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Article — Manuscript Version (Preprint)

Corporate Governance and Shareholder Litigation

The Icfai University Journal of Corporate Governance

Suggested Citation: Kalchev, Georgi (2009) : Corporate Governance and Shareholder Litigation, The Icfai University Journal of Corporate Governance, ISSN 0972-6853, ICFAI Univ. Press, Hyderabad, Vol. 8, Iss. 2, pp. 40-55

This Version is available at:

<http://hdl.handle.net/10419/146796>

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CORPORATE GOVERNANCE AND SHAREHOLDER LITIGATION

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Abstract

The probability for shareholder litigation is studied and how corporate governance characteristics and other factors explain it. Shareholder litigation results from failure of corporate governance. Thus a better quality of corporate governance is hypothesized to decrease the litigation probability. Corporate governance index is constructed based on principal components. It is found to be a significant predictor of shareholder litigation.

Keywords: shareholder litigation; corporate governance; principal components; panel logit model

We are grateful to NSF for providing financial support to obtain some of the data used in this study.

CORPORATE GOVERNANCE AND SHAREHOLDER LITIGATION

I. INTRODUCTION

Many theoretical and empirical papers address the monitoring mechanisms that shareholders engage in to make sure managers represent their interests. Some mechanisms to monitor the managers are having large shareholders (Schleifer and Vishny 1986), effective boards of directors (Fama and Jensen 1983), executive stock ownership (Jensen and Meckling 1976), etc.

One area that has been studied relatively little, however, is shareholder litigation. Shareholders can sue managers for breach of their fiduciary duties to them, inaccurate disclosure, fraud-on-the market, etc. Shareholders resort to litigation when corporate governance has failed to represent their interests and resolve their grievances. Thus it represents the ultimate failure of governance and the ultimate expression of shareholder activism. Shareholders have been suing with increasing frequency in recent years. Corporate failures have received media attention beginning with the corporate scandal of Enron. The Sarbanes-Oxley Act passed by Congress in 2002 devised new rules for corporate governance and litigation.

Shareholder litigation is directly linked to corporate governance. Since litigation is the ultimate failure of governance, good governance should be associated with less shareholder litigation and bad governance should be associated with more litigation. If managers were genuinely representing shareholders' interests (which is the goal of good

governance), shareholders would not have a reason to sue. It is when managers fail in their duties to shareholders that they sue. Thus it is an interesting empirical question whether good corporate governance results in less litigation and vice versa. No study seems to have sufficiently answered that question in a large representative sample, to my knowledge.

This study utilizes both the Institutional Shareholder Services (ISS) securities litigation database and the Investor Responsibility Research Center (IRRC) governance database to examine the effects of the quality of governance on the probability of being sued. These two major databases are appropriately matched to be able to obtain governance variables and measure their influence on the incidence of securities litigation. Recently, there has been an increased interest in corporate governance. The IRRC database is the same database used by a successful and well-known study of stock returns and governance by Gompers et al. (2003).

The question to be answered ultimately is whether better corporate governance leads to a lower probability of shareholder litigation and a more successful resolution of the significant agency problems between shareholders and managers. Gompers et al. (2003) pose that elimination of governance defense provisions may produce significant gains in equity returns. Perhaps similar elimination and improvement of corporate governance may lead to less litigation, making both shareholders and managers beneficiaries and increasing investor wealth. This paper provides some empirical insights.

The question remains open. Will better governance be the magic fix that will make managers accountable to shareholders? Does better corporate governance mechanisms

make shareholders better off? Looking at past relationships between governance measures and litigation will reveal whether they relieve the agency problems at all. It also tests whether corporate governance has any predictive power with regard to securities litigation. This is an opportunity to test the importance of corporate governance for the overall efficiency of the economic system. It provides more insight into the corporate form of organization, which is so dominant in American business. An examination of the state of securities litigation in the US reveals important insights of interest to both practitioners and academics.

We construct a governance index based on principal components. While the Gompers et al. (2003) index assigns equal weights to all variables, the principal components index assign different weights to the variables. I find some evidence that the quality of corporate governance affects the probability of shareholder litigation. Further, I split the governance variables into groups and study the effects of indices based on groups on shareholder litigation.

II. REVIEW OF THE LITERATURE

The only published study to our knowledge that addresses similar issues with a small sample of 90 companies is Vafeas (2000). He points out governance and ownership factors that distinguish corporations that have been sued and corporations that have not. He finds that outside block ownership plays a significant monitoring role, suggesting that outside blockholdings and shareholder lawsuits are substitute mechanisms. Vafeas (2000) reports that the likelihood of a lawsuit decreases significantly with an increase in block holdings. External block holders are seen as an additional mechanism that monitors managers and renders litigation less likely. Firms

that have been sued appear to "have fewer unaffiliated blockholders holding less stock. . . ." (Vafeas 2000).

In his book "The Econometrics of Corporate Governance," Bhagat (2002) studies takeover activity as a function of takeover defenses and other factors. His sample contains about 344 companies. His analysis is cross-sectional, but he suggests that it might be beneficial to use panel data analysis. Notably, he compares companies that adopted takeover defenses and companies that did not. Bhagat (2002) studies the effect of firm performance, ownership structure and takeover defenses on takeover activity. The hypothesis is that the presence of takeover defenses should be associated with a decline in takeover activity. In the bivariate analysis, he finds support for this hypothesis. A negative relationship between takeover defenses and takeover activity is observed and it is statistically significant. After introducing performance variables into the model, the sign of the relationship between takeover activity and defenses changes. In a model that allows the relationship between performance and takeover activity to vary with takeover defenses, takeover defenses are ineffective (Bhagat 2002). Therefore, Bhagat (2002) argues that the inclusion of additional variables, like performance, is important. Bhagat's (2002) study might have benefited from a principal analysis approach.

An important paper in corporate governance is Gompers et al. (2003) "Equity Returns and Corporate Governance." Gompers et al. (2003) find a significant relationship between corporate governance and equity returns in 1990-99. As they say, companies range from democracies to dictatorships. Democracies allow broad shareholder rights, while dictatorships limit shareholder rights and are more closely controlled by management. Which way is better to run a company: dictatorship or democracy? Do you

give more rights to shareholders or less? It seems that in a dictatorship, shareholders will have less say over governance and if not satisfied, they will be more likely to sue. As far as equity returns are concerned, it appears that democracies perform better realizing a significant positive abnormal return. In addition, Gompers et al. (2003) find that companies with broader shareholder rights saw higher firm value, higher profits, and lower capital expenditures.

Their study, however, is subject to the criticism that during the 1990's some believe the stock market was overvalued, so some of the companies that realized high returns may have experienced significant downfalls in the early 2000's. High returns from the 1990's may produce misleading conclusions, particularly if they were followed by shareholder litigation in the wake of corporate scandals in 2000 and 2001. Thus it is important to study the effects of corporate governance on shareholder litigation, as a different measure of corporate success and shareholder satisfaction.

Some researchers have reviewed securities litigation. Jones (1980) concludes that larger firms are more likely to be sued by shareholders. Jones and Weingram (1996) observe that litigation risk is determined by trading volume, market capitalization and stock price drops in the year prior to litigation. Johnston et al. (1995) study a sample of high-technology and pharmaceutical firms and find that greater assets, more actively traded shares, low prior-year returns and big stock price drops increase the probability of being sued.

Dechow et al. (1996) study firms that SEC has accused of manipulating earnings and find that these are more likely to have insider-dominated boards, CEOs same as chair of the board and/or firm founder, but are less likely to have audit committees or outside

blockholders. Summers and Sweeney (1998), on the other hand, find that insiders in companies accused of fraud sell their stock.

III.METHODOLOGY

I use an index based on principal components. Logit models are estimated with the governance index and financial variables as controls. Three models are estimated; with contemporaneous variables, with lagged variables, and combined. This is done to distinguish between the contemporaneous and lagged response effects. Given the nature of litigation, lagged response is expected. The models are:

$$y_{i,t} = a \text{Index}_{i,t} + \text{PX}_{i,t} + v_{i,t}$$

$$y_{i,t} = a_i \text{Index}_{i,t-2} + \text{PiX}_{i,t-2} + v_{i,t}$$

$$y_{i,t} = a \text{Index}_{i,t} + a_i \text{Index}_{i,t-2} + \text{PX}_{i,t} + \text{px}_{i,t-2} + v_{i,t}$$

where y is the outcome variable equal to 1 if the company has been sued that year and zero otherwise; Index refers to the governance index; X includes the financial control variables, contemporaneously or lagged. Those are estimated for each year governance data are available and in a panel logit including all years. Random effects are chosen, because fixed effects severely bias and limit the sample. Namely, the fixed effects estimation drops all companies, for which the outcome variables (existence of litigation) are all positive or all negative.

Principal components are a common dimension reduction technique. It is particularly useful when there is large number of explanatory variables and they are trying to explain the same thing, in this case, corporate governance. In those cases, the explanatory variables can be reduced to a smaller number of principal components that yield more stable estimates. Principal components seek to maximize the variance of a

linear combination of the variables. The first component explains the most variance. The correlation matrix of the variables is used for the principal components analysis, because it does not depend on the units of measurement. I provide three types of estimations: with contemporaneous variables, with lagged variables, and combined. All these are estimated annually and in panel analysis for robust results. (Please note that for 1993, no lagged estimations are provided, because we have no lags available.)

First, all 24 governance variables are used together in the principal components analysis. Then I remove those variables whose loadings are negative. Their signs are not as expected. When variables are equal to one, they contribute to a worse governance index. I keep only the variables with the expected a priori signs to have a meaningful interpretation of the governance index. All these variables are collapsed into one index, which is equal to the first principal component. (The component of each company is equal to the loadings (weights in the linear combination) times the observations for that company.) Since the first component represents the maximal variation of the variables, it is assumed that the higher the index, the worse the quality of the corporate governance. Once again, I keep in the index only variables whose loadings have the a priori expected positive sign. The loadings are shown in Table 4. Subsequently, I divide the variables into five groups, closely following Gompers et al. (2003). I remove any variables from the indexes, whose signs are not as expected. The variables from each group are used to form principal components resulting into five governance indices. Their loadings are shown in Table 5. The groups are the following:

Delay (provisions designed to slow down a hostile takeover): Blank Check, Classified Board, Special Meeting, and Written Consent.

Protection (provisions designed to compensate managers following a termination and protect against job-related liability): Compensation Plans, Indemnification Contracts, Golden Parachutes, Liability.

Voting (provisions related to shareholder rights in elections or charter/bylaw amendments): Bylaws, Charter, Supermajority.

State (state takeover laws): Business Combination Law, Cash-out Law, Directors' Duties Law, Fair Price Law, Control Share Acquisition Law.

Other (remaining firm-level provisions not included in other groups): Antigreenmail, Directors' Duties, Fair Price, Pension Parachutes, Poison Pill.

IV. DATA AND VARIABLES

The first dataset for this study is securities litigation data, which is available from the Institutional Shareholder Services (ISS). The ISS database includes filing dates for litigation of all companies that have been sued, starting in 1994. Thus it helps identify companies that have been sued. This database is matched with the corporate governance database.

The organization that has been collecting corporate governance data for the longest period of time is the Investor Responsibility Research Center (IRRC). The governance data used in Gompers et al. (2003) is the IRRC Governance database. It starts in 1990 and proceeds biannually to the present. It provides 24 distinct governance provisions for these companies, such as golden parachutes, poison pills, indemnification, and so forth.

During the period used in this paper, there are 5 years of observations in this database (1993, 1995, 1998, 2000, and 2002).

The IRRC Takeover Defenses governance database is particularly suited for such a study because it focuses on shareholder rights and takeover defenses and goes back to 1990 and proceeds biannually thereafter. The provisions in it fall into five groups: delaying hostile bidders, voting rights, director/officer protection, state laws and others. As takeover defenses have been the focus of governance debates in some decades, it is particularly appropriate to include measures of takeover defenses in an analysis that includes the 1990's.

A sample of companies is selected from the IRRC database, all of them from S&P 500. The sample consists of 334 companies in the panel estimations. Then for each company in the sample, it is determined whether it has been sued and in which year, using the ISS litigation database. Since we don't have litigation data for 1990, the study starts in 1993 and goes to 2003 (we do not have governance data for 2003).

The governance variables that are used for the principal component analysis are: Blank Check; Classified Board; Special Meeting; Written Consent; Compensation Plans; Indemnification Contracts; Golden Parachutes; Liability; Severance; Bylaws; Charter; Secret Ballot; Supermajority; Anti- greenmail; Directors' Duties; Fair Price; Pension Parachutes; Poison Pill; Business Combination Law; (The variables are defined in Appendix 1). All the variables are (0, 1). One indicates a restriction on shareholder rights, while 0 indicates the absence of a restriction of shareholder rights.

The control variables are the following: one-year stock returns, change in market value of equity (MVE), asset size, return on assets, and earnings per share (EPS). MVE is the best predictor of the investor losses due to managerial misconduct. Asset size is an important size variable. Stock returns, earnings per share and returns on assets are performance measures. These variables are included based on previous studies that have found correlation with securities litigation and as control variables. However, through backward selection, I remove the insignificant variables and the variables that remain are stock returns and EPS. For consistency, I use these control variables in all estimations.

V. HYPOTHESIS DEVELOPMENT

After the Gompers et al. (2003) examination of the effects of good governance on stock returns, it is quite appropriate to study now the effects of good governance on shareholder litigation. In companies where shareholders enjoy significant rights, they may be able to better monitor management and resolve their grievances through internal mechanisms. Thus they should sue their managers less often. When shareholders have few rights, they may have to resort more often to litigation to resolve their grievances. The goal will be to find the effect of governance on the incidence of litigation and study causality, if any. The main hypothesis to be tested is that good corporate governance leads to a lower probability of litigation.

Gompers et al. (2003) construct a governance index that is allowed to range from 0 to 24. All the governance variables in the IRRC governance database are (0, 1) variables. One represents the presence of a restriction on shareholder rights. The governance sums up those ones. Thus the higher the index, the lower the shareholder rights and the quality of corporate governance. The interpretation of the principal components is similar: the

higher the index, the worse the corporate governance. Therefore, I retain in the index only those variables, whose loadings have positive sign. It is expected that the lagged index will be significant. Shareholder litigation may take time to file after an alleged accident. Please note that here lag means second lag, because the data are available biannually. Thus the previously available observation is typically two years ago. First and third lags are not available.

The hypothesis regarding the measures of financial performance is that better financial performance will be associated with lower probability of litigation. Thus stock return and EPS are expected to negatively correlate with litigation probability. The size measures (assets, change in MVE) are expected to be positively correlated with litigation probability; however, they are not significant and their coefficients are virtually zero, so they are removed from the analysis. It may be perceived that larger and well-to-do companies are better able to pay damages, so they may be the target of litigation.

VI. RESULTS

VI. 1. Contemporaneous analysis.

Table 2 contains the cross-section estimations with three columns: contemporaneous, lagged and combined. In the year by year estimations, the stock returns and EPS are significant only in the year 1995. The contemporaneous governance index is not significant.

The panel estimations appear in Table 3. In the panel estimation, the significant variables are stock returns and EPS. Once again, governance is not significant. This is not surprising, because we anticipate a lagged response to governance and not contemporaneous.

VI.2. Lagged Response Analysis

The lagged governance index is significant for only one year in the annual estimations: 1998. None of the other variables are significant in the annual estimations. In the panel estimation, all lagged variables are significant with the anticipated signs: governance index (positive), stock returns (negative) and EPS (negative). Thus there is strong evidence for lagged response to those variables. Remember that lagged variables here are essentially second lag.

VI.3. Comprehensive Analysis.

I provide estimations, including both contemporaneous and lagged variables. In the year by year estimations, in 1995, stock returns and EPS are contemporaneously significant with the expected negative signs. In 1998, stock returns are significant. In the panel estimation, all three lagged variables (governance index, stock returns and EPS) are significant with the expected signs. Both the lagged stock returns and EPS show with the expected negative signs: the better the performance, the lower the probability of lawsuit. The lagged governance index is significant with a positive sign. Thus the past quality of corporate governance influences the probability of litigation, while the present governance index does not. This makes sense for securities litigation, where it takes time for shareholders to discover wrongdoing and pursue a lawsuit.

It is interesting to observe that the size variables (MVE, assets) are not significant and show with very small coefficients. Size does not seem to be a driving force behind securities litigation. People do not sue companies just because they are big.

VI.4. Partitioned Governance Indices.

The partitioned indices results are shown in Table 6. The year by year results with 5 partitioned indices indicate that contemporaneously only the *Other* index is significant with the expected positive sign. Stock returns and EPS continue to be significant. The *other* category includes: Antigreenmail, Directors' Duties, Fair Price, Pension Parachutes, Poison Pill. The index shows with a positive sign (while all the other indices show with a negative sign). Thus the *other* index contributes positively to a higher litigation probability. Looking at the provisions in the *other* index, one can see why this may be the case. Antigreenmail provisions discourage one shareholder to acquire large blocs of stock. Directors' duties allow directors to consider the interests of groups other than shareholders. One can see how this can make shareholders unhappy. Fair price provisions make acquisitions more expensive. Pension parachutes prevent an acquirer from using surplus cash in the pension fund of the target company to finance the acquisition. Poison pills are a delay and defensive strategy against hostile takeovers. The latter provisions make acquisitions more difficult and protect managers' positions, even when a takeover may be in the interest of the shareholders.

Using the partitioned indices, I also report results with lagged independent variables. This time the lagged *Protection* index appears to be significant with a positive sign. The existence of substantial protection provisions for managers predicts a higher degree of shareholder litigation. Given how common protection mechanisms are, this is

an important result. Lagged stock return and lagged EPS are significant with the expected negative signs. In the combined estimation, the lagged Protection index continues to be significant together with the lagged stock returns and EPS.

VII. CONCLUSION

This paper presents an examination of the effects of the quality of corporate governance on the incidence of shareholder litigation. The quality of corporate governance is measured by variables from the IRRC governance database. The contribution of the paper is devising a governance index using principal components and utilizing many variables to construct a weighted index. Its lag appears to be a significant predictor of shareholder litigation consistent with theory. Companies with worse corporate governance experience a higher probability of securities litigation. This is most evident in the panel estimations.

Two variables that are consistently significant are stock returns and EPS with negative signs. They demonstrate that financial performance has an important effect on the probability of being sued. While the governance variables are significant in their lags, these financial performance measures are significant both in their lagged and present values. The better the financial performance of the company, the lower the probability of litigation. These measures of financial performance are leading predictors of shareholder litigation. Size, however, does not matter.

Furthermore, I divide the governance variables into groups and construct five indices from the groups based on principal components. In the contemporaneous estimations, only one index is significant: *Other*. It consists of variables that make

acquisitions more difficult and allow directors to consider the interest of other constituencies. These variables understandably can lead to shareholder dissatisfaction and litigation. In the lagged explanatory variables estimations, another index is significant: *Protection*. When managers enjoy significant protections of their income and from liability, they may make decisions that are not in the best interests of the shareholders. Thus the *protection and other* indices seem to be singled out as the most influential governance provisions. This implies that the managers' tendency to reward themselves with significant compensation and protection mechanisms may lead to a higher probability of securities litigation. Thus some governance provisions are important than others, which underscores the importance of grouping. Moreover, managerial entrenchment appears to increase litigation risk.

Overall, I find evidence that the quality of corporate governance has a predictive power for shareholder litigation. Different measures of corporate governance appear to be significant, whether in present or lagged values. Thus having better corporate governance decreases the probability of litigation and decreases the risk for managers, and protects shareholder wealth. This paper reaffirms the importance of good corporate governance practices for the entire corporation. While Gompers et al. (2003) find that corporate governance is important for stock returns, this study illustrates its significance in another area of interest: shareholder litigation.

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Appendix 1. Variable Definitions.

Antigreenmail—Greenmail is a transaction between a large shareholder and a firm by which the shareholder agrees to sell his stock back to the company, usually at a premium, in exchange for the promise not to seek control of the company for a certain time.

Antigreenmail provisions prevent greenmail unless the same repurchase offer is made to all shareholders or approved by a shareholder vote.

Blank Check preferred stock is stock over which the board has broad authority to determine voting, dividends, etc.

Business Combination Laws impose a moratorium on certain transactions (mergers) between a large shareholder and the firm, unless the transaction is approved by the board of directors.

Bylaw and Charter limit the shareholders' ability to amend the governing documents of the corporation.

Cash-out Laws enable shareholders to sell their stock to a "controlling" shareholder at a price based on the highest price of recently acquired shares.

Classified board has different classes of directors who serve overlapping terms.

Compensation plans allow participants in incentive bonus plans to cash out options or accelerate bonuses should there be change in control.

Indemnification Contracts indemnify directors and officers for certain legal expenses, settlements and judgments resulting from lawsuits.

Cumulative Voting allows a shareholder to allocate his total votes in any manner, where the total number of votes is the product of the number of shares owned and the number of directors to elect.

Directors' Duties allow directors to consider the interests of constituencies other than shareholders when considering a merger.

Directors' Duties Laws allow similar expansions of constituencies.

Fair price provisions limit the range of prices a bidder can pay in two-tier offers.

Fair price **laws** work similarly like firm fair price provisions except that they are imposed by state law.

Golden Parachutes are severance agreements that provide cash and non-cash payments to senior managers upon termination demotion, etc.

Limitations on Director **Liability** are charter amendments that limit directors' personal liability to the extent permitted by state law.

Pension Parachutes prevent an acquirer from using surplus cash in the pension fund of the target to finance an acquisition.

Poison Pills provide their holders with special rights in the case of triggering event such as a hostile takeover bid.

Secret Ballot allows either an independent third party or employees sworn to secrecy to count proxy votes.

Severance agreements provide high-level executives assurance for their positions or compensation upon termination and are not contingent on change in control (unlike golden parachutes).

Special **Meeting** limitations either increase the percent of shareholder support to call a special meeting or eliminate the possibility to call one completely.

Supermajority imposes voting requirements for mergers or other business combinations higher than what is required by state law.

Control-Share Acquisition Laws require a majority of disinterested shareholders to vote on whether a new large shareholder has voting rights.

Written Consent can take the form of establishing majority thresholds beyond the level of state law, requiring unanimous consent, or eliminating the right to take action by written consent.

Table 1. Summary Statistics.

Variable	Mean	Std. Dev.	Min	Max
Sued	0.03	0.17	0	1
Gompers Governance Index	9.64	2.65	2	16
Antigreenmail	0.09	0.28	0	1
Blank Check	0.89	0.31	0	1
Classified Board	0.58	0.49	0	1
Directors' Duties	0.06	0.24	0	1
Fair Price	0.39	0.49	0	1
Charter	0.02	0.14	0	1
Bylaws	0.17	0.37	0	1
Special Meeting	0.45	0.50	0	1
Written Consent	0.41	0.49	0	1
Poison Pill	0.57	0.50	0	1
Supermajority	0.16	0.37	0	1
Cumulative Voting	0.13	0.33	0	1
Director Liability	0.67	0.47	0	1
Contracts	0.15	0.36	0	1
Compensation Plan	0.76	0.43	0	1
Pension Parachute	0.03	0.18	0	1
Business Combination Laws	0.91	0.28	0	1
Fair Price Laws	0.37	0.48	0	1
Control Share Acquisition Laws	0.26	0.44	0	1
Cash-out laws	0.03	0.16	0	1
Secret Ballot	0.23	0.42	0	1
Golden Parachute	0.56	0.50	0	1
Severance	0.08	0.27	0	1
Assets (in millions)	26,847.81	80,609.07	129.789	1,097,190
MVE (in millions)	16,800	36,700		596,000
Price Drop	22.70	20.12	-32.4	714
Stock Return	.04	.50	-.94	12.6

ROA	.06	.08	-1.00	.70
Scaled New Governance Index	11.55	10.06	-11.5	
Delay	2.09	1.35	0	4
Protection	4.30	2.76	-2.58	5
Voting	.53	1.13	-.81	5
Other	1.40	1.15	0	5
State	.89	1.22	0	5

Table2. Cross-section Estimations by year
(1993)

Variable	Contemporaneous
Governance Index	-0.03
Governance Index Lagged	
Stock Return	-3.49
Stock Returns Lagged	
EPS	0.25
EPS Lagged	
Constant	-4.86
AIC	

(Year=1995)

Variable	Contemporaneous	Lagged	Combined
Governance Index	-0.23		-0.74
Governance Index Lagged		-0.08	0.51
Stock Return	-3.76		-3.92
Stock Returns Lagged		-0.85	-0.25
EPS	-0.48		-0.51
EPS Lagged		0.04	0.15
Constant	-0.87	-3.08	-1.13
AIC	47.61	62.69	49.79
BIC	61.80	73.36	71.08

(Year=1998)

Variable	Contemporaneous	Lagged	Combined
Governance Index			-0.89
Governance Index Lagged	0.35	0.45	1.32

Stock Return	-3.49		-4.17
Stock Returns Lagged		0.13	-0.25
EPS	0.21		0.29
EPS Lagged		0.22	0.16
Constant	-9.38	-10.14	-11.26
AIC	35.30	36.60	38.28
BIC	49.83	50.75	63.04

(Year=2000)

Variable	Contemporaneous	Lagged	Combined
Governance Index	0.07		0.17
Governance Index Lagged		0.05	-0.08
Stock Return	-0.47		-0.21
Stock Returns Lagged		-0.80	-0.96
EPS	-0.23		-0.27
EPS Lagged		0.03	0.1
Constant	-4.09	-4.27	-4.39
AIC	80.52	72.52	75.98
BIC	95.66	86.997	101.30

(Year=2002)

Variable	Contemporaneous	Lagged	Combined
Governance Index	-0.07		-0.09
Governance Index Lagged		-0.08	0.02
Stock Return	-1.57		-1.43
Stock Returns Lagged		-0.18	0.01
EPS	-0.04		-0.09
EPS Lagged		-0.00	0.1
Constant	-2.47	-2.13	-2.59
AIC	137.34	140.23	141.46
BIC	152.49	155.33	167.89

Table 3. Panel Random-effects logistic estimation using the governance index.

(significant coefficients are in bold.)

Variable	contemporaneous	lagged	combined
Governance Index	0.03		
Governance Index Lagged		0.11	0.12
Stock Return	-1.47		0.24
Stock Returns Lagged		-1.65	-1.37
EPS	-0.17		-0.13
EPS Lagged		-0.21	-0.18
Constant	-3.95	-3.97	-3.86
AIC	306.7	316.25	318.06
BIC	332.1	340.07	351.41

Observations=1 186.

N	334	329	329
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Time span 1993-2003.

Table 4. Loadings (weights) for the variables from the principal components analysis. All loadings are significant.

Variable	Loading	Std. Error
Antigreenmail	0.12	0.03
Blank Check	0.17	0.02
Classified Board	0.38	0.02
Director Duties	0.14	0.03
Fair Price	0.29	0.02
Charter	0.08	0.03
Bylaws	0.28	0.02
Special Meeting	0.37	0.02
Written Consent	0.39	0.02
Poison Pill	0.36	0.02
Supermajority	0.16	0.03
Director Liability	0.01	0.03
Indemnification Contracts	0.11	0.03
Compensation Plan	0.26	0.02
Pension Parachutes	0.14	0.03
Business	0.08	0.03
Combination Laws		
Secret Ballot	0.07	0.03
Golden Parachute	0.26	0.02

Table 5. Loadings from principal component analysis of the grouped variables:

Delay

Variable	Loading	Std. Error
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Blank Check	0.61	0.02
Classified Board	0.40	0.02
Special Meeting	0.49	0.01
Written Consent	0.48	0.01

Protection

Variable	Loading	Std. Error
Compensation plan	0.68	0.04
Indemnification	0.36	0.11
Golden parachute	0.61	0.07
Director liability	0.18	0.12

Voting

Variable	Loading	Std. Error
Bylaws	.61	0.05
Charter	0.66	0.04
Supermajority	0.44	0.08

State

Variable	Loading	Std. Error
Business Comb. Laws	0.02	0.03
Cash-out laws	0.50	0.02
Directors' duties laws	.5433837	0.02
Fair price laws	.4551547	0.02
Control share acquisition law	0.49	0.02

Other

Variable	Loading	Std. Error
Antigreenmail	0.48	0.05
Directors' duties	0.06	0.08
Fair price	0.56	0.04
Pension parachute	0.43	0.06
Poison pill	0.52	0.05

Table 6. Multiple indices results.

Variable	Contemporaneous	Lagged	Combined
Delay	-0.04		
Delay lagged		0.05	0.05
Protection	-0.16		
Protection lagged		0.78	0.74
Voting	-0.33		
Voting lagged		-0.43	-0.39
State	-0.81		
State lagged		-0.01	-0.01
Other	0.9		
Other lagged		0.41	0.45
Stock returns	-1.49		0.22
Stock returns lagged		-1.61	-1.37
EPS	-0.15		-0.11
EPS lagged		-0.19	-0.18
Constant	-3.74	-3.97	-3.81
AIC	307.72	319.01	321.39
BIC	353.44	361.88	373.79

334 companies. 1186 observations.