
The Weakening Relationship between Corporate Governance and Firm Performance

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There is much debate over the efficacy of corporate governance in mitigating agency costs, and the ability of stronger corporate governance measures to improve firm performance. I investigate this dichotomy in the corporate governance literature by examining the impact of corporate governance on firm performance by extending the time frame of the analysis and looking at different corporate governance metrics. I posit that while better governed firms should outperform their peers, as measured by 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 hypothesis, as the relationship between stronger corporate governance and firm performance has decreased by over 50% from prior studies.

It is cost prohibitive for the atomistic shareholder to monitor directly the performance of a firm's management. The separation of ownership and management, and the resulting potential conflict of interest, can lead to a disconnect between CEO actions and firm performance. While corporate governance mechanisms are imperfect and some unethical abuses by CEOs exist, there is a strand of research that maintains domestic corporate governance is relatively well functioning (Kaplan (2008) and Brookman and Thistle (2009)). In further support of this assertion, Bertrand and Mullainathan (2001) find that firms with stronger governance pay their CEOs less for positive firm performance that is not attributable to the CEOs' performance. Gompers et al (2003) quantify corporate governance utilizing the Investor Responsibility Research Center (IRRC) data to develop a Governance Index (GIM) that measures the strength of a firm's corporate governance structure. The authors find that firms with stronger corporate governance (lower GIM) have higher firm value, higher profits, higher sales growth, lower capital expenditures, and make fewer corporate acquisitions.

Cremers and Nair (2005) instead create a more parsimonious governance index, the Alternative Takeover Protection Index (ATI), and they find increased market value in firms with weaker ATI portfolios (stronger governance). Even more interesting, just two years after Gompers et al (2003), Cremers and Nair (2005) found a decrease in the relationship between their GIM Index and firm performance. Bebchuk et al (2009) expand on Gompers et al (2003) and Cremers and Nair (2005) research, creating an Entrenchment Index (EIndex) comprised of six governance measures from the IRRC. They find that higher EIndex (weaker corporate governance) negatively correlates with firm value, as measured by Tobin's Q. I build on the work of Cremers and Nair (2005) as well as Bebchuk et al (2009) extending the timeframe of Bebchuk et al (2009), and examining differing combinations of their EIndex to further the research on the connection between corporate governance and firm performance.

Hypothesis: I posit that due to efficient market forces, the impact of stronger corporate governance diminishes over time.

To begin, I examine the firms in the Bebchuk et al (2009) Entrenchment Index from 1995 – 2009. I investigate the connection between governance and firm performance by forming two governance-based portfolios: a stronger corporate governance portfolio (the “Democratic” portfolio that contains firms with a lower EIndex) and a weaker corporate governance portfolio (the “Dictatorship” portfolio that contains firms with a higher EIndex). I then measure performance of this long high governance (buy high governance) and short low governance (sell low governance) trading strategy using Carhart (1997) four-factor model regressions to calculate monthly abnormal returns for the entire dataset period, 1995 – 2009. This trading strategy yields a compound annual abnormal annual return of 7.4%/year for the value-weighted portfolio and 4.8%/year for the equal-weighted portfolio. While my results lend support to the proposition that stronger corporate governance is associated with stronger firm performance, my findings are 50% lower than Bebchuk et al (2009) findings for the 1990s for value-weighted portfolios and a 35% lower for equal-weighted portfolios, lending support for my hypothesis. A possible reason for this decrease might be the semi-strong efficient market theory that publicly available data (in this case the level of a firm's corporate governance) should not result in long-term abnormal returns. I also examine

the abnormal returns for the entire 1995 – 2009 dataset period using daily returns instead of monthly returns, and I find the compound annual returns based on daily data decrease even further (over a 9% decrease). A robustness check of adding firms from the middle of the corporate governance spectrum to the high and low corporate governance portfolio indicates diminishing size and significance of the abnormal monthly returns, further supporting my hypothesis.

Review of the Literature

Agency Theory

In my review of the literature, I begin by examining the background on agency theory, corporate governance, and the challenges firms face during recessionary periods. Agency theory derives from the challenges created by disassociating corporate ownership and corporate management, as decisions within firms are made by managers acting as agents for the investors or owners. Management is charged with operating in shareholders' best interests, usually defined in the Anglo-Saxon world as maximizing shareholder wealth, but frequently this shareholder maximization goal can be at odds with management's personal goals. This "goal incongruence" is not the only issue shareholders face in the agency problem. There exists an information asymmetry between owners and operators and monitoring an agent's behavior is costly (Mangel and Singh (1993) and Tosi et al (2000)). Thus, the agency problems develop as agents can hide or pursue actions in their own interests and at the detriment of the owners. The resulting conflicting or improperly aligned interests between management and owners can lead to sub-optimal behavior and misallocation of firm resources, particularly in the form of questionable executive compensation and decision making.

In agency theory, the principal-agent relationship is based on the assumption of arm's length dealings between shareholders and management. In an arm's-length transaction, the parties are related or affiliated, but both parties' function independently, and transactions occur without the parties' ability to unduly influence or taint the process so that there is no apparent conflict of interest. Shareholders attempt to construct compensation agreements that deter management from acting in its own self-interests, and instead motivate managers to behave in a manner which increases shareholder value. The principal agent theory relies on aligning

shareholder and management incentives based on a connection between management behavior and pay-for-performance.

Fama and Jensen (1983) maintain that the agency issues associated with the separation of ownership and management of the firm have been debated by researchers dating back to Adam Smith's *The Wealth of Nations*. Jensen and Meckling (1976) in their seminal article on agency theory posit that managers are thought to operate the firm for their own benefit, not for shareholder value, resulting in agency costs impacting firm value. The authors maintain that a manager who does not own the entire firm consumes more perks in comparison to the owner manager, which ultimately lowers firm value. This non-value adding behavior may be associated with rent extraction and pay for nonperformance. In an efficient market, the price of shares reflects these costs so that the owner bears the agency cost of equity if seeking outside equity financing. Corporate governance mechanisms, which I discuss in the following section, are one vehicle to correct goal incongruence between the principal (firm's shareholders) and the agent (CEO). My research focuses on the whether corporate governance mechanisms ameliorate this owner – agent conflict, as measured by firm performance (abnormal stock returns).

Corporate Governance and Firm Performance

The corporate form of business structure and resulting separation of ownership and management has existed for centuries, meaning that the agency conflicts resulting from this separation have been present for centuries as well (Hermalin, 2005). Corporate governance, which is the system by which an organization is ruled, or the state of being governed, attempts to mitigate the costs of these agency conflicts. Shleifer and Vishny (1997) describe corporate governance as answering the question as to whether the firms' stakeholders are properly compensated for their investment. There exists debate over the extent to which corporate governance systems are able to mitigate effectively agency costs. The majority of developed economies have well-functioning corporate governance systems, and some researchers, such as Brookman and Thistle (2009, pg. 331), maintain that "corporate governance functions reasonably well for the vast majority of firms," while other researchers maintain that there is still room for improvement (Shleifer and Vishny, 1997), Kaplan 2008).

Gompers et al (2003), Cremers and Nair (2005), and Bebchuk et al (2009) all examine corporate governance metrics in an effort to quantify the relationship between corporate governance measures and firm performance. Gompers et al (2003) utilize Investor Responsibility Research Center (IRRC) data that follows 24 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, 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 "Dictatorship" portfolio and a "Democracy" portfolio. The Dictatorship portfolio (weakest shareholder rights) contains firms in the highest GIM decile, or $GIM \geq 14$, and the Democracy portfolio (strongest shareholder rights) contains the firms in the lowest GIM decile, or $GIM \leq 5$. They use Carhart (1997) methodology to calculate abnormal returns, and Gompers et al (2003) find that from September 1990 through December 1999 taking a long position in the Democracy portfolio and a short position in the Dictatorship portfolio yields a compound annual abnormal return of 8.5%/year. Gompers et al (2003) find that firms with stronger corporate governance outperform firms with lower corporate governance as measured by Carhart (1997) abnormal return methodology.

Cremers and Nair (2005) expand on the work of Gompers et al (2003). First, they extend the timeframe of the Gompers et al (2003) Democratic versus Dictatorship analysis by two years (from 1990 - 1999 to 1990 – 2001). Cremers and Nair (2005) find a decrease in compound annual abnormal returns from 8.5%/year to 7.5%/year, and they describe this as Gompers et al (2003) "results weaken slightly." Next, Cremers and Nair (2005) examine how internal corporate governance mechanisms and external corporate governance mechanisms interact, as substitutes or complements, to affect firm performance as measured by abnormal returns. For internal corporate governance (active shareholders) the authors use two measures: the percentage of shares held by the single largest institutional block holder and the percentage of shares held by the 18 largest public pension funds as their proxies. As a proxy for external corporate governance, the authors create a more parsimonious governance index, the Alternative Takeover Protection Index (ATI), which equally weighs three important anti-takeover factors: the existence of staggered boards, the existence of a poison pill, and restrictions on shareholders' ability to call a

special meeting. Cremers and Nair find that internal corporate governance and external corporate governance are complements by using Carhart (1997) abnormal return methodology. The authors find a trading strategy that shorts firms with a low ATI and takes a long position in firms with a high ATI yields a compound annual return of 10.8%/year when internal corporate governance is high based on the presence of a large institutional block holder, and a compound annual abnormal return of 9.5%/year when internal corporate governance is high based on the presence of large public pension funds. Cremers and Nair (2005) findings further support the connection between stronger corporate governance and firm performance as measured by Carhart (1997) abnormal return methodology.

Bebchuk et al (2009) critique the ATI index in that Cremers and Nair (2005) “do not attempt to show either that other provisions do not matter or that each of the provisions used in their index matters.” Bebhuk et al (2009) expand on Gompers et al (2003) and Cremers and Nair (2005) research by performing a more all-inclusive analysis which individually examines all twenty-four IRRC governance measures, in an effort to determine which corporate governance measures most impact firm valuation. The authors begin their research by narrowing this data set and examining precatory resolutions (shareholders can initiate precatory proposals on various initiatives, but the results are nonbinding). Precatory proposals that have received majority support from shareholders, even for several consecutive years, have historically been rejected by the board of directors. They identified four predominant types of precatory resolutions (associated with six of the IRRC measures). To further validate their methodology, they solicited input from merger and acquisition specialists as well as major corporate law firms. Based on these inputs, they posit that the following six components of the IRRC 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. The first four limit shareholder voting power, and the last two are most prominently used in the face of potential hostile takeovers. As is standard practice in this strand of research, the six entrenchment provisions are each given equal weight in forming the authors’ Entrenchment Index (EIndex). Each firm in their sample therefore has an EIndex score between 0 (higher corporate governance) and 6 (lower corporate governance).

Similar to Gompers et al (2003), Bebchuk et al (2009) form high governance or Democratic portfolios and low governance or Dictatorship portfolios. They take a long position in the Democratic portfolio and a short position in the Dictatorship portfolio, and using Carhart (1997) abnormal return methodology, they find a compound annual abnormal return of 14.8%/year using value-weighted portfolios and 7.4%/year using equal-weighted portfolios. They further maintain that this relationship extends beyond correlation and into causality as increases in the EIndex (weaker corporate governance) during their sample period lead to decreases in firm valuation. This even holds for firms which began the period with a higher EIndex. As the IRRC measures pertain to shareholder value, Bebchuk et al (2009) maintain that the other 18 measures do not provide any additional explanatory power to their analysis only noise. They support this hypothesis by constructing their OIndex (equally weighted index of the “other” remaining 18 components of the IRRC), and after controlling for EIndex, find that the OIndex regression coefficients are statistically insignificant, small in size and occasionally have negative coefficients. As I discuss in the Hypotheses Section, I utilize Bebchuk et al (2009) EIndex to examine the connection between corporate governance and firm performance.

Methodology

As previously discussed, Gompers et al (2003), Bebchuk et al (2009), and others examine the correlation between IRRC data for individual years and firm performance during those years. I extend the work of Cremers and Nair (2005) who find a decrease in the connection between corporate governance and abnormal returns by using Gompers et al (2003) GIM Index. I utilize Bebchuk et al (2009) Entrenchment Index and extend the period to the year between 1995 and 2009.

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. I utilize a trading strategy which shorts the high EIndex portfolio and takes a long position in 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. Consistent with prior work, I evaluate portfolios formed on both value-weighted and equal-weighted bases.

To assess the success of this trading strategy (stronger corporate governance resulting in better firm performance), I calculate abnormal returns from the long low EIndex and short high EIndex portfolios using daily data. 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” of the two portfolios. The Carhart four-factor model adjusts for the differences in several factors: the market exposure or beta of the portfolios, the market capitalization or size of the portfolios, the book-to-market ratios, the value of the portfolio, and the impact of recent returns or momentum of the portfolio. Carhart 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 returns. The functional form of the abnormal return equation is:

$$diff_t = a + b_1mkt_rf_t + b_2hml_t + b_3smb_t + b_4mom_t + \varepsilon_t$$

The regression variables are:

- *diff* which represents the daily return on the long high governance portfolio and short low corporate governance portfolio trading strategy
- *mkt_rf* is 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* (high minus low) adjusts for the difference between the average return on two value portfolios and two growth portfolios
- *smb* (small minus big) reflects difference between the average return on the three small portfolios (value, neutral and growth) and three big portfolios
- *mom* (momentum) which captures 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

While there is some disagreement as to whether or not the above factors are additional proxies for risk, there is more uniform agreement that

the intercept, α , is an appropriate measure of the excess return on the trading strategy versus a passive investment portfolio (Gompers et al (2003). I follow Gompers et al (2003), Cremers and Nair (2005), and Bebchuk et al (2009) methodology and utilize Carhart (1997) abnormal return methodology. I examine abnormal returns based on both a common stock market capitalization (value weighting) and an equal weighting of each stock in the portfolio. Membership in each portfolio was adjusted with the release of each new set of IRRC data. I follow methodology of Bebchuk et al (2009) using White robust standard errors, as they maintain that impact of heteroskedasticity can be mitigated by using these robust standard errors.

There is debate over whether abnormal returns should exist in a long-run timeframe perspective if financial markets are efficient. Efficient market theory hypothesizes that an investor will earn a return that is appropriate for the risk undertaken and that an investor cannot expect to consistently earn abnormal returns over time using costless trading strategies. The semi-strong form of market efficiency posits that stock prices reflect publicly available information and that trading on publicly available information, such as a firm's corporate governance, will not result in abnormal returns. This implies that investors cannot consistently earn abnormal returns utilizing fundamental analysis. Evidence on the semi-strong form of market efficiency is mixed, but research suggests that it holds for widely-held and closely followed firms. Logically if we assume that markets are semi-strong form efficient, 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 returns.

Data

In my research, I utilize five different datasets: the Bebchuk et al (2009) corporate governance Entrenchment Index dataset, the ExecuComp dataset on firms' executive compensation, the Center for Research in Security Prices dataset (CRSP) for market return data, the Compustat dataset for firms' accounting and financial data, and the Kenneth French dataset for industry codes and market return benchmarks. I collect data from these data sets for 1995 through 2010. Table 3 contains a complete listing of all variables used while Table 4 contains descriptive statistics for these variables.

EIndex Dataset

As previously discussed, the Bebchuk et al (2009) EIndex is a measure of the strength of a firm's corporate governance varying from 0 (representing the highest level of corporate governance) to 6 (representing the lowest level of corporate governance). Data is from Bebchuk's website and is based on the Investor Responsibility Research Center Institute (IRRC) datasets, which include firms in S&P 500, S&P Mid-Caps, and S&P Small-Caps companies. Bebchuk et al (2009) exclude real estate investment trusts (REITs) and firms with dual-class common stock. REITs have their own governance structure, and dual class firms have voting rights provisions and structure which potentially render entrenchment provisions inconsequential.

IRRC data begins in 1990, and I use Bebchuk et al (2009) data collected for the following dates: 7/1995, 2/1998, 2/2000, 2/2002, 1/2004, and 1/2006. For their EIndex, Bebchuk et al (2009) use CUSIP as primary firm identifier. The number of firms in each EIndex category for the years of 1995 and 2006 are 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% have 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, 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.

CRSP Dataset

I use the Center for Research in Security Prices dataset (CRSP) dataset primarily 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*: eight character (numeric and alphanumeric) firm identifier; first six characters identify the issuer, while the last two characters identify the issue; they can change over time, but they are not reused
- *hsiccd*: firm's four-digit Standard Industrial Classification code (SIC)
- *ret*: holding period return which represents the change in total value of investment in common stock over period of time per dollar of initial investment
- *shrout*: 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. In creating the dataset Standard & Poor's uses several sources for company information including 10-K and 10-Q SEC filings, newswires, and annual and quarterly reports to shareholders. The following is a list of the Compustat variables and their definitions:

- *at*: balance sheet total assets in millions
- *csho*: represents the net number of all common shares outstanding at year-end
- *fyear*: the fiscal data year; for the year ending between January 1st and May 31st, it is the prior year, while for year ending between June 30th – December 31st it is that year
- *ni*: represents the fiscal period income or loss reported by a company after subtracting expenses and losses from all revenues and gains in millions
- *revt*: income statement annual sales in millions
- *sich*: identifies the company's four digit Standard Industrial Classification Code (SIC) in the prior year

Fama French Factors and Industry Code Datasets

I use the Fama French dataset for market factors to model abnormal returns and for industry classification categories for compensation

regressions. As I discuss 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 versus a one factor market model better adjusts for expected performance providing a better measurement for abnormal returns. Fama French 48 Industry Portfolio Codes assign four-digit firm SIC codes to one of 48 industry categories. Data is from Kenneth French website.

- *FF_48*: Fama French 48 Industry Codes classification system assigns each firm in the NYSE, AMEX, and NASDAQ stock to an industry portfolio. To convert from a four digit SIC code to Fama French 48 codes, I use Compustat four digit sic code and if missing supplement with the four digit hsiccd code from CRSP.
- *hml*: high minus low; is the average return on two value portfolios minus the average return on the two growth portfolios and compensates for exposure to value stocks
- *mom* is the average return on the two high prior return portfolios minus the average return on the two low prior return portfolios and uses six value-weight portfolios including firms from the NYSE, AMEX, and NASDAQ stocks with prior return data; portfolios are formed on size and prior returns to compensate for momentum.
- *mkt_rf* or $R_m - R_f$, the excess return on the market, is the value-weight return on all NYSE, AMEX, and NASDAQ stocks obtained from CRSP database; risk free rate is the Treasury bill rate from Ibbotson Associates
- *smb*: small minus big; adjusts for small market capitalization minus big market capitalization and is the average return on the three small portfolios minus the average return on the three big portfolios and compensates for exposure to small stocks

Corporate Governance and Firm Performance Empirical Results

To examine the connection between corporate governance and firm performance, I form two governance-based portfolios, a stronger corporate governance portfolio (the Democratic portfolio contains firms with lower EIndex) and a weaker corporate governance portfolio (the Dictatorship portfolio contains firms with higher EIndex). The highest governance portfolio contains all firms with no incidence of any of Bebchuk et al (2009) entrenchment factors (0 EIndex) while the lowest corporate governance

portfolio contains at least five of the six factors entrenchment factors (5 or 6 EIndex). The portfolios are updated with the release of each set of IRRIC data based on any changes in the incidence of a firm's entrenchment factors. The Democratic portfolio ranges in size from a high of 181 firms in 1998 to a low of 90 firms in 2006, while the Dictatorship portfolio ranges in size from a high of 81 firms in 2002 to a low of 55 firms in 1995.

I begin this section by visually examining the unadjusted cumulative monthly returns for the Democratic portfolio (high governance) and the Dictatorship portfolio (low governance) beginning in 1995 and ending in 2009. Figure 1 displays the unadjusted cumulative returns for both the Dictatorship and Democracy portfolios for the entire 15 year period (1995 – 2009) for portfolios formed on both a value-weighted basis (Panel A) and an equal-weighted basis (Panel B). For the value-weighted portfolio formation, the spread between the Democratic and Dictatorship portfolios cumulative monthly returns appears to widen prior to the 2001 recession, peaking in 2001, narrowing in the subsequent recovery period, and widening again in the 2007 – 2009 recession. For equal-weighted portfolio formation, the spread between the Democratic and Dictatorship portfolios is smaller but exhibits similar patterns. The unadjusted cumulative return figures based on daily data yield similar results.

A visual review of the Democratic and Dictatorship portfolio cumulative return figures indicates a separation between the high-governance and low-governance portfolios, which would lend support to the hypotheses that stronger corporate governance yielded greater returns. However, the difference between two portfolios means, 0.226%/month for the value-weighted portfolio and 0.173%/month for the equal-weighted portfolio, are not significant at the 10% level. A more pertinent measure of the difference between the return on high governance and low governance portfolios is obtained by controlling for other factors. Gompers et al (2003) reason that one needs to control for “differences between the riskiness or ‘style’ of the two portfolios” by using a model that compensates for market factors. As is standard in this area of research, I calculate abnormal returns on both equal-weighted and value-weighted portfolios using a four-factor model, Fama French three factors (Fama and French, 1993) plus Carhart momentum factor (Carhart, 1997).

The monthly abnormal returns for the entire dataset period, 1995 – 2009, for shorting the Dictatorship portfolio (low governance portfolio) and taking a long position in the Democratic portfolio (high governance

portfolio) are detailed in **Error! Reference source not found.** The abnormal monthly return for this trading strategy (the intercept from the Carhart (1997) four-factor regressions) based on a value-weighted portfolio formation, column (1), results in a 0.600%/month return, while the equal-weighted portfolio formation, column (2), results in a 0.393%/month return (significant at the 1% and 5% levels respectively). On a compound annual basis, the 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%, and my findings for the 1995 – 2009 period are 50% lower than Bebchuk et al (2009) findings for the 1990s for value weighted portfolios and a 35% lower for equal-weighted portfolios. A possible reason for this decrease might be the semi-strong efficient market theory. As discussed in section 3.1, semi-strong efficient market theory implies that investors cannot consistently earn abnormal returns utilizing fundamental analysis. Therefore, publicly available research on higher corporate governance versus lower corporate governance firms, such as Gompers et al (2003) and Bebchuk et al (2009) use, should not result in long-term abnormal returns.

I also examine the abnormal returns for the entire 1995 – 2009 dataset period using daily returns. I find the compound annual returns for the value-weighted portfolio is 6.7% and for the equal-weighted portfolio is 4.4% (both significant at the 5% level). For the value-weighted portfolio the compound annual abnormal return based daily data is 9.5% less than the compound annual abnormal return based on monthly data for the same 1995 – 2009 period. The equal-weighted portfolio shows a similar decrease of 8.3% when using daily return data instead of monthly return data. There is also a decrease in the statistical significance of the abnormal return (the intercept in the Carhart (1997) four-factor regressions) when using daily stock return data versus monthly stock return data. A potential reason for this decrease may be the increased noise associated with using daily return data instead of monthly return data. My results lends support to the proposition that stronger corporate governance over the entire dataset results in stronger firm performance as measured by this abnormal return methodology (albeit at a level less than Bebchuk et al (2009) find in the previous decade).

As a robustness check on the abnormal returns for this long strong corporate governance and short weak corporate governance trading

strategy for the entire dataset, I examine the middle portion of the EIndex corporate governance spectrum as measured by abnormal monthly returns. I theorize that if holding a portfolio of high governance firms and shorting 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 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. The short low governance and long high governance trading strategy yields positive abnormal returns for all combinations which as anticipated drops monotonically 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% (for 0-2 vs. 3-6 EIndex portfolio combinations). This monotonic decrease in monthly abnormal returns lends support to the importance of the EIndex as a corporate governance measure in firm performance as measured by monthly abnormal returns.

Summary, Implications and Limitations

I begin this section by summarizing the results of my analysis of the impact of corporate governance on firm performance. I examine the firms in the Bebchuk et al (2009) EIndex corporate governance dataset for the entire data period and then narrow the focus to the 2001 recession (3/2001 – 11/2001) and the 2007 – 2009 recession (12/2007 – 6/2009). I investigate the connection between governance and firm performance by forming two governance-based portfolios, a stronger corporate governance portfolio (Democratic portfolio contains firms with lower EIndex) and a weaker corporate governance portfolio (Dictatorship portfolio contains firms with higher EIndex). Regression results for Carhart (1997) four-factor monthly abnormal return for the entire dataset period, 1995 – 2009, for trading strategy which shorts the Dictatorship portfolio (low governance portfolio) and takes a long position in the Democratic portfolio (high governance portfolio) indicate positive returns for both value-weighted and equal-

weighted portfolios. While the annual return for this long high governance and short low governance trading strategy for a value-weighted portfolio (7.4%/year) supports the positive connections between stronger corporate governance and better firm performance, I find a 50% decrease in my findings versus Bebchuk et al (2009) findings. I hypothesize that this decrease is attributable to efficient market forces

The semi-strong form of market efficiency posits that stock prices reflect publicly available information and that trading on publicly available information will not result in abnormal returns. If we assume that markets are semi-strong form efficient, it follows that 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 returns. This implies that investors cannot consistently earn abnormal returns utilizing fundamental analysis. Evidence on the semi-strong form of market efficiency is mixed, but research suggests that it holds for widely-held and closely followed firms. If markets are semi-strong form efficient, then trading on IRRC data (publicly available corporate governance information) should not result in long-term abnormal returns. As I previously mention, market efficiency is a likely reason for the decrease in abnormal return from trading on stronger corporate governance portfolios.

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, the GIM, ATI and EIndex all 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 is associated with the model chosen to measure abnormal returns (firm performance). I follow previous research in this area by Gompers et al (2003), Cremers and Nair (2005), and Bebchuk et al (2009), among others, supporting that the Carhart (1997) four-factor model is an appropriate measure of abnormal returns and firm performance. While Gompers et al (2003) maintain that there is agreement

that the intercept, α , of these four-factor regressions is an appropriate measure of the excess return (firm performance), I acknowledge that using this methodology jointly tests my hypotheses as well as tests the appropriateness of the Carhart (1997) model in measuring abnormal returns especially during recessionary periods.

References

- Bebchuk, L., A. Cohen, and A. Ferrell. "What Matters in Corporate Governance?" *Review of Financial Studies* 22, no. 2 (2009): 783.
- Bertrand, M., and S. Mullainathan. "Are CEOs Rewarded for Luck? The Ones Without Principals Are." *The Quarterly Journal of Economics* 116, no. 3 (August 2001): 901–932.
- Brookman, J., and P. D. Thistle. "CEO Tenure, the Risk of Termination and Firm Value." *Journal of Corporate Finance* 15, no. 3 (June 2009): 331–344. doi:10.1016/j.jcorpfin.2009.01.002.
- Carhart, M. M. "On Persistence in Mutual Fund Performance." *Journal of Finance* 52, no. 1 (March 1997): 57–82.
- Cremers, K. J. M., and V. B. Nair. "Governance Mechanisms and Equity Prices." *The Journal of Finance* 60, no. 6 (December 1, 2005): 2859–2894.
- Fama, E. F., and K. R. French. "Common Risk Factors in the Returns on Stocks and Bonds." *Journal of Financial Economics* 33, no. 1 (February 1993): 3–56. doi:16/0304-405X(93)90023-5.
- Fama, E. F., and M. C. Jensen. "Separation of Ownership and Control." *Journal of Law and Economics* 26, no. 2 (June 1983): 301–325.
- Gompers, P., J. Ishii, and A. Metrick. "Corporate Governance and Equity Prices." *Quarterly Journal of Economics* 118, no. 1 (February 2003): 107.
- Hermalin, B. E. "Trends in Corporate Governance." *The Journal of Finance* 60, no. 5 (October 2005): 2351–2384.
- Jensen, M. C., and W. H. Meckling. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *Journal of Financial Economics* 3, no. 4 (October 1976): 305–360. doi:Article.
- Kaplan, S. N. "Are U.S. CEOs Overpaid?" *Academy of Management Perspectives* 22, no. 2 (May 2008): 5–20. doi:Article.
- Mangel, R., and H. Singh. "Ownership Structure, Board Relationships and CEO Compensation in Large US Corporations." *Accounting &*

Business Research 23, no. 91A (July 1993): 339–350. doi:Article.
 Shleifer, A., and R. W. Vishny. “A Survey of Corporate Governance.” *The Journal of Finance* 52, no. 2 (June 1997): 737–783.
 Tosi, H. L., S. Werner, J. R. Katz, and L. R. Gomez-Mejia. “How Much Does Performance Matter? A Meta-Analysis of CEO Pay Studies.” *Journal of Management* 26, no. 2 (March 2000): 301–339. doi:Article.

Appendix

Table 1: Entrenchment Index Provisions

1	<i>Staggered board</i> : a board in which directors are divided into separate classes (typically three) with each class being elected to overlapping terms.
2	<i>Limitation on amending bylaws</i> : a provision limiting shareholders’ ability through majority vote to amend the corporate bylaws.
3	<i>Limitation on amending the charter</i> : a provision limiting shareholders’ ability through majority vote to amend the corporate charter.
4	<i>Supermajority to approve a merger</i> : a requirement that requires more than a majority of shareholders to approve a merger.
5	<i>Golden parachute</i> : a severance agreement that provides benefits to management/board members in the event of firing, demotion, or resignation following a change in control.
6	<i>Poison pill</i> : 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	<i>Limitation on special meeting</i> : a provision limiting shareholders’ ability to act by calling a special meeting (as opposed to waiting for the regularly scheduled shareholders’ meeting).
2	<i>Limitation on written consent</i> : a provision limiting shareholders’ ability to act via written consent (as opposed to acting through a vote at the shareholders’ meeting).
3	<i>Elimination of cumulative voting</i> : a provision eliminating shareholders’ ability to apportion their votes in an election.

4	<i>Secret ballot</i> : a system of voting that ensures management does not look at individual proxy cards.
5	<i>Director indemnification</i> : 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	<i>Director indemnification contract</i> : a contract with individual officers and directors promising indemnification against certain legal expenses and judgments as a result of their conduct.
7	<i>Limited director liability</i> : a provision that limits the personal liability of its directors.
8	<i>Compensation plan</i> : a plan that accelerates benefits in the event of a change in control.
9	<i>Severance agreement</i> : a contract which ensures executives some income protection in the event of losing their positions.
10	<i>Unequal voting rights</i> : a provision by which voting power changes based on certain conditions.
11	<i>Blank check preferred stock</i> : this is stock that, when authorized, gives the board broad discretion in establishing the stock's voting, dividend, and other rights when issued.
12	<i>Fair price requirements</i> : 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	<i>Cash-out law</i> : a provision that enables shareholders to sell to a controlling shareholder, usually at the highest price recently paid by the controlling shareholder.
14	<i>Director duties</i> : a provision that permits the board to consider nonshareholder interests in evaluating a possible change in control.
15	<i>Business combination law</i> : a law that limits the ability of an acquirer to conduct certain transactions with the acquired company postacquisition.
16	<i>Antigreenmail provision</i> : 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	<i>Pension parachute</i> : provisions that limit the ability of an acquirer from using surplus money in a pension plan to fund the acquisition.

18	<i>Silver parachute</i> : 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.
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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
Elindex	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	Period	Frequency	N	Mean	Median	Std. Dev.
hml	1995-2009	Daily	3778	0.000165	0.000000	0.00676
hml	1995-2009	Monthly	180	0.003290	0.003400	0.03636
mlt_rf	1995-2009	Daily	3778	0.00026	0.00080	0.01267
mlt_rf	1995-2009	Monthly	180	0.00499	0.01420	0.04746
mon	1995-2009	Daily	3778	0.00025	0.00070	0.01029
mon	1995-2009	Monthly	180	0.00486	0.00770	0.03959
smb	1995-2009	Daily	3778	0.00005	0.00030	0.00619
smb	1995-2009	Monthly	180	0.00214	-0.00155	0.03833
Firm Market Capitalization (thousands)	1995-2009	Daily	5,326,138	6,897,233	1,531,936	22,598,302
Firm Market Capitalization (thousands)	1995-2009	Monthly	256,374	6,899,372	1,545,725	22,489,612
Firm Returns	1995-2009	Daily	5,326,091	0.000661	0.000000	0.01215
Firm Returns	1995-2009	Monthly	256,329	0.01280	0.00953	0.1403
CEO Cash Compensation (thousands)	2000	Annual	725	1,541.62	1,049.84	1.696
CEO Cash Compensation (thousands)	2007	Annual	833	1,104.07	847.56	2.336
CEO Total Compensation (thousands)	2000	Annual	721	6,676.51	2,792.00	24,494
CEO Total Compensation (thousands)	2007	Annual	833	5,805.82	3,831.21	7.015
ROA	1999	Annual	725	0.05131	0.04599	0.09188
ROA	2006	Annual	833	0.05992	0.05529	0.08395
Stock Returns	1999	Annual	700	0.1226	0.0490	0.8062
Stock Returns	1999	Annual	692	0.2112	-0.0219	1.2372
Stock Returns	2005	Annual	820	0.1136	0.0794	0.3358
Stock Returns	2006	Annual	829	0.1684	0.1390	0.2864
Std. Deviation Monthly Stock Return	1999	Monthly	692	0.1215	0.1059	0.8882
Std. Deviation Monthly Stock Return	2006	Monthly	829	0.0864	0.0790	0.1365
Revenue (millions)	1999	Annual	725	4,538.83	1,364.46	10,958
Revenue (millions)	2006	Annual	833	7,431.98	1,827.49	22,946
CEO Stock Option Grants	2000	Annual	817	4,506.58	923.15	24,280
CEO Stock Option Grants	2007	Annual	949	1,344.26	390.96	3,317

Table 5: Incidence of Entrenchment Index

Entrenchment Index	Year												Entire Sample
	1995		1998		2000		2002		2004		2006		
	Number	Percent											
0	151	11.04%	181	10.72%	125	7.58%	120	7.28%	103	5.92%	90	5.33%	7.87%
1	240	17.34%	321	19.02%	292	17.72%	252	15.28%	216	14.72%	287	16.98%	16.82%
2	348	25.44%	435	25.79%	496	24.64%	442	26.89%	461	26.51%	447	26.43%	25.96%
3	346	25.29%	424	25.32%	451	27.37%	451	27.35%	511	29.38%	478	28.28%	27.31%
4	228	16.67%	269	15.94%	300	18.20%	369	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%	19	0.63%	7	0.42%	7	0.40%	4	0.24%	0.42%
Total	1368	100.00 %	1688	100.00 %	1648	100.00 %	1649	100.00 %	1729	100.00 %	1690	100.00 %	100.00 %

Table 6: Democratic (long) / Dictatorship (short) Monthly Portfolio Returns 1995-2009

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

The Data section provides details on the variables; *a* 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 *

$$diff_{it} = a + b_1mkt_rf_{it} + b_2hml_{it} + b_3sub_{it} + b_4mom_{it} + \epsilon_{it}$$

Table 7: Democratic (long) / Dictatorship (short) Monthly Portfolio Returns 1995-2009

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

The Data section provides details on the variables; *a* 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

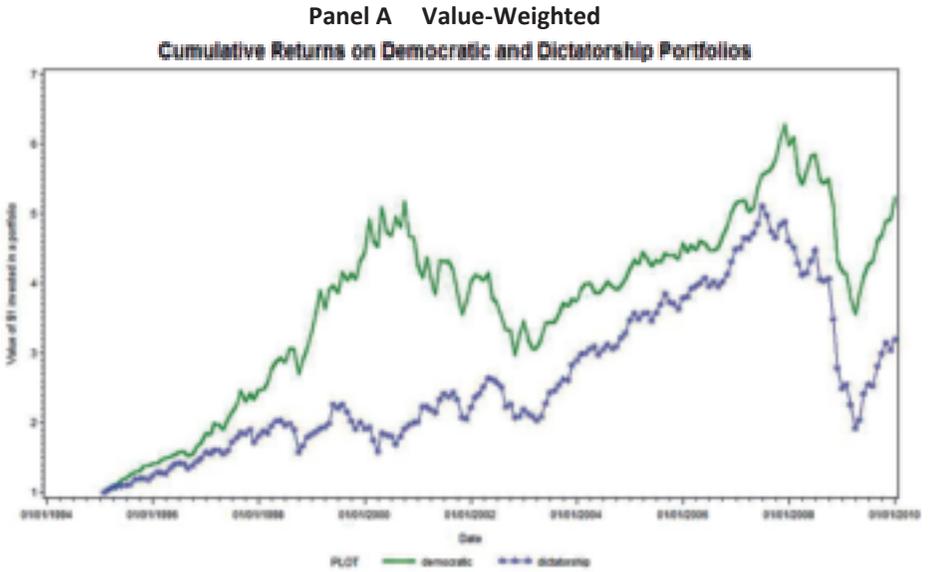


Figure 2: Cumulative Portfolio Returns 1995-2009

