The Impact of Internal and External Firm-Level Mechanisms on Corporate performance during the Financial Market Crisis (2007-08)

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This paper examines firms' governance mechanisms during the financial market crisis of 2007-08. It employs two different methods by dividing a portfolio of 136 firms into two samples in effects to determine the governance mechanisms. Findings indicate a positively significant correlation between the internal firm mechanisms, shareholders wealth maximization proxied by stock return during the financial crisis.

INTRODUCTION

"The crisis is the product of a 'perfect storm' bringing together a number of microeconomic and macroeconomic pathologies" (Buiter, 2008b). Would corporations with strong firm-level governance mechanisms manage and have improved performance and probability of surviving during financial crises as measured by stock returns? The two key objectives of this empirical study are to investigate the Governance of the Public Corporations' internal and external firm-level mechanisms and their effects on corporate performance during the 2007-08 financial crisis. Corporate board structure; the Board of Director's (BOD) size and demographics, and Block-holders are the internal firm-level monitoring mechanism. The former is our main focus of inquiry, precisely the BOD size, BOD independence, BODs' ages, ethnicities and university affiliation. We shall extend the analysis of the board demographics and size by borrowing from the two different Corporate Governance theories (CG) like (1) the Agency Theory (AGT), (2) and the Resource Based View Theory (RBV).

Control for market power and takeover provisions are the external mechanism, where both are considered in our study with special focus of inquiry on the anti-takeover provisions. Despite both mechanisms are different in nature, they work simultaneously as a system to ensure effective governance within firms. Given the goals of the internal and external mechanisms, one might question, whether during a financial crisis BODs demographics lead to improved firm performance as measure by stock returns. Does the existence of the Investor Responsibility Research Center (IRRC) provisions proxied by the G-Index, if any detract or contribute to firms' performance during a financial crisis?

Consistent with the existing literature, our findings indicate that firms with strong internal control governance mechanisms managed and survived the financial crisis of 2007-08; some firms even achieved returns higher than the S&P 500 index. In addition, our findings indicate that firms with poor internal control governance mechanisms adopt higher anti-takeover provisions; proxied by the, G-Index negatively influence firms' performance proxied by stock returns and destroys shareholders' value. Despite that strong internal and external governance mechanisms complement each other and preserve the

value of the firm and shareholders value during uncertainty, the G-Index has a statistically negative and significant influence.

The rest of the paper proceeds as follows. Section II provides theory development & a review the relevant literature. Section III describes our data and methodology. In Section IV, present our empirical results and robustness checks. Finally, the concluding remarks are reported in Section V.

THEORY DEVELOPMENT & LITERATURE REVIEW

Internal Firm-Level Mechanism and Corporate Performance

Our theory development for the internal firm-level mechanisms follows Nicholson and Kiel (2004). They develop a theoretical model that links; the internal firm-level mechanism, precisely the board characteristics and its impact on corporate performance. They base and exemplify their model on BODs' roles and responsibilities and how both interact to improve and impact corporate performance. The model includes four major roles and responsibilities for the BODs. They are (1) control and monitor, (2) providing access to resources, (3) planning and strategizing, and (4) advice and counsel.

First, monitoring and controlling should be a priority because it measures the decision of agents (Fama and Jensen, 1983). A key determinant of the BOD's role is to delegate responsibilities and monitor those responsibilities delegated to the management and ensure that management is not deviating from implementing and deploying the BOD's strategies. Second, the Resource Based View proponents recommend a higher proportion of independent directors for the improved network and interlocks effects allowing for greater resources. Peffer (1972, 1973) and Peffer and Salancik (1978) propose that an independent director reflects firms' strategic contingencies in operations that are defined as a major variable, which constitute a crucial role in determining the effectiveness and survival of a company especially during uncertainties. Pfeffer and Salancik (1978) further explain that contingency is conditioned by organizational outcomes that are based on interdependence. The outcome interdependence and behavior interdependence are themselves independent; and can occur jointly or separately (Peffer and Salancik, 1978). Since "interdependence is a consequence of the open-systems nature of organizations, or the fact that organizations must transact with elements of the environment in order to obtain the resources necessary for survival" (Pfeffer and Salancik, 1978). Finding an appropriate independent director serving on the BOD is of importance especially during uncertainties and crises to enable appropriate extraction of necessary external resources, which according to Peffer (1972, 1973) and Peffer and Slancik (1978), help in the survival of the firm. Another important element that the RBV stresses is the necessity to select outside directors with interlocks capabilities. Furthermore, the broader inter-organizational network literature has largely examined the positive effects of inter-organizational ties (Zaheer and Bell, 2005).

Third, the role focuses on the degree of involvement in the strategizing process that is unique to the BODs. The BOD takes an active role as independent thinkers in shaping the strategic directions of their organization (Walsh and Seward, 1990; Davis and Thompson, 1994). In other words, the BOD will be responsible for monitoring and influencing the strategy rather than implementing the strategic decisions (Forbes and Milliken, 1999). Their role leans towards guidance to the top management rather than setting up the actual strategy (Ingley and Van der Walt, 2001). Herman (1981) documents the importance that BODs do not satisfy the management requirements in any way that might turn their role to one that becomes passive and within the purpose of this empirical paper, we extend this especially during a period of uncertainty or financial crisis. Quality decision-making depends on the volume, the relevancy and the quality of information collected. Therefore, third role emphasizes the area where the CEO and executive members should be responsible for making information available to the board, which is always viewed as a challenge to the quality of monitoring and decision-making of the independent directors (Nowak and McCabe, 2003).

Fourth, recent studies emphasize upon the importance of the advising and counseling roles, not merely the monitoring role that independent directors perform (e.g., Adams and Ferreira (2007), Agrawal and Knoeber (2001), and Coles, Daniel, and Naveen (2008)). For example, Dalton et al. (1999) argue "outside directors provide a quality of advice to the CEO otherwise unavailable from corporate staff."

Adams and Ferreira (2007), document that independent directors spend a substantial proportion of their time advising and counseling rather than monitoring and controlling. As both are independent directors and are specialized expertise in their fields, academic directors are seen as a unique group of BOD members that provide superior advising and counseling abilities that affect board efficacy, and, sequentially, firm performance. Recent studies emphasize the importance of the advisory and counseling roles performed by BODs (e.g., Adams and Ferreira (2007), and Coles, Daniel, and Naveen (2008)).

In addition to the advice and counseling, Demb and Neubauer (1992) document a finding in their survey that "setting the strategic direction of the company" is one of a board's most important jobs and independent directors spend most of their time advising rather than monitoring management (Adams and Ferreira, 2007). Hence, university affiliated directors are expertise in their research fields, and are able to provide the management with exceptional advice and counseling to make the right decisions in uncertain or complex business environments, and they can provide opinions and solutions whenever a problem escalates. Consequently, the ''CEO may choose an outside director who will give good advice and counsel, who can bring valuable experience and expertise to the board'' (Hermalin and Weisbach, 1988). University affiliated BOD members are therefore important source of providing advice and counsel to the firms on certain business strategies. On the other hand, firms may opt to include academic members to serve on the BOD for the prestige they poses.

In addition, we extend Nicholson and Kiel (2004) model, to include two equally important BODs determinants such as ethnic background and age. Prior studies, document that diversity is of importance to the BOD (internal firm-level mechanisms). Diversities like social diversity, gender diversity and ethnic diversity are crucial factors in influencing BODs' efficacy and simultaneously firm performance (e.g., Anderson, Reeb, Upadhyay, and Zhao (2008), Carter, Betty, and Simpson (2003), and Adams and Ferreira (2008). This diversity theory thus predicts that diverse BOD with academic directors, old directors, and directors with different ethnic backgrounds enrich BOD diversity, improve BOD efficacy, in turn, firm performance.

External Firm-Level Mechanism and Corporate Performance

External firm-level mechanisms include control for market power and takeover provisions. There are several types of studies that examine the external control mechanisms and efficiency. The first type of studies examines the determinants of market for corporate control does serve to create shareholders wealth. The second type examines market for corporate control efficiency determinants and factors that explain sources of documented wealth gains. The third type, examines the market for corporate control and its ability to compensate for the internal control mechanisms inefficiencies (Walsh and Seward, 1990). This sub-field of the external firm-level mechanism deals with how the market reacts to discipline incompetent and inept managements. This reaction could be in different forms of hostile takeover or mergers and acquisitions.

The purpose of this study is to examine the IRRC takeover provisions adopted by corporations and their effects on the firm value and the stock return. Thus, with higher internal control mechanisms, the more efficient the BODs in conducting their day to day business and, in turn, the effects are reflected on both the value of the firm as well as the stock return. In other words, firms with fewer anti-takeover provisions have higher shareholders rights. We follow two empirical studies, which are Gompers et al. (2003), and Bebchuk et al. (2009). Gompers et al. (2003) conduct an empirical study on 1500 large firms during the 1990s based on IRRC 24 provisions. They find a negative correlation between the external firm-level mechanisms; IRRC provisions, and the firm value. They assemble a governance index to measure the IRRC provisions and their effects on the value of the firm and the stock return. This index is hereinafter is named the GIM index, which exclude firms with dual class stocks. They document that firms with more anti-takeover provisions, are firms with a poorly internal firm-level governance mechanisms. However, with a stronger shareholders rights, have better operating performance, higher market valuation, and more likely to make an acquisition. The study fails to identify which provisions are especially responsible for the identified correlation. We follow the same technique to establish a similar index to enable measuring the IRRC provisions in the aggregate and test whether or not the index have a

negative correlation on a 116 randomly selected companies' value and their stock returns during the financial crisis of 2007-08.

Moreover, Bebchuk et al. (2209) develop an entrenchment index as a refined index to reduce noise of the assembled GIM index by Gompers et al. (2003). They base their index on six IRRC provisions instead of the 24 IRRC provisions that used by Gompers et al. (2003) in assembling their index. They document that the higher the entrenchment index adopted by companies leads to negative abnormal returns and distort firm value during 1990 and 2003. Their index measures the external control mechanisms that are related to the market for corporate control and the possibility of takeover attempts.

Both firm-level mechanisms are complementing each other's once they are equal in propensity. However, Pound (1992) views them as substitutes when the internal mechanisms advance to equipoise any changes in the external mechanism. Therefore, a firm with a strong internal monitoring and external control mechanisms has a comparable quality to firm-level governance mechanisms of a firm with an incompetent monitoring by shareholders and with a low number of anti-takeover provisions. On the one hand, with an appointment of an independent director, Rosenstein et al (1990 & 1996) found a positive and a significant correlation between positive stock returns and the announcement of appointing that director. On the other hand, the returns for an inside director is indistinguishable from zero. Consequently, a firm with a greater BODs' independence is less prone to takeovers (Gillan et al., 2003). Moreover, According to Agarwal and Gort (1996 and 2002) old age provide knowledge, skills, and abilities to "induce organizational decay" (Agarwal and Gort, 1996 and 2002). Furthermore, Gompers et al (2003) and Bebchuk et al. (2209) document that firms with higher IRRC provisions proxied by the GIM index and the entrenchment index weakens firms' value and stock returns. Nevertheless, their use of the firm-level governance mechanisms does not shed light on whether corporations with strong combined firm-level governance mechanisms have the same performance of corporations with only one of these mechanisms during a financial crisis.

METHODOLOGY

Research Question

To our knowledge and to the available literature, there has not been a single study that empirically examined both the internal and external firm-level mechanism with special emphases on BODs structure and IRRC anti-takeover provisions during the 2007-08 financial crisis and their effects on firm performance measured by stock return. The objective of the present paper is to fill this gap in several ways. First, it is a comparative and a comprehensive empirical study that investigates both the internal and external control mechanisms that corporations employ and measure their effects during a financial crisis. The central questions in this investigation are (a) Specifically, would BODs demographics lead to improved firm performance proxied by stock return or survive during a financial crisis as measure by stock returns during the 2007-08 financial crisis? Does the existence of the Investor Responsibility Research Center (IRRC) anti-takeover provisions; if any detract or contribute to firms' performance during this financial crisis? Primarily, using governance and director data for a sample of firms whose ticker symbols begin with the letter A, all collected in or applicable to the year 2006. The governance and director data include the IRRC anti-takeover provisions and BOD demographics from the Wharton Research Data Services (WDR). Using CRSP, this data is supplemented with stock prices data for each of the listed companies, obtained for end-of years 2006, 2007 and 2008 (three year-end prices for each company). In addition, dividends data for each stock for all 2007 and 2008 ex-dividend dates along with year-end market (S&P 500 Index) data for 2006 to 2008. Second, this paper links and considers the internal control mechanism the AGT, SDT, and the RBV theories affecting firms performance and stock returns during the 2007-08 financial crisis. Additionally, it links the 28 IRRC anti-takeover provisions to enable examining the external control mechanisms and their effects on both the performance and the stock return of a firm.

Internal Governance Mechanisms; Board Characteristics

AGT advocates attest that larger firms tend to have larger BODs' size (Fama, 1980). However, there is a cost for such a larger board size, Hermalin et al. (2003) document in a review of empirical studies that board size is negatively related with corporate performance, where Jensen (1993), Yermack (1996) and Eisenberg, Sundgren, and Wells (1998) document that smaller boards are correlated positively with the value of the firm, as measured by Tobin's Q. contrarily to the latter, both the SDT and RBV advocates view larger boards as an opportunity of diversification; having larger board members bring benefit to the firms. Chaganti, Mahajan, and Sharma (1985) document in their study that the size of the board positively correlates with the performance of the firm and thus are less prone to bankruptcies. Dalton et al. (1999) reported their findings that larger boards motivate better environmental links and more expertise. Pfeffer et al. (1978) investigate larger boards and document that larger boards' sizes are associated with better firm performance because they provide necessary resources to the firms, which reduce the dependency between the firm and external contingencies and help the survival of the firm (Pfeffer et al., 1978). Hence, it leads us to hypothesize:

> *H1: The size of the board is positively correlated with firm performance as measured by stock return during a financial crisis.*

AGT proponents, recommend a higher proportion of outside BOD members to insiders. It enables mitigating the Agency problem cost and avoid conflict of interest. RBV proponents share the same view, but for a different reason (improved network and interlocks effects that either the directors and the CEO or both have allowing for greater resources), but STD is inconsistent with both, being more firmly in support of boards consisting of greater proportions of insiders. According to Lorsch and MacIver (1989), the main advantage of inside directors lies within their broad knowledge of organization-specific information. To specify, on issues concerning internal difficulties and organizational strengths and weaknesses, inside directors' input may greatly improve decision-making. Therefore, we would anticipate that:

> *H2: The proportion of outside directors serving on the BOD is positively correlated with firm performance as measured by stock return during a financial crisis.*

Since strategizing is one of the most crucial roles exercised by the BODs and paves an appropriate direction to the company, advising and counseling role is of importance to achieve such a favorable strategic direction. Academic members serving on the board of directors have the necessary intellect, skills and experience to provide an exceptional advice and make the right decisions during an uncertainty or complex financial environment. In other words, academics serving on the board bring valuable expertise that benefit both the BODs and, in turn, the value of the firm (Hermalin and Weisbach, 1988).

> *H3: The proportion of academic directors serving on the BOD is positively correlated with firm performance as measured by stock return during a financial crisis.*

Anderson, Reeb, Upadhyay, and Zhao (2008) investigate the economics of director heterogeneity amongst different BODs' determinants like greater heterogeneity amongst BODs' ages, gender, and ethnicity. They refer to the former and the latter as the social heterogeneity. They document that the social heterogeneity is positively correlated with the industry adjusted Q, which is an indicator of positive correlation with firm performance. Thus, they justify that older director, "lends greater stability and experiential wisdom to deliberations," gender heterogeneity provides the BOD with diverse and unique viewpoints in how to solve problems, and ethnic heterogeneity provides the firm with diverse, unique and culturally skillful perspectives that help in solving problems when they arise (Anderson, Reeb, Upadhyay, and Zhao, 2008). Hence, this leads us to hypothesize:

H4: Old age directors serving on the BOD are positively correlated with firm performance as measured by stock return during a financial crisis.

And as the social heterogeneity includes factors like gender and ethnicity, two hypotheses are of importance to investigate, which are:

H5: The proportion of women directors serving on the BOD is positively correlated with firm performance as measured by stock return during a financial crisis.

H6: The proportion of ethic directors serving on the BOD is positively correlated with firm performance as measured by stock return during a financial crisis.

External Governance Mechanisms; IRRC Anti-Takeover Provisions

The external governance control mechanisms considered in this empirical study is the threats of takeovers in any form or shape, whether mergers or acquisitions are threats in general to the existence of the firm. Empirical and theory studies, (e.g., Jensen (1988); Scharfstein (1988); Gompers et al. (2003); and Bebchuk et al. (2009)), document that takeovers take place when the internal governance mechanisms are poorly managed; whether it is in the form of the BOD demographics or the block-shareholders monitoring techniques. Hence, poorly governed firms face threats of being acquired, which is the control for market power to discipline the poorly governed firms (Morck, Shleifer, and Vishny, 1989). Nevertheless, a takeover generally increases the combined value; the target and the acquiring firms and thus is expected to improve the post takeovers (Jensen and Ruback, 1983). Firms that are poorly performing can adopt anti-takeover provisions in their charters to resist takeovers. There are different types of anti-takeover provisions; they can take the form of direct provisions or other devices that allow managers to insulate themselves from the risk of takeover and that by restricting the shareholders' power to change or edit charter provisions or override managements' decisions during a takeover attempt. Gompers et al. (2003) and Core et al. (2006) document that larger number of anti-takeover provisions negatively influences firms' operating performance in comparison with firms with lower anti-takeover provisions. Furthermore, Harford et al. (2008) document that the anti-takeover provisions proxied by the GIM index is associated firms' economic fundamentals of their decision-making. In other words, the anti-takeover provisions may act as an instrument of worsening the principal agent problem between the shareholders and the management through separating the managerial function that the market for corporate control provides, which is discipline. Consequently, the anti-takeover provisions clearly distort firms and, in turn, destroy shareholders value. Also, Bertrand and Mullinathan (1999a) document that with the adoption of anti-takeover provisions weakens managerial incentive to lower labor costs, and allows managers to self-serving instead of maximizing the shareholders wealth (Garvey and Hank, 1999). Therefore, to enable us measuring the effects of the anti-takeover provisions, we construct a G-index following Gompers et al. (2003) because it reasonably measures the quality of CG. Thus, leads us to hypothesize:

H7: The anti-takeover provisions detract firms' performance and act as a hindrance to survival during the 2007-08 financial crises.

SAMPLE CONSTRUCTION

Using governance and director data for a sample of firms whose ticker symbols begin with the letter A, all collected in or applicable to the year 2006. The governance and director data include the IRRC anti-takeover provisions and BOD demographics from the Wharton Research Data Services (WDR). The initial sample consisted of 140 firms, after matching and checking the companies, 4 companies were dropped due repetitive and thus the sample number became 136 firms. Furthermore, using CRSP and Yahoo Finance, the data was further supplemented with stock prices data for each of the listed companies,

obtained for end-of years 2006, 2007 and 2008 (three year-end prices for each company). In addition, dividends data for each stock for all 2007 and 2008 ex-dividend dates along with year-end market (S&P 500 Index) data for 2006 to 2008.

This study employs two different methods with two different samples to empirically examine the internal and external governance control mechanisms. First, to examine the internal governance mechanisms and to enable assessing their quality, the sample dropped from 136 firms due to takeover activities (merged, acquired or bought out and became private companies) reaching 118 firms yielding 236 firm-year observations. Secondly, examining the external governance mechanisms, we employ a binary regression more specifically a probit regression. The sample size for this regression is 136 firms (the 118 firms that survived during the 2007-08 financial crisis including the 18 firms that became target and were either merged, acquired or bought out and became private). This binary regression enables us to measure and estimate the survival probability of firms adopting different anti-takeover provisions proxied by the G-index. With such methodology, we are able to determine whether the anti-takeover provisions destroy shareholders value and detracted firms from performance during the said financial crisis.

To ensure that the link between the dependent and independent variables; for both samples, highly correlated, we have reported VIF and tolerance Tables (1 and 1.1), a tolerance of less than 0.20 or 0.10 and/or a VIF of 5 or 10 and above indicates a multi-collinearity problem. However, both the VIF and tolerance have not reported any problems. Furthermore, to test for heteroskedasticity, we employ both a graphical and non-graphical techniques for both samples. Since the assumptions for the Ordinary Least Squares Regression (OLS) are that homogeneity of variance of the residual. To use the graphical method, we plot the residuals against the fitted value to investigate how well fitted the values are. In the first method, we found no evidence that the residual variance to be heteroscedastic. To further investigate that the variance of the residual is homogeneous, we have employed White's test as well as the Breusch-Pagan test. Both test the null hypothesis that the variance of the residuals is homogenous. For the sample that contains 118 firms yielding 236 firm-year observations, there was no evidence that the residual variance to be heteroscedastic. However, the sample that contains 136 firms yielding 136 firm-year observations, showed evidence that the residual variance to be heteroscedastic. To correct for the latter, there are several improvements techniques documented like HC1, HC2, and HC3 (MacKinnon and White, 1985). Using the H3 is the best especially for samples with small observations (Long and Ervin, 2000). Thus, we have employed the HC3 to correct for the sample that contains 136 firms yielding 408 firm-year observations.

Measures
Board Size
Following Lipton and Lorsch (1992) and Jenson (1993), we have identified total number of the BOD. These authors counted the BODs number at the year end.

Board Composition Variables
After identifying the number of each BOD, we were able to identify whether the director is executive or non-executive. Then we have calculated the proportion (ratio) of the outside director and the inside director from the total number of each member sitting on the board. Then, we have identified whether the director is a male or a female and calculated the proportion (ratio) of female directors from the total number of each member sitting in the board. Then we were able to identify an academic member sitting in the board by calculating the proportion (ratio) from the total number of each member sitting in the board. Moreover, each director's age serving on the board was summed up and averaged by the total number of each member sitting on the board. In addition, we were able to another element of social heterogeneity, which is age. Following Anderson, Reeb, Upadhyay, and Zhao (2008) in identifying and calculating the ethnic back-ground by calculating the number of each ethnic member serving on the board divided by the total number serving on the board.

Corporate Performance

Stock returns are used to measure corporate performance during the 2007-08 financial crisis. They are used over the said crisis from 2006 through end of 2008. The measure of stock return is calculated as the increase or decrease of stock value from the prior year summed with the dividend yield. Stock prices are determined as of December 31. A dividends yield is defined as the total dividends paid (as of ex-dividends date) for the entire year divided by the share price of stock as of December 31.

G-Index

This is the approach taken by Gompers et al. (2003) in forming their G-index measure of the quality of governance. The G-index is a broad index of antitakeover provisions that influence the likelihood that managers will be able to insulate themselves from the risk of takeover. The 24 provisions, categorized in five groups (delay, protection, voting, state and other provisions) are noted by their presence or absence. The G-index is then measured on a scale of 0 to 24, with higher values indicating greater power in the hands of managers and higher agency costs.

Survival

Survival is a binary variable that measures firms' survival probability. As mentioned earlier, our regression considers two samples. The first sample is only for the companies that survived the 2007-08 financial crises and are still functioning and the other sample is the complete sample that includes 136 firms yielding 408 firm-year observations. Hence, we have coded the firms that are still functioning 1, otherwise 0.

Control Variables

To separate the internal and external control mechanisms on firm's performance and the value of the shareholders, it is detrimental to control for the industry proxied by sector, and we control for the year as well.

Furthermore, firm's size is also used to test for the external validity and for the purposes of control. It is measured by using the market capitalization in logarithmic term. Furthermore, we have controlled for time fixed effects (year) using OLS with robust standard error. In addition, we have identified sector as entity fixed effects using OLS with robust standard error, in order to control for a specific sectors like (banking and technology).

Models

The dependent variable *Stock Return* was regressed using four different models. The first model is a normal Ordinary Least Square (OLS) robust standard error. The first model however controls for firm size. We control for the endogeneity problem in two ways. First, in the second model, we use year firms (time) fixed effects using OLS robust standard error throughout to control for unobservable firm characteristics that affect both the choice Internal control governance and firm performance. Secondly, in the third model we use sector (entity) fixed effect using OLS robust standard error effects to control for firm characteristics that affect both the choice of internal control governance and firms performance. Finally, the fourth model combines the time and entity fixed effects by using OLS standard error ordinary least squares regression. The four different models for the different dependent variable are as follows:

The First Sample

First model:
Stock Return $= \beta_0 + \beta_1 \text{BSize} + \beta_2 \text{ADirector} + \beta_3 \text{IDirector} + \beta_4 \text{DAge} + \beta_5 \text{WDirector} + \beta_6 \text{FDirector} + \beta_7 \text{DVP} + \beta_8 \text{GE} + \beta_9 \text{G-Index} + \beta_{10} Log \text{MKT\_CAP} + e$ (equation 1)

Second Model:

$Stock\ Return = \beta_0 + \beta_1 BSize + \beta_2 ADirector + \beta_3 IDirector + \beta_4 DAge + \beta_5 WDirector + \beta_6 FDirector + \beta_7 DVP + \beta_8 GE + \beta_9 G\text{-}Index + \beta_{10} Log MKT\_CAP + \beta_{11}\ Year^{*1} + e$ (equation 2)

Third Model:

$Stock\ Return = \beta_0 + \beta_1 BSize + \beta_2 ADirector + \beta_3 IDirector + \beta_4 DAge + \beta_5 WDirector + \beta_6 FDirector + \beta_7 DVP + \beta_8 GE + \beta_9 G\text{-}Index + \beta_{10} Log MKT\_CAP + \beta_{11}\ Sector6^{2} + \beta_{12}\ Sector7 + e$

(equation 3)

Fourth Model:

$Stock\ Return = \beta_0 + \beta_1 BSize + \beta_2 ADirector + \beta_3 IDirector + \beta_4 DAge + \beta_5 WDirector + \beta_6 FDirector + \beta_7 DVP + \beta_8 GE + \beta_9 G\text{-}Index + \beta_{10} Log MKT\_CAP + \beta_{11} Year^{*3} + \beta_{12}\ Sector6^{4} + \beta_{13}\ Sector7 + e$

(equation 4)

The Second Sample

The sample size for this regression is 136 firms (the 118 firms that survived during the 2007-08 financial crisis including the 18 firms that became target and were either merged, acquired or bought out and became private). This binary regression enables us to measure and estimate the survival probability of firms adopting different anti-takeover provisions proxied by the G-index. With such methodology, we are able to determine whether the anti-takeover provisions destroy shareholders value and detracted firms from performance during the said financial crisis. Thus, the binary variable is Survival and is coded 1 if the probability of survival exists; otherwise 0. Our model for the second sample is:

$Pr(Y = 1|$ BSize, ADirector, IDirector, DAge, WDirector, FDirector, DVP, FA, G-Index$) = \Phi\ (\beta_0 + \beta_1 BSize + \beta_2 ADirector + \beta_3 IDirector + \beta_4 DAge + \beta_5 WDirector_5 + \beta_6\ FDirector + \beta_7 DVP + \beta_8 FA + \beta_9 G\text{-}Index)$

Where the dependent variable **Y** (Survival) is binary, **Φ** is the cumulative standard normal distribution function. The probit coefficient $\beta_0, \beta_1, ..., \beta_k$ are not simple to interpret and thus it is best to compute the predicted probabilities and its effects on the predicted probabilities.

RESULTS & DISCUSSION

Summary Statistics
The First Sample

In our paper, stock return is our proxy for performance. Table 1 depicts that there is no high correlation or a proof of Multicollinearity. Table 2 depicts the summary statistics, which are based on all 236 firm-year observations. The mean (median) value of the *Stock Return* is 0.51 (0.89). Internal governance control mechanisms; board characteristics, we find the average board size in our sample 9.18 director, with a minimum of 5 directors and a maximum of 16 directors. The mean (median) of the independent directors is 0.75 (0.77) and it varies as a proportion across the sample from 0.00 to 0.14. Academic directors serving on the boards has a mean (median) 0.70 (0.11) and it varies as a proportion across the sample from 0.00 to 0.40. The mean (median) of the directors' age is 59.64 (59.75) and it varies as the proportion across the sample from 42.30 to 70.78. The mean (median) of the white director, female director and directors' voting power is 0.47 (0.50), 0.13 (0.13) and 3.91 (1.30) respectively. They vary across the sample as proportion from 0.00 to (1.00), 0.00 to (0.27), and 0.00 to (15.20) respectively. The mean (median) for the G-Index is 7.86 (8.00) and it varies across the sample from 0.00 to 14.

The goal from the first sample is to examine the internal governance control mechanisms and their ability to serve firms during normal environment as well as during an uncertainty; especially during the financial crisis of 2007-08. Results for the strong internal mechanisms proxied by the BODs' demographics are consistent with the theoretical and empirical literature (e.g. Fama and Jensen (1983), Peffer (1972, 1973), Nowak and McCabe (2003), Anderson, Reeb, Upadhyay, and Zhao (2008), Carter,

Betty, and Simpson (2003)) that stem of the two prominent theories; AGT and RBV. The presence of profound and BODs' demographics like heterogeneous BODs (social heterogeneity) enable the board to execute their role efficiently (monitoring and controlling, advising and counseling, strategizing and providing resources). Those qualities provide utmost and transparent professionalism that influence the firms positively and, in turn, the stock return. Another important element is the BOD size, despite the divergence between the AGT and RBV proponents; it is worth to note that with controlling for the firm size proxied by the natural logarithm of the market capitalization influence the stock return, not only in a normal environment, but also during the financial crisis, which provides support for the first hypothesis. Furthermore, consistent with the AGT proponents and RBV proponents, the presence of an independent director bring superior expertise and neutrally asses each situation without involving possible conflict of interest in their decisions. Consequently, higher monitoring and controlling as well as advising and counseling; proxied by both independent and academic directors, correlate positively with stock return, and, in turn, the maximization of shareholders wealth. The latter statement holds true even during tough times or uncertainty. Nevertheless, if the internal governance control mechanisms are weak, then firms might adopt heavy IRRC anti-takeover provisions to substitute for the internal weakness. Social heterogeneity is another important element that provides positive perspective to firms' performance. Table 3 depicts that internal governance proxied by board size, directors' age, independent director; academic director, white director, female directors, directors' voting power, and the interaction between female and academic directors represent more than 50% of our sample. The table presents four different regression models. Columns 1 present a normal OLS robust standard error regression with control variables log (Market Capitalization) as a proxy to firms' size. It depicts the stock return as a performance measure. The larger the BOD size, leads us to conclude that it is significant at p-value <0.01 and the effect is positive and non-zero. Therefore, stock return is higher in firms that have a larger BOD size versus those that do not. Hence, our first hypothesis is supported. Based on the effect size in the model is 0.405 meaning that stock return increased by 0.405 percentage points. This model explains roughly 18.6% of the variance observed and with an adjusted R^2 of 15%. However, when controlling for time effects column 2, results are still significantly positive with a p-value <0.05 and inconsistent with the OLS robust with standard error regression and explains roughly 19.1% of the variance observed and with an adjusted R^2 of 15.20%. Moreover, when controlling for entity effects as column 3 depicts, the results are still consistent significantly positive with p-value <0.01. In addition, the third and the fourth models are consistent with the second model and the same significance level. Furthermore, consistent with existing literature, the academic directors are highly significant at the level of <0.001. Even when controlling for entity effects, time effects and both, they are highly significant at <0.001. The latter provides a strong support for the third hypothesis. Directors' Age, in models 1, 2, and 3 are highly significant at <0.01, however, when controlling for both entity and time fixed effect the significance level drops to <0.05. Despite the drop in the significance level, it is still positively significant and this supports our fourth hypothesis. There is no significance for the white directors and it is inconsistent with existing literature of social heterogeneity, which provides no support for our sixth hypothesis. Consistent with the social heterogeneity literature, Female Directors are significant at <0.10 and is consistent throughout the whole models, which further supports our fifth hypothesis. Furthermore, the presence of independent directors is significant at level <0.05, which supports our second hypothesis. Directors' voting power is negatively significant at the <0.10, which is inconclusive to the existing literature, and is consistent throughout the whole models. Introducing the G-Index, it is not a surprise that it is negatively significant at <0.10 and is consistent throughout the whole models, which supports hypothesis 7.

The Second Sample

Survival is a binary variable that is coded 1 if the company is still functioning after the financial crisis; otherwise 0. Table 2.1 depicts the summary statistics, which is based on all 136 firm-year observations. The mean (median) value of the S*urvival* is 0.87 (1.00). Internal governance control mechanisms; board characteristics, we find the average board size in our sample 8.9 director, with a minimum of 6 directors and a maximum of 11 directors. The mean (median) of the independent directors

is 0.75 (0.75) and it varies as a proportion across the sample from 0.45 to 1.00. Academic directors serving on the boards has a mean (median) 0.04 (0.00) and it varies as a proportion across the sample from 0.00 to 0.14. The mean (median) of the directors' age is 59.37 (59.66) and it varies as the proportion across the sample from 52.73   to 65.30. The mean (median) of the white director, female director and directors' voting power is 0.50 (0.50), 0.13 (0.13) and 5.35 (1.30) respectively. They vary across the sample as proportion from 0.10 to (0.88), 0.00 to (0.29), and 0.00 to (55.40) respectively. The mean (median) for the G-Index is 7.86 (8.00) and it varies across the sample from 0.00 to 14. Furthermore, the interaction effects of females and academic directors have a mean (median) of 0.00 (0.00) and it varies across the sample as a proportion from 0.00 to 0.04. The external governance control mechanism is proxied by the G-index that has a mean (median) of 8.85 (8.00) and it varies across the sample from 5.00 to 14.

The goal from the second sample is to examine the external governance control mechanisms and their ability to serve firms during normal environment as well as during an uncertainty; especially during the financial crisis of 2007-08. Results for the strong External mechanisms proxied by the G-Index are consistent with the empirical literature (e.g., Jensen (1988); Scharfstein (1988); Gompers et al. (2003); and Bebchuk et al. (2009)) when the internal controls are weak; firms tend to adopt a lot of the IRRC anti-takeover provisions. Nevertheless, this adoption leads to a weaker shareholders rights and thus far affect the overall shareholders wealth. In other words, a firm can resist an attempt of takeover by using the adopted anti-takeover provisions, which could be beneficial to the shareholders. Once the takeover attempt fails, it leads, in some instances to distorting and damaging shareholders wealth maximization. The G-Index helps in determining the companies that adopt higher anti-takeover provision. Including G-Index in the probit regression as one of the regressors, offers a probability of weather the firms' performance is improved or detracted during the financial crisis of 2007-08. Gompers et al. (2003) and Bebchuk et al. (2009) have examined the effects of anti-takeover provisions proxied by GIM index and the entrenchment index. They document that with higher anti-takeover provisions, shareholders value decreases and firms with higher abnormal return adopt lower anti-takeover provisions, and, in turn, shareholders have stronger rights that leads to better operating performance, higher market valuation, and are more likely to make acquisitions and the with a higher anti-takeover provisions the opposite is found to reverse them. Survival is an important element not only to shareholders but for the directors, management and employees. Table 3.1 depicts a probit regression to examine the external control mechanisms proxied by the G-Index.

The table presents four different regression models.

Table 3.1 presents a probit regression that includes all regressors. As the table depicts that firms that have strong internal control mechanisms, are able to survive during uncertainty or were able to survive the financial crisis. The G-Index is negatively significant at <0.10 and with higher anti-takeover provisions it distorts and damage shareholders wealth. Despite the latter, the sample showed that firms with higher internal and external control mechanisms succeeded in surviving during the turbulent environment. The latter does not indicate that the ones that merged, acquired or bought themselves and became private (as failed), they could have benefited the shareholders during the either of the merging, being acquired or became private. For all, they might have been offered a premium for the specified actions. Comparing table 3.1 with table 4 in the appendix, whether we run the probit regression with all regressors or starting with one regressor and keep on adding a regressor at a time, the G-index is negative significant at the at <0.10. Furthermore, tables 3.1 and 4 have been tested with estimating the probability of survival and the result remain the same. Firms that were acquired merged or became private had the exact predicted probabilities as table 4.1 depicts.

In addition, table 4; column 1 through 4, depicts that board size has no significance with a positive direction. However, column 5 through 8 depict that when all additional regressors are included; board size becomes significant at <0.05. Independent directors; as table 4.1 columns 2, 3, 4, 5, and 6, depicts that independent directors have no significant effect but in column 8 it becomes significant at <0.01. Academic directors throughout the models had no significance but positive, reaching column 8, when all the regressors included, it become negatively significant at <0.05. Directors' Age, are positive but

insignificant, however, columns 7 and 8 depict that it is positively significant <0.05 and <0.01 respectively. Furthermore, the white directors and female directors have no statistically significance, however their direction is positive.

Directors voting power in columns 7 and 8 has a negative direction but column 7 was statistically negative and significant at level <0.05, however after including the interaction term, the regressor is no longer negatively significant. Although the academic directors are negatively significant at the level <0.05 and the female directors are positive but significantly insignificant, when interacting them, the interaction term is positively significant at level <0.05. The binary variable; survival, is therefore influenced by the IRRC anti-takeover provisions proxied by the G-Index, the internal control mechanisms proxied by the board size, independent directors, academic directors, directors' age and the interaction term. Consequently, the predicted survival is effected by the regressors and thus confirms that control for market power theory, with weaker internal governance mechanism and higher IRRC provisions, the shareholders rights are weak and the stock return becomes an issue and , in turn, the destroying the value of the firm. Thus, providing support to hypothesis 7.

CONCLUSION

The first sample presents four different models to measure the effects of the internal governance mechanisms on the stock return of the firm. This extensive study is to measure the internal and external governance control mechanisms and their effects on the stock return and whether or not both have direct effects; if any, on the performance of the firm and their existence during the financial crisis of 2007-08. In short, firms that are with strong internal control mechanisms and fewer external control mechanisms indicate that have strong shareholders rights, sustained performance during uncertainty especially during financial crisis as measured by the stock return of the firms. In addition, firms with strong internal control mechanisms have survived and some of them even managed to beat the S&P 500 index during 2007-08 annual stock return including the yearly dividends yields. However, some companies with strong internal control mechanisms have accumulated losses during the said period and poorly performed in comparison with the benchmark the S&P500. Sample one shows very distinct relationships between the sectors, firm size proxied by market capitalization, directors' voting rights, academic directors, independent directors, and directors' age. The findings indicate that firms with strong internal control mechanisms tend to have larger BODs and are more socially diverse with a greater proportion of independent directors.

The interpretations of these results are consistent with and stem of two predominant CG theories. First, they support the prediction and the findings of are consistent amongst AGT, and the RBV models. For example Firms size are positively correlated with the BOD size, the greater proportion of outside directors and the greater number of BOD member are of importance. Furthermore, Academic directors are important intellect, expertise in their field and are able to illustrate competencies and can derive appropriate models that the non-academic directors are able to provide. Hence, their complex and methodological approach grants optimum service to the board and, in turn, the firm. Our findings proxied by the five hypotheses are consistent with both the AGT and RBV proponents; Fama and Jensen (1983), Peffer (1972, 1973), Nowak and McCabe (2003), Anderson, Reeb, Upadhyay, and Zhao (2008), Carter, Betty, and Simpson (2003). Since two of the hypotheses found no support, both have positive directions.

Furthermore, weak shareholders rights are associated with dispersed ownership and BODs' increasing voting power. Holding the former and the latter constant and having firms; whether they have strong or weak internal controls; adopting anti-takeover provisions, negatively influence the shareholders' wealth proxied by stock return and, in turn, negatively influence the value of the firm. Our empirical test finds that the anti-takeover provisions proxied by the G-Index finds is consistent with Jensen (1988), Scharfstein (1988), Gompers et al. (2003), and Bebchuk et al. (2009) findings that anti-takeover provisions have statistically negative outcome on firms' performance and shareholders' rights and wealth.

TABLE 1
MULTICOLLINEARITY TEST (VARIANCE INFLATION FACTOR AND TOLERANCE)
SAMPLE 1

Variance inflation factor (VIF) is one common method of testing the predictors for collinearity problems. When an individual *VIF* values is large and specifically larger than 10, then it should be inspected and when the average *VIF* is greater than 6 inspection should take place. *Tolerance* is calculated *1/VIF*, the tolerance values should not be less than 0.1. When the tolerance values are small; closer to 0, then there is a collinearity problem.

Variable	VIF	Tolerance
Board Size	1.50	0.667408
Academic Director	1.10	0.910189
Independent Director	1.34	0.748185
Directors' Age	1.16	0.865194
White Directors	3.10	0.322639
Female Directors	4.28	0.233557
Directors' Voting Power	1.14	0.880424
G-Index	1.18	0.846293
Log (MKT_Cap)	1.25	0.799394
Sector 6	1.13	0.884739
Sector 7	1.12	0.893052
Year	1.05	0.953992
Mean VIF	**1.93**	

TABLE 1.1
MULTICOLLINEARITY TEST (VARIANCE INFLATION FACTOR AND TOLERANCE)
SAMPLE 2

Variance inflation factor (VIF) is one common method of testing the predictors for collinearity problems. When an individual *VIF* values is large and specifically larger than 10, then it should be inspected and when the average *VIF* is greater than 6 inspection should take place. *Tolerance* is calculated *1/VIF*, the tolerance values should not be less than 0.1. When the tolerance values are small; closer to 0, then there is a collinearity problem.

Variable	VIF	Tolerance
Board Size	1.18	0.845330
Academic Director	2.81	0.355937
Independent Director	1.26	0.793227
Directors' Age	1.08	0.926917
White Directors	1.15	0.867706
Female Directors	1.51	0.663278
Directors' Voting Power	1.05	0.953575
G-Index	1.16	0.860349
Interaction (Female*Academics)	3.06	0.326303
Year	1.00	0.998720
Sector	1.04	0.959766
Mean VIF	**1.48**	

TABLE 2
SUMMARY STATISTICS (FIRST SAMPLE)

This table presents descriptive statistics for the firm-year full sample. The sample is for the 2007 to 2008 period. *Stock Return* is commonly used in literature as proxy to performance. *Board Size* is the total number of directors on the board. *Academic Director* is the proportion of the academic directors to total directors serving on each board. *Independent Director* is the ratio of outside director to the total number of director serving on each board. *Directors' age* is the average sum of age of all directors serving on a board. *White Director is* a proxy to ethnicity and it is the ratio of white directors to the total directors serving on each board. *Female Directors* is a proxy to gender and it is the proportion of females to the total number of directors serving on each board. *Directors' voting power* is the sum ratio of all directors' ownership of each board to the total outstanding shares in a firm. *G-Index* is a variable that measures the IRRC anti-takeover provisions for in the aggregate. It is constructed by adding a point for each provision that reduces shareholders right in a firm. Each SSB members' age were calculated and averaged. *Log (MKT_CAP)* is the natural log of market capitalization for each firm. *Sectors 6 and 7* are dummy variables that equal 1 if the sector is either technology or banking; they equal 0 otherwise.

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
Firm Performance						
Stock Return	236	0.51	0.89	4.35	-7.78	8.58
Internal Governance						
Board Size	236	9.18	9.00	1.96	5.00	16.00
Academic Directors	236	0.70	0.00	0.11	0.00	.40
Independent Directors	236	0.75	0.77	0.18	0.44	1.00
Directors' Age	236	59.64	59.75	6.75	42.30	70.78
White Director	236	0.47	0.50	0.28	0.00	1.00
Female Director	236	0.13	0.13	0.09	0.00	0.27
Directors' Voting Power	236	3.91	1.30	5.30	0.00	15.20
External Governance						
G-Index	236	7.86	8.00	2.80	0.00	14.00
Control variables						
Log (MKT_Cap)	236	14.72	14.63	1.56	10.90	19.06
Sector 6	236	0.11	1.00	0.32	0.00	1.00
Sector 7	236	0.06	0.00	0.24	0.00	1.00

TABLE 2.1
SUMMARY STATISTICS (SECOND SAMPLE)

This table presents descriptive statistics for the firm-year (full sample) for a probit binary regression. The sample is for the year 2006. *Survival* is a binary variable that measures firms' survival probability and it is coded 1 if the firm is still functioning, 1, otherwise 0. *Board Size* is the total number of directors on the board. *Academic Director* is the proportion of the academic directors to total directors serving on each board. *Independent Director* is the ratio of outside director to the total number of director serving on each board. *Directors' age* is the average sum of age of all directors serving on a board. *White Director is* a proxy to ethnicity and it is the ratio of white directors to the total directors serving on each board. *Female Directors* is a proxy to gender and it is the proportion of females to the total number of directors serving on each board. *Directors' voting power* is the sum ratio of all directors' ownership of each board to the total outstanding shares in a firm. *Interaction term* is the interaction between a female director and an academic director; it helps in understanding the moderating effects that both moderate the firms' surviving during an uncertainty or a financial crisis. *G-Index* is a variable that measures the IRRC anti-takeover provisions for in the aggregate. It is constructed by adding a point for each provision that reduces shareholders right in a firm. *Sector and year* are proxies to control for time and entity effects

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
Dependent Variable						
Survival	136	0.87	1.00	0.34	0.00	1.00
Internal Governance						
Board Size	136	8.90	9.00	1.64	6.00	11.00
Academic Directors	136	0.04	0.00	0.57	0.00	0.14
Independent Directors	136	0.75	0.75	0.17	0.45	1.00
Directors' Age	136	59.37	59.66	3.98	52.73	65.30
White Director	136	0.50	0.50	0.26	0.10	0.88
Female Director	136	0.13	0.13	0.09	0.00	0.29
Directors' Voting Power	136	5.35	1.30	8.78	0.00	55.4
Interaction (Female*Academics)	136	0.00	0.00	0.00	0.00	0.04
External Governance						
G-Index	136	8.85	8.00	3.01	5.00	14.00

TABLE 3
THE EFFECTS OF INTERNAL & EXTERNAL GOVERNANCE ON FIRMS' PERFORMANCE

This table presents four different regression models. The four regression models show the results of the relation between the board characteristics and the anti-takeover provisions on stock return. The dependent variable is the *Stock Return* is calculated as the increase or decrease of stock value from the prior year summed with the dividend yield. Stock prices are determined as of December 31. A dividends yield is defined as the total dividends paid (as of ex-dividends date) for the entire year divided by the share price of stock as of December 31. The first model is a normal Ordinary Least Square (OLS) robust standard error. The second model, we use year firms (time) fixed effects using OLS robust standard error throughout to control for unobservable firm characteristics that affect both the choice Internal control governance and firm performance. The third model we use sector (entity) fixed effect using OLS robust standard error effects to control for firm characteristics that affect both the choice of internal control governance and firms' performance. The fourth model combines the time and entity fixed effects by using OLS standard error ordinary least squares regression. *Board Size* is the total number of directors on the board. *Academic Director* is the proportion of the academic directors to total directors serving on each board. *Independent Director* is the ratio of outside director to the total number of director serving on each board. *Directors' age* is the average sum of age of all directors serving on a board. *White Director is* a proxy to ethnicity and it is the ratio of white directors to the total directors serving on each board. *Female Directors* is a proxy to gender and it is the proportion of females to the total number of directors serving on each board. *Directors' voting power* is the sum ratio of all directors' ownership of each board to the total outstanding shares in a firm. *G-Index* is a variable that measures the IRRC anti-takeover provisions for in the aggregate. It is constructed by adding a point for each provision that reduces shareholders right in a firm. Each SSB members' age were calculated and averaged. *Log (MKT_CAP)* is the natural log of market capitalization for each firm. *Sectors 6 and 7* are dummy variables that equal 1 if the sector is either technology or banking; they equal 0 otherwise. Standard errors in parentheses + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

	(1) *Stock Return*	(2) *Stock Return*	(3) *Stock Return*	(4) *Stock Return*
Internal Governance				
Board Size	0.405**	0.395*	0.37*	0.36*
	(2.66)	(2.55)	(2.32)	(2.22)
Academic Directors	12.84***	12.84***	12.37***	12.33***
	(4.74)	(4.65)	(4.47)	(4.37)
Independent Director	3.377*	3.391*	3.231*	3.24*
	(2.10)	(2.13)	(1.99)	(2.01)
Directors' Age	0.0986**	0.0984**	0.0964**	0.096*
	(2.73)	(2.63)	(2.61)	(2.50)
White Directors	1.926	1.892	1.704	1.661
	(1.14)	(1.12)	(1.01)	(0.98)
Female Directors	10.12+	10.19+	9.42+	9.48+
	(1.88)	(1.86)	(1.74)	(1.72)
Directors' Voting Power	-0.072+	-0.069+	-0.073+	-0.07+
	(-1.40)	(-1.38)	(-1.45)	(-1.43)
Interaction (Female* White Directors)	-14.89	-15.08	-13.93	-14.08
	(-1.62)	(-1.64)	(-1.50)	(-1.51)
External Governance				
G-Index	-0.175+	-0.174+	-0.172+	-0.170+
	(-1.77)	(-1.73)	(-1.70)	(-1.67)

Control variables

Log (MKT_Cap)	-0.547^{**}	-0.499^{**}	-0.524^{**}	-0.474^{**}
	(-3.31)	(-2.93)	(-3.09)	(-2.73)
Year		Yes		Yes
Sector6			Yes	Yes
Sector7			Yes	Yes
_cons	-4.084	-1331.5	-3.778	-1361.1
	(-1.09)	(-1.23)	(-0.99)	(-1.26)
N	236	236	236	236
R^2	0.186	0.191	0.190	0.196
adj. R^2	0.150	0.152	0.147	0.149
F	5.730	5.248	4.798	4.454

t statistics in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 3.1
THE EFFECTS OF INTERNAL & EXTERNAL GOVERNANCE ON FIRMS' PERFORMANCE

This table presents a probit regression model. The dependent binary variable is *Survival* is a binary variable that measures firms' survival probability and it is coded 1 if the firm is still functioning, 1, otherwise 0. *Board Size* is the total number of directors on the board. *Academic Director* is the proportion of the academic directors to total directors serving on each board. *Independent Director* is the ratio of outside director to the total number of director serving on each board. *Directors' age* is the average sum of age of all directors serving on a board. *White Director is* a proxy to ethnicity and it is the ratio of white directors to the total directors serving on each board. *Female Directors* is a proxy to gender and it is the proportion of females to the total number of directors serving on each board. *Directors' voting power* is the sum ratio of all directors' ownership of each board to the total outstanding shares in a firm. *Interaction term* is the interaction between a female director and an academic director; it helps in understanding the moderating effects that both moderate the firms' surviving during an uncertainty or a financial crisis. *G-Index* is a variable that measures the IRRC anti-takeover provisions for in the aggregate. It is constructed by adding a point for each provision that reduces shareholders right in a firm. *Sector and year* are proxies to control for time and entity effects. Standard errors in parentheses + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

	Survival	*z*	*P>|z|*	*[95%*	*Conf. Interval]*
Internal Governance					
Board Size	1.499*	2.46	0.014	.306	2.69
	(0.609)				
Academic Directors	-40.10*	-2.21	0.027	- 75.63	-4.55
	(18.13)				
Independent Directors	17.75**	2.70	0.007	4.87	30.63
	(6.573)				
Directors' age	0.744**	2.87	0.004	.236	1.257
	(0.259)				
White Directors	0.948	0.45	0.652	-3.17	5.06
	(2.102)				
Female Directors	-1.581	-0.38	0.704	- 9.73	6.579
	(4.159)				
Directors' Voting Power	-0.0836	-1.71	0.086	-.179	.0119
	(0.0488)				
Interaction (Female*Academics)	325.0*	2.50	0.012	70.08	579.83
	(130.0)				
External Governance					
G-Index	-3.452**	-3.29	0.001	- 5.51	-1.39
	(1.051)				
_cons	-25.81[+]	-1.84	0.065	-53.25	1.64
	(14.00)				
N	136				
Wald chi2(9)	18.00				
Prob > chi2	0.0352				
Pseudo R^2	0.8497				

t statistics in parentheses [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

ENDNOTES

1. Time fixed effects includes years 1 to 3.
2. Entity fixed effects includes countries 1 to 3.
3. Time fixed effects includes years 1 to 3.
4. Entity fixed effects includes countries 1 to 3.

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APPENDIX

TABLE 4

THE EFFECTS OF INTERNAL & EXTERNAL GOVERNANCE ON FIRMS' PERFORMANCE

This table presents a probit regression model. The dependent binary variable is *Survival* is a binary variable that measures firms' survival probability and it is coded 1 if the firm is still functioning, 1, otherwise 0. *Board Size* is the total number of directors on the board. *Academic Director* is the proportion of the academic directors to total directors serving on each board. *Independent Director* is the ratio of outside director to the total number of director serving on each board. *Directors' age* is the average sum of age of all directors serving on a board. *White Director is* a proxy to ethnicity and it is the ratio of white directors to the total directors serving on each board. *Female Directors* is a proxy to gender and it is the proportion of females to the total number of directors serving on each board. *Directors' voting power* is the sum ratio of all directors' ownership of each board to the total outstanding shares in a firm. *Interaction term* is the interaction between a female director and an academic director; it helps in understanding the moderating effects that both moderate the firms' surviving during an uncertainty or a financial crisis. *G-Index* is a variable that measures the IRRC anti-takeover provisions for in the aggregate. It is constructed by adding a point for each provision that reduces shareholders right in a firm. *Sector and year* are proxies to control for time and entity effects. Standard errors in parentheses + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

	(1) survival1	(2) survival1	(3) survival1	(4) survival1	(5) survival1	(6) survival1	(7) survival1
Board Size	0.113	0.122	0.184	0.200	0.295*	0.415*	1.499*
	(0.81)	(0.82)	(0.99)	(1.22)	(2.07)	(2.22)	(2.46)
Academic Directors	3.408	3.660	0.351	0.423	1.977	4.580	-40.10*
	(0.74)	(0.82)	(0.06)	(0.07)	(0.30)	(0.62)	(-2.21)
G-Index	-1.365***	-1.385***	-1.341***	-1.303***	-1.311***	-1.389***	-3.452**
	(-4.49)	(-4.54)	(-4.44)	(-4.14)	(-4.17)	(-3.72)	(-3.29)
Independent Directors		0.597	3.036	3.045	3.205	4.131	17.75**
		(0.43)	(1.39)	(1.42)	(1.54)	(1.83)	(2.70)
Directors' Age			0.161	0.160	0.148	0.204*	0.744**
			(1.82)	(1.77)	(1.61)	(2.11)	(2.87)
White Directors				-0.427	-0.607	-0.496	0.948
				(-0.33)	(-0.47)	(-0.36)	(0.45)
Female Directors					2.782	3.390	-1.581
					(1.08)	(1.14)	(-0.38)
Directors' Voting Power						-0.0576*	-0.0836
						(-2.00)	(-1.71)
Interaction (Female*Academics)							325.0*
							(2.50)
_cons	16.93***	16.65***	4.181	3.828	3.350	-0.734	-25.81
	(3.71)	(3.51)	(0.53)	(0.51)	(0.44)	(-0.09)	(-1.84)
N	136	136	136	136	136	136	136
Wald chi2	27.93	27.73	27.92	29.08	28.87	42.19	18.00
Prob > chi2	0.000	0.000	0.000	0.0001	0.000	0.000	0.0352
Pseudo R²	0.7476	0.7484	0.7766	0.7778	0.7834	0.7992	0.8497

t statistics in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 4.1
ESTIMATING OF SURVIVAL PROBABILITIES

Dependent variable: survival1   Equation: survival1   Command: probit
Variables left as is: pct_tot_vo~r, bod_size1, prop_woman1, prop_unive~1, prop_ind1, prop_age1, prop_white1, g_index1, GA

ENTITY_NAME	pr	lb	ub
A S V INC	.058494	[.000815	.506151]
A. O. SMITH CORP.	1	[1	1]
AAR CORP.	1	[.99905	1]
ABBOTT LABORATORIES	1	[1	1]
ABERCROMBIE & FITCH	1	[1	1]
ABM INDUSTRIES INCORPORATED	1	[.999995	1]
ACE LTD	1	[1	1]
ACTIVISION, INC.	1	[1	1]
ACUITY BRANDS, INC.	1	[.999844	1]
ACXIOM CORP.	1	[1	1]
ADAPTEC, INC.	1	[1	1]
ADC TELECOMMUNICATIONS, INC.	1	[.998781	1]
ADMINISTAFF, INC.	1	[.999766	1]
ADOBE SYSTEMS INC.	1	[.99991	1]
ADTRAN, INC.	1	[1	1]
ADVANCE AUTO PARTS INC	1	[1	1]
ADVANCED ENERGY INDUSTRIES, INC.	1	[1	1]
ADVANCED MEDICAL OPTICS INC	1	[1	1]
ADVANCED MICRO DEVICES, INC.	1	[1	1]
ADVENT SOFTWARE, INC.	1	[1	1]
ADVO INC	.594325	[.03382	.98941]
AEROFLEX INC	2.9e-13	[5.9e-34	.010106]
AEROPOSTALE INC	1	[1	1]
AETNA INC.	1	[1	1]
AFFYMETRIX INC.	1	[1	1]
AFLAC INCORPORATED	1	[1	1]
AGCO CORP	1	[1	1]
AGILENT TECHNOLOGIES INC	1	[.999977	1]
AGILYSYS INC	1	[1	1]
AGL RESOURCES INC	.999999	[.923387	1]
AIR PRODUCTS & CHEMICALS INC	1	[.999999	1]
AIRGAS INC	1	[.999916	1]
AIRTRAN HOLDINGS, INC.	1	[1	1]
ALASKA AIR GROUP INC	1	[1	1]
ALBANY INTERNATIONAL CORP.	1	[1	1]
ALBEMARLE CORP.	1	[1	1]
ALBERTO-CULVER CO	1	[1	1]
ALCOA INC.	1	[.997841	1]
ALEXANDER & BALDWIN, INC.	1	[1	1]
ALLEGHENY ENERGY, INC.	1	[1	1]
ALLEGHENY TECHNOLOGIES, INC.	1	[.999434	1]
ALLERGAN INC	.967253	[.744414	.998764]
ALLETE INC.	1	[1	1]
ALLIANCE DATA SYSTEMS CORP.	1	[1	1]
ALLIANCE ONE INTERNATIONAL INC	1	[.999979	1]
ALLIANT TECHSYSTEMS INC.	1	[1	1]
ALLIED WASTE INDUSTRIES INC	.309256	[.029779	.812764]
ALLTEL CORP	.097755	[.001574	.6421]
ALPHARMA INC	3.1e-29	[4.7e-84	.001679]
ALTERA CORP.	1	[1	1]
AMAZON.COM, INC.	1	[1	1]
AMB PROPERTY CORP.	1	[1	1]
AMBAC FINANCIAL GROUP, INC.	1	[1	1]
AMCOL INTERNATIONAL CORP.	1	[1	1]
AMEDISYS, INC.	1	[1	1]
AMERADA HESS CORP	1	[1	1]
AMEREN CORPORATION	1	[1	1]
AMERICAN EAGLE OUTFITTERS INC	1	[1	1]
AMERICAN ELECTRIC POWER CO.	1	[1	1]
AMERICAN EXPRESS CO.	1	[1	1]
AMERICAN FINANCIAL GROUP, INC.	1	[1	1]
AMERICAN GREETINGS	1	[1	1]
AMERICAN INTERNATIONAL GROUP, INC.	1	[1	1]
AMERICAN MEDICAL SYSTEMS HOLDINGS, INC.	1	[1	1]
AMERICAN STANDARD COS INC DEL	.003559	[6.5e-08	.458333]
AMERICAN STATES WATER COMPANY	1	[1	1]
AMERICREDIT CORP.	1	[1	1]
AMERIGROUP CORP	1	[.999999	1]
AMERIPRISE FINANCIAL, INC.	1	[1	1]
AMERISOURCEBERGEN CORP	1	[1	1]
AMETEK INC	.85729	[.397279	.991731]
AMGEN INC	1	[.999998	1]
AMN HEALTHCARE SERVICES INC.	1	[1	1]
AMPHENOL CORP	1	[1	1]
AMSURG CORP	1	[1	1]
ANADARKO PETROLEUM CORP	1	[1	1]
ANALOG DEVICES	1	[.994697	1]
ANALOGIC CORP	1	[1	1]
ANCHOR BANCORP WISCONSIN, INC.	1	[1	1]
ANDREW CORP	.499271	[.064705	.934832]
ANGELICA CORP	9.9e-16	[1.1e-40	.004941]
ANIXTER INTERNATIONAL INC.	1	[1	1]
ANNTAYLOR STORES CORP	1	[1	1]
ANSYS INC	1	[1	1]
AON CORP.	1	[1	1]
APACHE CORP	1	[.985154	1]
APARTMENT INVESTMENT & MANAGEMENT CO.	1	[1	1]
APOGEE ENTERPRISES INC	.610388	[.100826	.966934]
APPLE COMPUTER, INC.	1	[1	1]
APPLEBEES INTERNATIONAL INC	.466178	[.019762	.970549]
APPLERA CORP	.01906	[.000044	.410575]
APPLICA INC	2.7e-27	[1.7e-72	.000193]
APPLIED INDUSTRIAL TECHNOLOGIES INC	1	[.936215	1]
APPLIED MATERIALS, INC.	1	[1	1]
APPLIED SIGNAL TECHNOLOGY, INC.	1	[1	1]
APTARGROUP INC	1	[1	1]
ARBITRON, INC.	1	[1	1]
ARCH CHEMICALS INC	1	[.995643	1]
ARCH COAL, INC.	1	[1	1]
ARCHER-DANIELS-MIDLAND COMPANY	1	[1	1]
ARCHSTONE SMITH TRUST	.119162	[.00098	.76966]
ARCTIC CAT INC	1	[1	1]
ARKANSAS BEST CORP	1	[.999999	1]
ARMOR HOLDINGS INC	1.9e-20	[9.5e-54	.001369]
ARQULE INC	1	[1	1]
ARROW ELECTRONICS, INC.	1	[1	1]
ARTHROCARE CORP.	1	[1	1]
ARTHUR J. GALLAGHER & CO.	.794472	[.245793	.990146]
ARVINMERITOR INC	.989293	[.610945	.999729]
ASHLAND INC.	.764406	[.206967	.98803]
ASHWORTH INC	1.9e-18	[1.7e-32	.018918]
ASSOCIATED BANC CORP	1	[1	1]
ASTEC INDUSTRIES, INC.	1	[1	1]
ASTORIA FINANCIAL CORP	.999999	[.927229	1]
ATMEL CORP.	1	[1	1]
ATMI, INC.	.999988	[.774517	1]
ATMOS ENERGY CORP	1	[1	1]
ATWOOD OCEANICS, INC.	1	[1	1]
AUTODESK, INC.	1	[1	1]
AUTOMATIC DATA PROCESSING, INC.	1	[1	1]
AUTONATION, INC.	1	[1	1]
AUTOZONE, INC.	1	[1	1]
AVAYA INC	.000577	[5.4e-10	.343522]
AVERY DENNISON CORP.	.232517	[.014177	.767665]
AVID TECHNOLOGY, INC.	1	[1	1]
AVISTA CORPORATION	.999877	[.614958	1]
AVNET, INC.	1	[1	1]
AVOCENT CORPORATION	1	[1	1]
AVON PRODUCTS, INC.	1	[.988689	1]
AXCELIS TECHNOLOGIES INC	1	[1	1]
AZTAR CORP	5.7e-54	[5.e-150	8.7e-07]
EDWARDS A G INC	.559756	[.021095	.990158]
HEALTHWAYS INC	.203171	[.000243	.966164]
ON ASSIGNMENT, INC.	1	[1	1]
THE AES CORP.	1	[1	1]
THE ALLSTATE CORP.	1	[1	1]

Key: pr   = Probability
      [lb , ub] = [95% Confidence Interval]