Insurance	0.0453	0.0518
Bank	0.1764	0.1169
Financial	0.0611	0.0592
Lehman	0.0033	0.0148
Bear	0.0016	0.0066
Wachovia	0.0037	0.0106
Merrill	0.0037	0.0093

Correlation Matrix

	Mutual	Insurance	Bank	Financial	Lehman	Bear	Wachovia	Merrill
Mutual	1							
Insurance	0.0522	1						
Bank	0.2518	0.2847	1					
Financial	0.1817	0.2077	0.3671	1				
Lehman	0.0506	0.0723	0.2817	0.1154	1			
Bear	0.1163	0.03	0.0249	0.0057	-0.0239	1		
Wachovia	0.0405	0.0177	0.1628	0.0365	0.0323	-0.0095	1	
Merrill	0.0411	-0.0177	0.0433	-0.0123	-0.0115	-0.0112	-0.0045	1

Data are from 2004 to 2008 and exclude firms in SIC 6000 to 6999.
Mutual is the percentage of shares held by mutual funds. Insurance is the percentage of shares held by insurance companies. Bank is the percentage of shares held by banks. Financial is the percentage of shares held by financial companies. Lehman is the percentage of shares held by Lehman. Bear is the percentage of shares held by Bear. Wachovia is the percentage of shares held by Wachovia. Merrill is the percentage of shares held by Merrill. All ownership data are from BVD Osiris.

Table 2: Descriptive Statistics for Financial Variables

(obs=5883)

Variable	Mean	Std. Dev.
Tobin's Q	1.7093	2.5537
Volatility	0.4347	0.4021
Size	6.3761	2.2386
Leverage	1.4669	32.1780
ROA	-0.0037	1.3209
Liquidity	30.5684	51.2556
Cash/TA	0.1611	0.1902

Correlation Matrix

	Tobin's Q	Volatility	Size	Leverage	ROA	Liquidity	Cash/TA
Tobin's Q	1						
Volatility	-0.0101	1					
Size	-0.1673	-0.2976	1				
Leverage	-0.0162	0.0818	-0.0064	1			
ROA	-0.2488	-0.0697	0.1043	-0.0027	1		
Liquidity	0.0437	0.0858	0.1478	0.0367	0.0025	1	
Cash/TA	0.2479	0.1234	-0.3136	-0.0292	-0.0268	0.0071	1

Tobin's Q is the ratio of the sum of book debt plus market value of equity to total assets. Volatility is the 3 year standard deviation of the stock return. Size is the natural log of total assets. Leverage is the market debt/equity ratio. ROA is return on assets. Liquidity is the daily average stock turnover. Cash/TA is the ratio of cash to total assets. All variables are for 2004 to 2008 and exclude firms in SIC 6000 to 6009. Data are from ValueLine.

Table 3: Tobin's Q and Ownership

	Panel A			Panel B			Panel C	
	b	t		b	t		b	t
Size	-1.382***	-5.437	Size	-1.393***	-5.444	Size	-1.348***	-5.463
Leverage	-0.006+	-1.901	Leverage	-0.006+	-1.907	Leverage	-0.005+	-1.828
Bank	-3.140***	-5.529	Bank Adj.	-3.153***	-4.928	Bank Adj.	-2.530***	-3.856
Mutual	-0.382	-0.649	Mutual	-0.429	-0.729	Mutual	-0.338	-0.597
Insurance	-4.158	-1.085	Insurance	-4.176	-1.088	Insurance	-3.333	-0.794
Financial	1.493	0.554	Financial	1.558	0.571	Financial	2.458	0.878
			Lehman	-30.684*	-1.999	Lehman Dummy	-0.209***	-3.47
			Bear	35.868	1.432	Bear Dummy	-0.036	-0.538
			Wachovia	-8.925	-0.215	Wachovia Dummy	-0.029	-0.424
			Merrill	30.902	1.621	Merrill Dummy	0.049	0.759
Intercept	11.590***	6.404	Intercept	11.660***	6.4	Intercept	11.336***	6.416
r2_w	0.262		r2_w	0.263		r2_w	0.267	
r2_b	0.002		r2_b	0.002		r2_b	0.002	
r2_o	0.002		r2_o	0.002		r2_o	0.002	
Obs.	2430		Obs.	2430		Obs.	2430	
Number Firms	1058		Number Firms	1058		Number Firms	1058	
F	20.079		F	14.034		F	17.155	
p	0		p	0		p	0	

Fixed Effects Panel Regression Model with standard errors clustered by firm. Dependent Variable is Tobin's Q. Tobin's Q is the ratio of the sum of book debt plus markt value of equity to total assets.
Size is the natural log of total assets. Leverage is the market debt/equity ratio.
Bank, Mutual, Insurance, Finance are the square of the percentage of shares held by these categories of institutions. Bank Adj. represents the square of the percentage held by banks less holdings by Lehman's, Bear, Wachovia, Merrill and Wamu. Lehman, Bear, Wachovia & Merrill are thesquare of percentage shares held by these banks. Dummy variables for Lehman, Bear, Wachovia, & Merrill equal unity if ownership stakes are recorded and zero otherwise. Data are from 2004 to 2008 and exclude firms in SIC 6000 TO 6999. ***Sig. at .001; **Sig. at .01; *Sig. at .05; +Sig. at .10.

Table 4: Tobin's Q and Lagged Ownership

	Panel A			Panel B			Panel C	
	b	t		b	t		b	t
Size	-2.043***	-5.822	Size	-2.048***	-5.813	Size	-1.917***	-5.425
Leverage	-0.02	-0.779	Leverage	-0.018	-0.705	Leverage	-0.012	-0.461
L.Bank	-1.830**	-2.7	L.Bank Adj.	-2.104**	-3.269	L.Bank Adj.	-1.658*	-2.541
L.Mutual	0.94	1.024	L.Mutual	0.99	1.064	L.Mutual	1.223	1.361
L.Insurance	-1.424	-0.279	L.Insurance	-2.322	-0.466	L.Insurance	0.696	0.132
L.Financial	2.937	0.885	L.Financial	2.618	0.763	L.Financial	2.966	0.872
			L.Lehman	29.578**	2.872	L.Lehman Dummy	0.179	1.612
			L.Bear	-77.209+	-1.658	L.Bear Dummy	0.099	1.155
			L.Wachovia	-4.451	-0.133	L.Wachovia Dummy	-0.229**	-3.116
			L.Merrill	-7.747	-0.133	L.Merrill Dummy	-0.198**	-2.65
Intercept	16.114***	6.56	Intercept	16.145***	6.547	Intercept	15.278***	6.171
r2_w	0.244		r2_w	0.248		r2_w	0.266	
r2_b	0		r2_b	0		r2_b	0	
r2_o	0		r2_o	0		r2_o	0	
Obs.	1445		Obs.	1445		Obs.	1445	
Number Firms	815		Number Firms	815		Number Firms	815	
F	10.437		F	7.289		F	11.098	
p	0		p	0		p	0	

Fixed Effects Panel Regression Model with standard errors clustered by firm. Dependent Variable is Tobin's Q. Tobin's Q is the ratio of the sum of book debt plus markt value of equity to total assets.
Size is the natural log of total assets. Leverage is the market debt/equity ratio.
Ownership is lagged one period and denoted by "L." preceding the variable name. Bank, Mutual, Insurance, Finance are the square of the percentage of shares held by these categories of institutions. Bank Adj. represents the square of the percentage held by banks less holdings by Lehman's, Bear, Wachovia, Merrill and Wamu. Lehman, Bear, Wachovia & Merrill are thesquare of percentage shares held by these banks. Dummy variables for Lehman, Bear, Wachovia, & Merrill equal unity if ownership stakes are recorded and zero otherwise. Data are from 2004 to 2008 and exclude firms in SIC 6000 TO 6999. ***Sig. at .001; **Sig. at .01; *Sig. at .05; +Sig. at .10.

Table 5: Probability of Ownership by Failed Bank

	Lehman				Bear			
	b	t	b	t	b	t	b	t
Tobin's Q	0.001	0.024	0.128*	2.445	-0.208***	-3.702	-0.084	-1.163
Volatility	0.529***	4.978	1.735***	4.964	0.680***	5.678	2.235***	5.7
Size	0.348***	12.146	0.218***	5.541	0.295***	8.978	0.179***	3.799
Leverage	-0.014	-1.364	0.008	0.33	-0.044**	-2.677	-0.079	-1.496
ROA	0.372	1.256	2.093*	2.508	1.571***	3.303	1.833+	1.92
Liquidity	0.004***	4.768	0.004***	3.41	0.005***	5.495	0.007***	4.614
Cash/TA	0.755*	2.475	0.679+	1.686	0.127	0.34	0.237	0.494
E-Index			0.022	0.06			0.65	1.365
Intercept	-5.324***	-14.937	-5.789***	-11.055	-4.494***	-11.656	-5.336***	-8.235
lnsig2u								
_cons	-1.547*	-2.416	-11.837	-0.74	0.082	0.453	-0.527	-1.553
chi2	190.115		147.605		156.807		90.324	
p	0		0		0		0	
Obs.	5883		3112		5883		3112	
Number Firms	1404		800		1404		800	

Table 5 continued

	Wachovia				Merrill			
	b	t	b	t	b	t	b	t
Tobin's Q	-0.053+	-1.692	0.061	1.317	0.043*	2.162	0.201***	3.943
Volatility	0.364***	3.394	0.780**	3.265	0.262*	2.246	1.040***	3.859
Size	0.370***	13.898	0.185***	5.438	0.595***	20.284	0.406***	10.359
Leverage	-0.098**	-3.179	-0.129**	-2.658	-0.111***	-3.42	-0.151**	-3.054
ROA	0.984**	3.118	0.707	1.127	0.114	0.473	-0.416	-0.632
Liquidity	0.005***	6.118	0.008***	6.07	0.004***	4.343	0.005***	3.877
Cash/TA	-0.23	-0.8	-0.115	-0.336	1.019***	3.569	0.124	0.326
E-Index			0.640+	1.882			-0.482	-1.266
Intercept	-4.436***	-14.042	-4.306***	-9.227	-6.481***	-18.551	-4.600***	-9.276
lnsig2u								
_cons	-0.252	-1.535	-1.469***	-3.377	-0.109	-0.732	-0.357+	-1.819
chi2	301.639		133.435		486.003		147.804	
p	0		0		0		0	
Obs.	5883		3112		5883		3112	
Number Firms	1404		800		1404		800	

Random effects panel logistic regression model with standard errors clustered by firm. Dependent variables are dummy variables for Lehman, Bear, Wachovia, & Merrill that equal unity if ownership stakes are recorded and zero otherwise. Ownership is from BVD Osiris. Explanatory Varibles are: Tobin's Q which is the ratio of the sum of book debt plus markt value of equity to total assets. Volatility is the 3 year standard deviation of the stock return. Size is the natural log of total assets. Leverage is the market debt/equity ratio. ROA is return on assets. Liquidity is the daily average stock turnover. Cash/TA is the ratio of cash to total assets. E-Index is the entrenchment index from Professor Bebchuk's website. All other variables are from Value Line. Data are from 2004 to 2008 and exclude firms in SIC 6000 TO 6999. Industry dummies are not reported. ***Sig. at .001; **Sig. at .01; *Sig. at .05; +Sig. at .10.

Table 6: Probabiity of Ownership by Failed Bank (Lagged Values)

	Lehman				Bear			
	b	t	b	t	b	t	b	t
L.Tobin's Q	-0.141**	-3.064	-0.400***	-4.448	-0.489***	-6.664	-0.626***	-5.653
L.Volatility	0.295**	2.738	0.344	1.422	0.536***	4.113	0.951**	3.118
L.Size	0.317***	12.31	0.262***	5.771	0.266***	8.092	0.191***	3.686
L.Leverage	0.002	0.426	0.053*	2.432	-0.02	-1.496	0.021	0.943
L.ROA	1.277*	2.307	7.731***	5.516	4.432***	5.38	6.705***	4.583
L.Liquidity	0.006***	6.839	0.008***	5.405	0.005***	5.155	0.005**	3.161
L.Cash/TA	0.829**	2.644	1.448**	3	0.27	0.687	1.404**	2.596
L.E-Index			0.535***	10.687			0.340***	5.569
Intercept	-4.644***	-16.649	-5.635***	-10.129	-4.362***	-11.879	-5.066***	-7.273
lnsig2u								
_cons	-11.066	-0.963	-7.227	-0.624	-0.011	-0.05	-0.489	-1.029
chi2	245.517		232.203		147.766		101.979	
p	0		0		0		0	
Obs.	4804		2549		4804		2549	
Number Firms	1444		814		1444		814	

Table 6 continued

	Wachovia				Merrill			
	b	t	b	t	b	t	b	t
L.Tobin's Q	-0.205***	-5.051	-0.307***	-4.858	0.006	0.262	-0.053	-1.083
L.Volatility	-0.293	-1.378	-0.228	-0.791	0.241*	2.391	0.585*	2.281
L.Size	0.302***	13.054	0.217***	6.479	0.484***	20.44	0.351***	10.912
L.Leverage	-0.020+	-1.813	0.003	0.13	-0.044*	-2.215	-0.038	-1.4
L.ROA	2.688***	5.857	5.254***	5.025	0.478	1.63	1.340+	1.647
L.Liquidity	0.003***	4.08	0.002	1.456	0.001+	1.912	-0.001	-0.934
L.Cash/TA	0.184	0.707	0.957**	2.679	0.726**	2.939	0.917**	2.774
L.E-Index			0.452***	12.11			0.226***	6.668
Intercept	-3.461***	-13.013	-3.781***	-9.075	-4.963***	-19.981	-4.607***	-11.694
lnsig2u								
_cons	-1.880**	-2.811	-11.816	-1.159	-2.935+	-1.845	-10.637	-0.559
chi2	312.488		248.906		487.933		169.994	
p	0		0		0		0	
Obs.	4804		2549		4804		2549	
Number Firms	1444		814		1444		814	

Random effects panel logistic regression model with standard errors clustered by firm. Dependent variables are dummy variables for Lehman, Bear, Wachovia, & Merrill that equal unity if ownership stakes are recorded and zero otherwise. Ownership is from BVD Osiris. Explanatory Varibles are lagged one period and preceded by "L.": Tobin's Q which is the ratio of the sum of book debt plus markt value of equity to total assets. Volatility is the 3 year standard deviation of the stock return. Size is the natural log of total assets. Leverage is the market debt/equity ratio. ROA is return on assets. Liquidity is the daily average stock turnover. Cash/TA is the ratio of cash to total assets. E-Index is the entrenchment index from Professor Bebchuk's website. All other variables are from Value Line. Data are from 2004 to 2008 and exclude firms in SIC 6000 TO 6999. Industry dummies are not reported. ***Sig. at .001; **Sig. at .01; *Sig. at .05; +Sig. at .10.

Table 7: Treatment Effects Model of Q and Failed Bank Ownership

	Lehman		Bear		Wachovia		Merrill	
	b	t	b	t	b	t	b	t
Size	-0.061**	-2.987	-0.040*	-2.017	-0.034+	-1.658	-0.079***	-3.958
Leverage	-0.040**	-3.235	-0.038**	-3.119	-0.037**	-3.185	-0.050**	-3.2
Ag. Institution	-0.731***	-6.169	-0.529***	-4.903	-0.472***	-4.254	-0.777***	-7.768
Lehman	-0.662***	-4.333						
Bear			-1.090***	-7.649				
Wachovia					-1.270***	-11.186		
Merrill							1.945***	23.464
Intercept	2.171***	9.317	2.030***	8.814	2.381***	10.299	1.339***	6.15
	Probit Piece							
	Lehman		Bear		Wachovia		Merrill	
E-Index	0.228***	8.509	0.073**	2.831	0.185***	8.035	-0.036*	-2.109
Volatility	0.470**	3.221	0.676***	4.644	-0.124	-0.867	-0.194*	-1.999
ROA	-0.852+	-1.8	-1.554***	-3.524	-1.963***	-4.82	3.404***	12.699
Turnover	0.005***	4.953	0.005***	4.951	0.006***	5.938	0.005***	6.174
Cash/TA	-0.983***	-3.518	-1.347***	-5.017	-1.777***	-9.145	0.913***	6.142
_cons	-1.543***	-11.406	-1.140***	-9.292	-0.365***	-3.492	-0.285***	-3.72
athrho								
_cons	0.477***	6.354	0.494***	7	0.739***	12.077	-1.257***	-24.868
lnsigma								
_cons	0.185***	7.844	0.188***	8.12	0.257***	9.869	0.382***	15.555
chi2	145.128		58.283		294.089		458.117	
p	0		0		0		0	
N	1571		1571		1571		1571	

Treatment Effects Model with Dependent Variable Tobin's Q which is the ratio of the sum of the book debt plus market value of equity to total assets. Dummy variables for Lehman, Bear, Wachovia, & Merrill equal unity if ownership stakes are recorded and zero otherwise. Ag.Institution is the sum of bank, mutual, financial, and insurance ownership . Ownership is from BVD Osiris. Volatility is the 3 year standard deviation of the stock return. Size is the natural log of total assets. Leverage is the market debt/equity ratio. ROA is return on assets. Liquidity is the daily average stock turnover. Cash/TA is the ratio of cash to total assets. E-Index is the entrenchment index from Professor Bebchuk's website. All other variables are from Value Line. Data are from 2004 to 2008 and exclude firms in SIC 6000 TO 6999. Industry dummies are not reported. ***Sig. at .001; **Sig. at .01; *Sig. at .05; +Sig. at .10.