The Weakening Relationship between Corporate Governance and Firm Performance

Robert Antenucci
Kent State University Trumbull

The owner-agent relationship, inherent in the corporate business structure, creates an agency conflict that potentially decreases corporate shareholders benefits. Corporate governance mechanisms exist to mitigate the negative financial impacts associated with this owner-agent problem. My research examines the relationship between corporate governance and firm performance. I posit that while better governed firms should outperform their peers, as measured by abnormal stock market returns, efficient market theory espouses that this effect should diminish over time since this publicly available information is available to all investors. My work extends the research on corporate governance and firm performance, and I find support for my hypotheses, as the relationship between stronger corporate governance and firm performance is positive and has decreased by over 50% from prior studies.

In the business world, there are numerous ways to structure a company. The three most common forms are a sole proprietorship, a partnership, and a corporation. A corporation is a legal entity separate from its shareholder owners, and the corporation owns assets, raises capital, and pays taxes. The firm's organizational structure frequently depends on its capital requirements. The corporate structure affords the firm greater access to financial assets required to produce goods or provide services. This improved access to capital is one of the more important advantages of the corporate structure.

A drawback of the corporate structure is that it creates the owner-agent relationship and potentially a conflict between these two entities. The agent (the firm's management) and the owners (the firm's shareholders) frequently have differing goals for the firm. To illustrate the potential downside of the owner-agent relationship, consider a real estate example. An individual wishing to sell a piece of property frequently hires a real estate agent, which establishes the owner-agent relationship. This owner-agent relationship involves information asymmetry between the

owner and the agent, where the agent has greater knowledge or insight into the real estate transaction than does the owner. Therefore, the agent may act in their own best interest at the expense of the owner without the owner being aware of the potential transgression of the agent. One of the more egregious examples of this owner-agent conflict was by Tyco CEO Dennis Kozlowski. He was convicted in 2005 for fraudulent expenditures, including a $2 million birthday party for his wife and other Tyco executives. Clearly these actions by Tyco CEO Dennis Kozlowski (the agent) were not in the shareholders' (the owners') best interest.

In the business world, this conflict between owner and agent is commonly referred to as the agency conflict. It is cost prohibitive for the atomistic shareholder to monitor directly the ethical performance of a firm's CEO and management. The separation of ownership and management and the resulting agency conflict can lead to a disconnect between CEO actions and firm performance. Corporate governance, the rules which govern corporations and protect the interests of the stakeholders,[i] is thought to mitigate the agency conflict. It follows that stronger corporate governance benefits the corporation's shareholders, limits unethical abuses by the corporation's management (the agent), and improves the corporation's performance.

There is conflicting research over the effectiveness of corporate governance mechanisms in mitigating the owner-agent conflict and improving firm performance. One strand of research maintains that domestic corporate governance is relatively well functioning (Bertrand & Mullainathan, 2001, and Brookman & Thistle, 2009), while other researchers maintain that there is still room for improvement (Shleifer & Vishny, 1997, and Kaplan, 2008). I will build on prior research in corporate governance and firm performance area by focusing on three seminal studies: Gompers, Ishii, and Metrick (2003), Cremers and Nair (2005), and Bebchuk, Cohen, and Ferrel (2009).

Gompers et al (2003) quantify corporate governance, and they were the first to utilize the Investor Responsibility Research Center (IRRC) data to develop a Governance Index (GIM) that measures the strength of a firm's corporate governance structure. Gompers et al (2003) find that firms with stronger corporate governance (lower GIM) have higher firm value, higher profits, and higher sales growth. Cremers and Nair (2005) build on Gompers et al (2003) work by creating a more parsimonious governance index, the Alternative Takeover Protection Index (ATI). Cremers and Nair (2005) find

increased market value in firms with weaker ATI (stronger corporate governance). Interestingly though, Cremers and Nair (2005) find a decrease in the relationship between corporate governance measure and firm performance. Bebchuk et al (2009) expand on prior research by examining all IRRC corporate governance measures. They created an Entrenchment Index (EIndex) comprised of the six most important IRRC corporate governance measures. Bebchuk et al (2009) find support of a positive relationship between higher coproate governance and firm performance as measured by abnormal returns.[ii]

I build on the work of Gompers et al (2003), Cremers and Nair (2005) and Bebchuk et al (2009) by extending the timeframe of their work and examining the impact of differing combinations of corporate governance measures on firm performance.

> **Hypothesis I**: I posit that firms with stronger corporate governance realize better firm performance as measured by the firm's abnormal stock market returns.
>
> **Hypothesis II**: I posit that due to efficient market forces, the relationship between stronger corporate governance and better firm performance will decrease over time.

I begin my research by extending the timeframe of Gompers et al (2003) through the year 2009 to investigate the relationship between corporate governance and firm performance (Hypothesis I) and whether this relationship continues to decrease over time (Hypothesis II). As discussed in the following methodology section, I follow protocol in this area by forming two governance-based portfolios: a stronger corporate governance portfolio and a weaker corporate governance portfolio. My stock market trading strategy is to buy high governance companies and sell low corporate governance companies. I then evaluate the stock market returns from this trading strategy. Positive abnormal returns would provide support that corporate governance measures mitigate the owner-agent conflict and benefit shareholders via improved stock market performance (Hypothesis I). A decrease in positive abnormal returns over time would support that due to efficient market forces, the impact of stronger corporate governance diminishes over time (Hypothesis II). The remainder of this paper is organized into five parts: a review of the relevant literature,

a discussion of the methodology and data sets used, a summary of my empirical results, and the implications and limitations of my research.

Review of the Literature

I begin with a review of literature on the owner-agent conflict, as this conflict is often detrimental to shareholder value. The owner-agent conflict is a result of the disassociation of corporate ownership and corporate management (management being the agent for the owner). Management is charged with making decisions that are in shareholders' best interests, but frequently the shareholders' interests are at odds with management's personal goals. This "goal incongruence" is exacerbated by the information asymmetry between owners and agents. Further, monitoring an agent's behavior is costly (Mangel & Singh, 1993, and Tosi, Werner, & Gomez-Mejia, 2000). The resulting conflicting or improperly aligned interests between the owner and the agent leads to a loss of shareholder value. Corporate governance mechanisms are one vehicle to correct goal incongruence. Corporate governance (the system by which an organization is ruled, or the state of being governed) attempts to mitigate the costs of these agency conflicts and improve shareholder value. Shleifer & Vishny (1997) describe corporate governance as answering the question as to whether the firms' stakeholders are properly compensated for their investment. My research focuses on whether corporate governance mechanisms ameliorate this owner-agent conflict as measured by firm performance (abnormal stock returns).

I build on the work of three seminal papers on corporate governance and firm performance: Gompers et al (2003), Cremers and Nair (2005), and Bebchuk et al (2009). Gompers et al (2003) were the first to utilize Investor Responsibility Research Center (IRRC) data on corporate governance provisions to develop a Governance Index (GIM), which measures the strength of a firm's corporate governance structure. The authors form an equally weighted corporate governance index,[iii] which they construct by totaling the incidence of the 24 IRRC measures for each firm and sub-setting the total for each firm into deciles. They form two portfolios, a stronger corporate governance portfolio (weakest shareholder rights) and a weaker corporate governance portfolio (strongest shareholder rights). Using Carhart (1997) methodology to calculate abnormal returns, Gompers et al (2003) find that from September 1990 through December 1999, a strategy of buying stronger governance firms and selling weaker

governance firms yields an annual abnormal return of 8.5%/year. Alternately stated, stronger corporate governance led to increased shareholder value.

Cremers and Nair (2005) expand on the corporate governance work of Gompers et al (2003). First, they extend the timeframe of the Gompers et al (2003) sample and find the annual abnormal return decreases from 8.5%/year to 7.5%/year.[iv] Second, Cremers and Nair (2005) hypothesize that not all governance measures are equally important in mitigating the owner-agent problem, and they develop a more parsimonious governance index, the Alternative Takeover Protection Index (ATI). Cremers and Nair (2005) find that buying firms with a high ATI (stronger corporate governance) and selling firms with a low ATI (weaker corporate governance) yield a compound annual return of 10.8%/year. Cremers and Nair (2005) findings further support the connection between stronger corporate governance and firm performance.

Bebchuk et al (2009) critique the ATI index in that Cremers and Nair (2005) "do not attempt to show either that other corporate governance provisions do not matter."[v] Bebchuk et al (2009) expand on Gompers et al (2003) and Cremers and Nair (2005) research by performing a more inclusive analysis which individually exmines all twenty-four IRRC governance measures,[vi] in an effort to determine which corporate governance measures most impact firm valuation. Bebchuk et al (2009) identified six components of the IRRC that have the greatest impact on corporate governance: staggered board, limitation on amending bylaws, limitation on amending the charter, supermajority to approve a merger, Golden Parachute, and Poison Pill.[vii] Their trading strategy of buying stronger corporate governance firms and selling weaker corporate governance firms yields an annual abnormal return of 14.8%/year. Bebchuk et al (2009) research focused on the corporate governance measures that had a greater impact on shareholder value.

As I discuss in the Hypotheses section, I expand on Gompers et al (2003) research on the relationship between corporate governance and firm performance in two ways. First, I extend the time frame of their research from the 1990s into the first decade of the twenty first century. Second, Gompers et al (2003) use all 24 IRRC measures in their corporate governance index. I utilize the Bebchuk et al (2009) EIndex, as it is a more parsimonious governance measure and eliminates inconsequential governance metrics. My first hypothesis tests whether firms with stronger

corporate governance continue to have better firm performance as measured by the firm's abnormal stock market returns from 1995 thru 2009. My second hypothesis tests whether this relationship between stronger corporate governance and firm performance is continuing to decrease. This potential decrease is important as shareholders rely on corporate governance mechanisms to mitigate the negative impact of the owner-agent problem that erodes their shareholder value. The following section discusses the abnormal stock return methodology used to test my hypotheses.

Methodology

To evaluate the connection of stronger corporate governance on firm performance, I follow methodology of Gompers et al (2003) and Bebchuk et al (2009) and form two corporate governance-based portfolios, a low EIndex (high corporate governance) portfolio and a high EIndex (low corporate governance) portfolio. Portfolios are formed on both a value weighted (portfolios that are weighted by firm size) and equal weighted basis. I utilize a trading strategy that sells the high EIndex portfolio and buys the low EIndex portfolios. Similar to Bebchuk et al (2009), the high governance portfolio is comprised of firms with a 0 EIndex while the low governance portfolio contains firms with an EIndex of either 5 or 6.[viii] I calculate abnormal returns from a trading strategy that buys stronger corporate governance firms (low EIndex) and sells weaker corporate governance firms.

I follow methodology used by Gompers et al (2003) and Bebchuk et al (2009), using the four-factor model of Carhart (1997). To evaluate properly the portfolio returns, it is important to adjust for differences in the "riskiness or style" [ix] of the two portfolios. Carhart (1997) posits that including these additional factors versus a standard one factor market model better adjusts for expected performance, thus providing a better measurement for abnormal stock returns. The functional form of the abnormal stock return equation is:

$$diff_t = a + b_1 mkt\_rf_t + b_2 hml_t + b_3 smb_t + b_4 mom_t + \varepsilon_t$$

The regression variables are the following:

- *diff:* the daily return on the long high governance portfolio and short low corporate governance portfolio trading strategy

- *mkt_rf:* the excess daily return on the market calculated as the value-weighted return on all CRSP firms minus the risk free rate (Treasury bill rate)
- *hml:* the difference between the average return on two value portfolios and two growth portfolios
- *smb:* the difference between the average return on the three small portfolios (value, neutral and growth) and three big portfolios
- *mom:* the effect of a firm's stock return momentum where momentum typically produces higher returns
- *a:* the regression equation intercept, represents the abnormal return from the long-high governance portfolio and short low governance portfolio trading strategy

I follow methodology of Bebchuk et al (2009) using White robust standard errors, as the authors maintain that impact of heteroskedasticity[x] can be mitigated by using these robust standard errors.

The intercept from my regressions, α, is an appropriate measure of the excess return on the trading strategy versus a passive investment portfolio (Gompers et al (2003)).[xi] Efficient market theory espouses that abnormal returns should not exist in a long-run timeframe. Investors will earn a return that is appropriate for the risk undertaken and cannot expect to consistently earn abnormal returns over time using costless trading strategies. If markets are efficient, then publicly available research identifying trading strategies that result in a return greater than the risk adjusted rate should be priced out of the market, reducing or eliminating the abnormal stock returns. The next section discusses the data sets needed to conduct my research.

Data

My analysis into the relationship between corporate governance and firm performance requires information from four different datasets. Bebchuk et al (2009) Entrenchment Index dataset is used as a measure of the firm's level of corporate governance. The Center for Research in Security Prices dataset (CRSP) provides market return data utilized in calculating abnormal returns. The Compustat dataset contains accounting and financial data used as control variables in my regressions. Finally, the Kenneth French dataset for industry codes and market return benchmarks is necessary to quantify abnormal returns. **Error! Reference source not found.** contains a

complete listing of all variables used, while Error! Reference source not found. contains descriptive statistics for these variables. The following paragraphs discuss each data set in more detail.

Bebchuk et al (2009) EIndex

As discussed in the Literature Review, the Bebchuk et al (2009) EIndex is a measure of the strength of a firm's corporate governance, and it varies from 0 (highest level of corporate governance) to 6 (lowest level of corporate governance). Data is from Bebchuk's website[xii] and is based on the Investor Responsibility Research Center Institute (IRRC) datasets that include corporate governance information on publicly traded firms.[xiii] The number of firms in each EIndex category for the years of 1995 and 2006 is displayed in **Error! Reference source not found.**. The EIndex is split roughly in half at a value of 3 with 49% of the firms having a value between 0 and 2 and 51% having a value between 3 and 6 in 2006. A relatively small percentage of firms are at the two extremes of the EIndex (e.g. in 2006 5.3% of firms had an EIndex of 0 while 3.85% of the firms had an EIndex of 5 or 6). The number of firms with an EIndex score of either 5 or 6 remained fairly stable over the sample period, ranging from 4.0% at the start of the period to 3.8% at the end of the period (ranging from a low of 55 firms in 1995 to a high of 81 firms in 2002). While corporate governance for a particular firm is fairly time invariant,[xiv] there is a decrease in the number of 0 EIndex firms in the sample, from 11.0% in 1995 to 5.3% in 2006 (ranging from a low of 90 in 2006 to a high of 181 in 1998). This decrease in the number of high governance firms occurred predominantly at the IRRC dataset years for 2000 and 2004. This is indicative of a small movement towards the midrange in this corporate governance measure.

Center for Research in Security Prices dataset (CRSP)

I use the Center for Research in Security Prices dataset (CRSP) dataset for stock market return and outstanding shares data. Data is obtained via Wharton Research Data Services (WRDS) website. The CRSP dataset contains daily and monthly prices on all listed NYSE, Amex, and NASDAQ common stocks. The following is a list of the CRSP variables and their definitions:

- *CUSIP*: the eight character (numeric and alphanumeric) firm identifier

- *hsiccd*: the firm's four-digit Standard Industrial Classification code (SIC)
- *ret*: the holding period return
- *shrout*: the number of outstanding or publicly held shares in thousands

Compustat Dataset

The Compustat North America dataset contains quarterly and annual U.S. and Canadian income statement and balance sheet data as well as some market information on publicly held companies. This data set was required to create the control variables in my regressions. The following is a list of the Compustat variables and their definitions:

- *at*: the total assets in millions
- *csho*: the net number of all common shares outstanding at year-end
- *fyear*: the fiscal data year
- *ni*: the fiscal period income or loss
- *revt*: the annual sales in millions
- *sich*: the company's four digit Standard Industrial Classification Code (SIC)

Fama French Factors and Industry Code Datasets

Fama and French (1993) analyzed common risk factors in sock returns, and I use the authors' dataset for market factors to model abnormal stock returns and for industry classification categories. As I discussed in the Methodology section, the Carhart (1997) four-factor model adjusts for market returns, a size factor, a value factor, and a momentum factor. Including these additional factors provides a better measure of abnormal returns. The following is a list of the Fama French variables (Kenneth French website[xv]):

- *FF_48*: the Fama French 48 Industry Codes classification system
- *hml*: the high minus low
- *mom:* the momentum
- *mkt_rf:* the excess return on the market
- *smb*: the adjustment for small market capitalization

Results

To test my hypotheses on the relationship between corporate governance and firm performance, I form two corporate governance-based portfolios, a stronger corporate governance portfolio and a weaker corporate governance portfolio. The portfolios are updated with the release of each set of IRRC data based on any changes in the EIndex. The stronger governance portfolio ranges in size from a high of 181 firms in 1998 to a low of 90 firms in 2006, while the weaker corporate governance portfolio ranges in size from a high of 81 firms in 2002 to a low of 55 firms in 1995.

I begin with a visual examination of the unadjusted cumulative monthly returns for the two portfolios, beginning in 1995 and ending in 2009 (Error! Reference source not found. and Figure 2). For the value-weighted analysis, the spread between the portfolios cumulative monthly returns widens in 2000, peaks in 2001, narrows in subsequent years before widening again in 2008. For equal-weighted portfolio formation, the spread between the portfolios is smaller but exhibits similar patterns. The difference between the means of the stronger corporate governance and weaker corporate governance portfolios is 0.226%/month for the value-weighted portfolio and 0.173%/month for the equal-weighted portfolio, supporting a positive relationship between corporate governance and firm performance (support for Hypothesis I).

While there is a difference in the means of the stronger and weaker corporate governance portfolio, this difference does not rule out other factors, such as portfolio risk that may be driving the results. As discussed in the Methodology section, to evaluate properly the portfolio returns, it is important to adjust for differences in portfolio risk using the Carhart (1997) four-factor model. The monthly abnormal return regressions for the entire dataset period, 1995-2009, from the trading strategy that buys stronger corporate governance firms and sells weaker corporate governance firms are detailed in **Error! Reference source not found.**. The abnormal return (the regression intercept) based on a value-weighted portfolio formation, column (1), is 0.600%/month return, while the equal-weighted portfolio formation, column (2), is 0.393%/month return (significant at the 1% and 5% levels respectively). These positive abnormal stock returns support that firms with stronger corporate governance realize better firm performance as measured by abnormal stock market returns (support for Hypothesis I).

On an annual basis, the trading strategy returns are 7.4%/year for the value-weighted portfolio and 4.8%/year for the equal-weighted portfolio. For the 1990s, Bebchuk et al (2009) find a value-weighted compound annual abnormal return of 14.8% and find an equal-weighted compound annual abnormal return of 7.4%. My findings for the 1995-2009 period are 50% lower than Bebchuk et al (2009) findings for the 1990s for value weighed portfolios and a 35% lower for equal-weighted portfolios. This decrease in the relationship between stronger corporate governance and better firm performance, as measured by abnormal stock returns, supports Hypothesis II.

As a robustness check on the relationship between stronger corporate governance and greater firm performance, I examine the middle portion of the EIndex corporate governance firms. I theorize that if holding a portfolio of high governance firms and selling a portfolio of low governance firms produces a positive abnormal return, then adding more of the mid-level corporate governance firms should diminish this affect. Adding more firms from the middle of the corporate governance spectrum decreases the overall level of governance in the high governance portfolio and increases the level of governance in the low governance portfolio. The results of this "middling" of corporate governance are displayed on **Error! Reference source not found.**. I add the next level of EIndex firms to both the high- and low- governance portfolios, forming the following EIndex based portfolio combinations: 0 vs. 5-6, 0-1 vs. 4-6, 0-2 vs. 3-6. I find a monotonic decrease in abnormal return as more firms in the middle portion of the EIndex are included. The value-weighted abnormal return for the 0 vs. 5-6 EIndex portfolio combination, column (1), is 0.60%. As more of the middle EIndex firms are added (0-1 vs. 4-6), the abnormal return drops to 0.30% and then to 0.21%[xvi] (for 0-2 vs. 3-6 EIndex portfolio combinations). This monotonic decrease in abnormal returns lends support to the EIndex as an appropriate corporate governance measure.

Conclusions

The owner-agent conflict is integral to the corporate business structure, and this conflict potentially leads to a decrease in shareholder returns. Stronger corporate governance mechanisms can mitigate the negative financial impacts of this owner-agent problem. My research extends the work of Gompers et al (2003) by exploring the relationship between corporate governance and firm performance using a more

parsimonious governance metric in an extended timeframe (1995-2009). I posit that firms with stronger corporate governance realize better firm performance as measured by abnormal stock market returns (Hypothesis I). During my sample period, I separate publicly traded corporations into stronger corporate governance and weaker corporate governance portfolios, utilizing the Bebchuk et al (2009) EIndex corporate governance measure. I buy stronger corporate governance firms and sell weaker corporate governance firms, and the regression results from my trading strategy yield abnormal returns between 7.4%/year (value-weighted portfolio) and 4.8%/year (equal-weighted portfolio). The implication of these statistically significant positive abnormal returns supports Hypothesis I that shareholders of firms with stronger corporate governance benefit by achieving greater stock returns.

My research also examines whether this relationship between stronger corporate governance and better firm performance continues to diminish as initially found by Cremers and Nair (2005). Efficient market theory espouses that stock prices reflect publicly available information and that trading on publicly available information will not yield positive abnormal returns. As this governance data is publicly available, efficient market theory indicates that the impact of trading on corporate governance information should decrease over time. During the 1990s, Bebchuk et al (2009) found a value-weighted compound abnormal annual return of 14.8% and an equal-weighted compound annual abnormal return of 7.4%. My findings are 50% lower than Bebchuk et al (2009) findings for value weighed portfolios and a 35% lower for equal-weighted portfolios. These findings support my second hypothesis that due to efficient market forces, the relationship between stronger corporate governance and better firm performance decreases over time. The implication of my second hypothesis is that the benefit shareholders receive from stronger corporate governance is eroding over time.

I close by discussing two potential limitations of my research. First, research on corporate governance assumes that we are accurately measuring the level of corporate governance. The Investor Responsibility Research Center (IRRC) data follows 24 corporate governance provisions, and corporate governance measures, such as Gompers et al (2003) GIM index, Cremers and Nair (2005) ATI index, and Bebchuk et al (2009) EIndex, are created based on this information. Corporate governance mechanisms may exist that are not included in the IRRC dataset and yet may still impact

firm performance. Further, these authors assume that all IRRC corporate governance measures are equally important and thus give equal weight to their corporate governance measures. It is possible that some of the corporate governance measures contained in these indices are more important and should therefore be given greater weight.

A second potential limitation of my research is associated with the model chosen to measure abnormal stock returns (firm performance). I acknowledge that my research jointly tests the model used to calculate abnormal stock returns (the Carhart, 1997, four factor model) and my hypotheses. This joint test is innate in this area of research, and most research on abnormal stock returns maintains that the intercept, α, of this four-factor regression model is an appropriate measure of the excess return (firm performance). I follow previous research in this area[xvii] utilizing the Carhart (1997) four-factor model as an appropriate measure of abnormal returns and firm performance, and I find support for both my hypotheses.

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Table 1: Entrenchment Index Provisions[1]

1	*Staggered board*: a board in which directors are divided into separate classes (typically three) with each class being elected to overlapping terms.
2	*Limitation on amending bylaws*: a provision limiting shareholders' ability through majority vote to amend the corporate bylaws.
3	*Limitation on amending the charter*: a provision limiting shareholders' ability through majority vote to amend the corporate charter.
4	*Supermajority to approve a merger*: a requirement that requires more than a majority of shareholders to approve a merger.
5	*Golden parachute*: a severance agreement that provides benefits to management/board members in the event of firing, demotion, or resignation following a change in control.
6	*Poison pill*: a shareholder right that is triggered in the event of an unauthorized change in control that typically renders the target company financially unattractive or dilutes the voting power of the acquirer.

Table 2: Other Index provisions[1]

1	*Limitation on special meeting*: a provision limiting shareholders' ability to act by calling a special meeting (as opposed to waiting for the regularly scheduled shareholders' meeting).
2	*Limitation on written consent*: a provision limiting shareholders' ability to act via written consent (as opposed to acting through a vote at the shareholders' meeting).
3	*Elimination of cumulative voting*: a provision eliminating shareholders' ability to apportion their votes in an election.
4	*Secret ballot*: a system of voting that ensures management does not look at individual proxy cards.
5	*Director indemnification*: a charter or bylaw provision indemnifying the firm's officers and directors against certain legal expenses and judgments as a result of their conduct.
6	*Director indemnification contract*: a contract with individual officers and directors promising indemnification against certain legal expenses and judgments as a result of their conduct.

7	*Limited director liability*: a provision that limits the personal liability of its directors.
8	*Compensation plan*: a plan that accelerates benefits in the event of a change in control.
9	*Severance agreement*: a contract which ensures executives some income protection in the event of losing their positions.
10	*Unequal voting rights*: a provision by which voting power changes based on certain conditions.
11	*Blank check preferred stock*: this is stock that, when authorized, gives the board broad discretion in establishing the stock's voting, dividend, and other rights when issued.
12	*Fair price requirements*: a requirement that a bidder pays all shareholders a "fair price," typically the highest price paid by a bidder prior to a tender offer being made.
13	*Cash-out law*: a provision that enables shareholders to sell to a controlling shareholder, usually at the highest price recently paid by the controlling shareholder.
14	*Director duties*: a provision that permits the board to consider nonshareholder interests in evaluating a possible change in control.
15	*Business combination law*: a law that limits the ability of an acquirer to conduct certain transactions with the acquired company postacquisition.
16	*Antigreenmail provision*: a provision that prevents an entity from acquiring a block of stock in a company and selling it back to the company at an above-market price.
17	*Pension parachute*: provisions that limit the ability of an acquirer from using surplus money in a pension plan to fund the acquisition.
18	*Silver parachute*: a severance agreement that provides benefits to a large number of firm employees in the event of firing, demotion, or resignation following a change in control.

Table 3: Variable List

Variable Name	Description	Database	Company Identifier
at	Firm's total assets (used in the ROA calculation)	COMPUSTAT	CUSIP, GVKEY

bonus	CEO bonus	ExecuComp	GVKEY, EXECID
csho	Common shares outstanding (used in market capitalization calculation)	COMPUSTAT	CUSIP, GVKEY
EIndex	Entrenchment Index	Bebchuk	CUSIP, Ticker
execid	Unique company / executive identification number	ExecuComp	GVKEY, EXECID
ff_48	Fama French 48 Industry Portfolio classification	Fama French website	N/A
hml	High minus Low Fama French factor	Fama French website	N/A
hsiccd	Standard Industrial Classification Code (4 digit)	CRSP	CUSIP, PERMNO
mkt_rf	Stock market risk premium (value-weighted)	Fama French website	N/A
mom	Momentum Carhart factor	Fama French website	N/A
ni	Net Income (used in the ROA calculation)	COMPUSTAT	CUSIP, GVKEY
option_awards_blk_value	CEO stock option grant Black Sholes value (pre-FAS124r)	ExecuComp	GVKEY, EXECID
option_awards_fv	CEO stock option grant value (post-FAS123r)	ExecuComp	GVKEY, EXECID
prc	Firm's stock price (used in the market capitalization calculation)	CRSP	CUSIP, PERMNO
ret	Firm's holding period stock return	CRSP	CUSIP, PERMNO
revt	Firm's revenue (used as a proxy for size)	COMPUSTAT	CUSIP, GVKEY
salary	CEO salary	ExecuComp	GVKEY, EXECID
shrout	Common shares outstanding (used in market capitalization calculation)	CRSP	CUSIP, PERMNO
sich	Standard Industrial Classification Code (4 digit)	COMPUSTAT	CUSIP, GVKEY
smb	Small minus Big Fama French factor	Fama French website	N/A

tdc1	CEO total compensation	ExecuComp	GVKEY, EXECID

Table 4: Summary Statistics

Variable Name	Peri	Freque	N	Mean	Media	Std.
hml	199	Daily	3778	0.000	0.000	0.0067
hml	199	Month	180	0.003	0.003	0.0363
mkt_rf	199	Daily	3778	0.000	0.000	0.0126
mkt_rf	199	Month	180	0.004	0.014	0.0474
mom	199	Daily	3778	0.000	0.000	0.0102
mom	199	Month	180	0.004	0.007	0.0595
smb	199	Daily	3778	0.000	0.000	0.0061
smb	199	Month	180	0.002	-	0.0383
Firm Market	199	Daily	5,326,	6,897,	1,532,	22,598,
Firm Market	199	Month	256,3	6,899,	1,545,	22,489,
Firm Returns	199	Daily	5,326,	0.000	0.000	0.0321
Firm Returns	199	Month	256,3	0.012	0.009	0.1403
CEO Cash Compensation	200	Annual	725	1,541.	1,049.	1,696
CEO Cash Compensation	200	Annual	833	1,104.	847.5	2,336
CEO Total Compensation	200	Annual	721	6,670.	2,792.	24,494
CEO Total Compensation	200	Annual	833	5,805.	3,831.	7,015
ROA	199	Annual	725	0.051	0.045	0.0918
ROA	200	Annual	833	0.059	0.055	0.0839
Stock Return	199	Annual	700	0.122	0.040	0.6062
Stock Return	199	Annual	692	0.211	-	1.2372
Stock Return	200	Annual	820	0.113	0.070	0.3358
Stock Return	200	Annual	829	0.168	0.139	0.2864
Std. Deviation Monthly	199	Month	692	0.121	0.105	0.0882
Std. Deviation Monthly	200	Month	829	0.086	0.079	0.0395
Revenue (millions)	199	Annual	725	4,538.	1,364.	10,958
Revenue (millions)	200	Annual	833	7,431.	1,827.	22,946
CEO Stock Option Grants	200	Annual	817	4,506.	923.1	24,280
CEO Stock Option Grants	200	Annual	949	1,344.	390.9	3,317

Table 1: Incidence of Entrenchment Index

	Year												
Entrenchment Index	1995		1998		2000		2002		2004		2006		Entire Sample
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Percent
0	151	11.04%	181	10.72%	125	7.58%	120	7.28%	103	5.92%	90	5.33%	7.87%
1	240	17.54%	321	19.02%	292	17.72%	252	15.28%	256	14.72%	287	16.98%	16.85%
2	348	25.44%	435	25.77%	406	24.64%	442	26.80%	461	26.51%	447	26.45%	25.96%
3	346	25.29%	424	25.12%	451	27.37%	451	27.35%	511	29.38%	478	28.28%	27.20%
4	228	16.67%	269	15.94%	300	18.20%	303	18.37%	330	18.98%	323	19.11%	17.92%
5	52	3.80%	48	2.84%	64	3.88%	74	4.49%	71	4.08%	61	3.61%	3.78%
6	3	0.22%	10	0.59%	10	0.61%	7	0.42%	7	0.40%	4	0.24%	0.42%
Total	1368	100.00%	1688	100.00%	1648	100.00%	1649	100.00%	1739	100.00%	1690	100.00%	100.00%

Table 5: Strong Governance (long) / Weak Governance (short) Monthly Portfolio Returns 1995-2009

Variable	Parameter Estimates			
	(1)		(2)	
	Value-Weighted		Equal-Weighted	
α	0.006003	***	0.003931	**
	(2.56)		(1.95)	
mkt - rf	-0.09129		-0.04334	
	(-1.39)		(-0.91)	
smb	-0.29333	***	0.00143	
	(-4.59)		(0.02)	
hml	-0.90968	***	-0.59715	***
	(-9.54)		(-9.41)	
mom	0.06774		-0.00477	
	(1.26)		(-0.08)	
Observations	180		180	
R^2	0.52		0.43	

The Data section provides details on the variables; α represents the monthly abnormal return for the portfolio trading strategy. Column (1) returns are based on value-weighted portfolios based on shorting firms with EIndex of 5-6 and going long firms with EIndex of 0 for the entire data period 1995-2009. Column (2) returns are based on equal-weighted portfolios. Portfolios are rebalanced based on each new issuance of IRRC data. t-values appear below parameter estimates in parenthesis. Statistical significance at the 1%, 5%, and 10% levels are indicated by ***, **, and *

$$diff_t = a + b_1 mkt\_rf_t + b_2 hml_t + b_3 smb_t + b_4 mom_t + \varepsilon_t$$

Table 6: Strong Governance (long) / Weak Governance (short) Monthly Portfolio Returns 1995-2009

Entrenchment Index	Abnormal Monthly Returns (1) Value-Weighted	(2) Equal-Weighted
0 vs. 5-6	0.600%***	0.393%**
	(2.56)	(1.95)
0-1 vs. 4-6	0.295%*	0.289%**
	(1.83)	(2.31)
0-2 vs. 3-6	0.208%	0.107%
	(1.62)	(1.32)

The Data section provides details on the variables; α represents the monthly abnormal return for the portfolio trading strategy. Column (1) returns are based on value-weighted portfolios based on shorting firms with low corporate governance (EIndex of 5-6, 4-6, and 3-6) and going long firms with high corporate governance (EIndex of 0, 0-1, and 0-2) for the entire data period 1995-2009. Column (2) returns are based on equal-weighted portfolios. Portfolios are rebalanced based on each new issuance of IRRC data. t-values appear below parameter estimates in parenthesis. Statistical significance at the 1%, 5%, and 10% levels are indicated by ***, **, and *

Figure 1: Cumulative Portfolio Returns 1995-2009

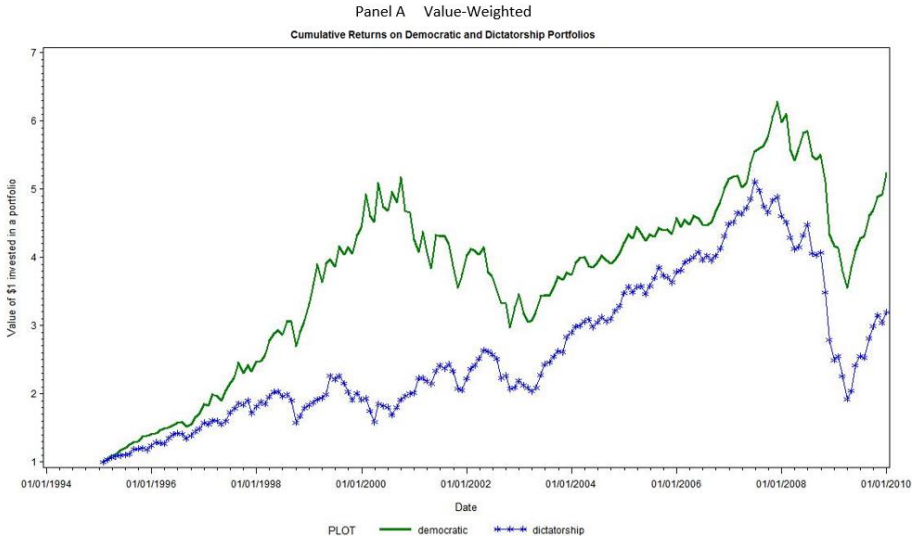
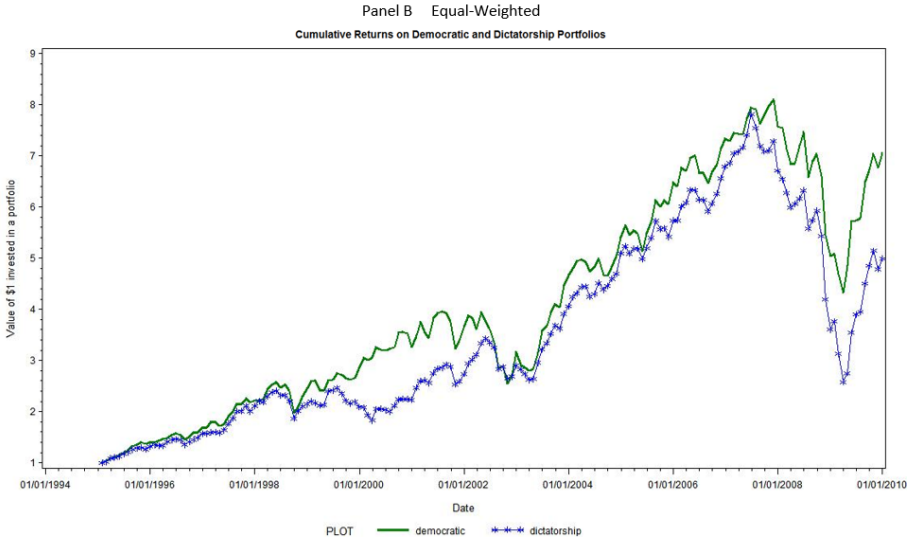


Figure 2: Cumulative Portfolio Returns 1995-2009



[i] Stakeholders include all entities with a stake in the corporation (shareholders, customers, suppliers, the community, etc.) while the term shareholders refers strictly to an ownership position in the corporation.
[ii] Abnormal return, designated by the Greek letter alpha, is the unexplained or excess return. The return not explained by firm and market risk.
[iii]Current standard practice is that each governance measure receive equal weighting (La Porta et al (1998)).
[iv]Cremers & Nair (2005) on page 2869 describe this as Gompers et al (2003) "results weaken slightly"
[v] Bebchuk et al (2009) on page 787.
[vi] See **Error! Reference source not found.** and **Error! Reference source not found.** for a complete list of the Investor Responsibility Research Center (IRRC) classifications of corporate governance measures (Entrenchment Index and Other Index).
[vii] The first four limit shareholder voting power, and the last two are most prominently used in the face of potential hostile takeovers. A listing of the six IRRC provisions used to form the Bebchuk et al (2009) Entrenchment Index provision is detailed in **Error! Reference source not found.** in the appendix.
[viii] As previously mentioned, Bebchuk et al (2009) combine firms with EIndex scores of 5 and 6 (in their sample, an EIndex score of 6 only occurs in 0.2% to 0.7% of firms, while an EIndex score of 5 occurs for 2.8% to 4.6% of firms).
[ix] Gompers et al (2003) page 121.
[x] Heteroscedasticity refers to nonconstant variance of the error terms.
[xi] For example, Gompers et al (2003) and Bebchuk et al (2009) find that their abnormal return results are not driven by industry factors.
[xii] http://www.law.harvard.edu/faculty/bebchuk/data.shtml
[xiii] IRRC data on firms in the S&P 500, S&P Mid-Caps, and S&P Small-Caps companies.
[xiv] Bebchuk et al (2009).
[xv] http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html
[xvi] The value-weighted portfolio trading strategy for the 0-2 vs. 3-6 EIndex portfolio formation has an α of 10.8% and is therefore not statistically significantly different from zero at the 10% level.
[xvii] Gompers et al (2003), Cremers and Nair (2005), and Bebchuk et al (2009), among others.