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Institutional Investor Preferences for Corporate Governance Mechanisms

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ABSTRACT: We examine institutional investors' preferences for corporate governance mechanisms. We find little evidence of an association between total institutional ownership and governance mechanisms. However, using revealed preferences, we identify a small group of "governance-sensitive" institutions that exhibit persistent associations between their ownership levels and firms' governance mechanisms. We also find that firms with a high level of ownership by institutions sensitive to shareholder rights have significant future improvements in shareholder rights, consistent with shareholder activism. Further, we find that factors describing the characteristics of institutions' portfolios are correlated with governance preferences. Large institutions, those holding a large number of portfolio stocks, and those with preferences for growth firms are more likely to be sensitive to corporate governance mechanisms, suggesting those mechanisms may be a means for decreasing monitoring costs and may be more essential for firms with a high level of growth opportunities. Finally, our results suggest that common proxies for governance sensitivity by investors (e.g., legal type, blockholding) do not cleanly measure governance preferences.

Keywords: corporate governance; institutional investors; board of directors.

JEL Classifications: G11; G20; G34.

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INTRODUCTION

Institutional investors are commonly assumed to be a key component of corporate governance—monitoring and disciplining managers through explicit actions or "voting with their feet." Prior research finds that a small number of institutional investors take an active role in the governance of their portfolio firms by waging public and private campaigns, sponsoring shareholder proposals, and voting against management attempts to entrench (Gillan and Starks 2003; Barber 2006). But such actions are costly, have uncertain outcomes, and may require collective action. For institutional investors that are sensitive to corporate governance, an alternative approach is to simply invest in firms with existing, preferred governance mechanisms. In general, little is known about the extent to which firms' corporate governance mechanisms are an explicit determinant of institutional investors' portfolio weighting decisions.

We examine institutional investors' revealed preferences for firm-level corporate governance mechanisms. In contrast to prior research that examines the association between corporate governance and institutional ownership on a firm level (e.g., Borokhovich, Brunarski, Harman, and Parrino 2006; Chen, Harford, and Li 2007; Li, Ortiz-Molina, and Zhao 2008), we investigate this association on an institution level by examining the extent to which institutional investors tilt their portfolios toward firms with preferred governance mechanisms.

Institutional investors have a number of incentives that would lead them to prefer firms with "better" corporate governance mechanisms.[1] First, institutional investors often hold large portfolios, for which external monitoring costs are high. Bushee and Noe (2000) find that institutions with a large number of portfolio stocks prefer higher-quality disclosure as a way to offset monitoring costs. Thus, institutional investors could prefer firms with strong internal monitoring mechanisms that serve as a substitute for the institutions' own costly monitoring activities. Second, there could be an association (perceived or actual) between corporate governance mechanisms and superior firm performance that is not captured by other firm fundamentals. For example, Gompers, Ishii, and Metrick (2003), Brown and Caylor (2006), and Larcker, Richardson, and Tuna (2007) find that "better" governed firms exhibit higher firm value, better operating performance, and a reduction in potentially wasteful corporate investment. Third, the presence of stringent fiduciary responsibilities can lead some institutions to prefer firms with "better" governance mechanisms, because such mechanisms can reduce the possibility of negative outcomes due to managerial fraud or negligence (Del Guercio 1996). Fourth, institutions holding large positions in firms or following an index strategy will find it costly to rapidly liquidate their positions during a governance failure, which could lead to a preference for "strong" governance mechanisms. Fifth, institutions following investment styles that favor small or riskier firms could seek "better" governance mechanisms as a way of reducing the risk of their undiversified sector bet. Combined, these incentives could lead institutional investors, as a whole, to exhibit preferences for corporate governance mechanisms in their investment decisions.

We investigate three questions. First, we consider to what extent corporate governance is an explicit determinant of institutions' investment decisions, providing insight into whether

[1] One difficulty in any governance study is determining whether a governance mechanism is "better" or "weaker." For example, there is disagreement in the literature about whether large boards provide "better" governance (e.g., Dalton, Daily, Johnson, and Ellstrand 1999) or "weaker" governance (e.g., Yermack 1996). However, Table 1 shows that our measure of board characteristics has improved over time. Given the pressures for governance improvements after Sarbanes-Oxley and Enron, this improvement suggests that our measure captures what the market *perceives* to be "better" governance mechanisms. In addition, our tests do not rely on the assumption that certain governance mechanisms are superior. Instead, we rely only on the assumption that governance mechanisms are observed by institutional investors, who then choose whether to include these mechanisms in their investment decisions and monitoring activities.

governance is a complement to institutional holdings. Second, we consider to what extent institutions appear to implement their preferred governance mechanisms in their portfolio firms, as opposed to simply investing in firms with preferred mechanisms. We examine whether the complementary relation between institutional holdings and governance reflects preferences for board characteristics or shareholder rights. With no theory to guide us, this analysis provides new stylized facts to the literature. Finally, we examine which types of institutions display preferences for corporate governance mechanisms. Prior research treats institutions as homogeneous. In contrast, we use revealed preference to determine the types of institutions that are more sensitive to governance. In all our analyses, we test for governance sensitivity using a broad range of governance mechanisms within the categories of board of director characteristics and shareholder rights.

We first investigate the association between total institutional ownership and firms' corporate governance mechanisms. Despite a number of potential incentives that institutional investors have to tilt their portfolios toward firms with "better" governance mechanisms, we find little evidence of an association between total institutional investor ownership and corporate governance. There is weak evidence that firms with "better" board characteristics have higher levels of total institutional ownership, but we find no association between shareholder rights and total institutional ownership. Given the lack of an overall relation, we identify institutions that exhibit strong revealed preferences for governance mechanisms to provide stylized facts on the proportion, influence, and characteristics of institutional investors that are sensitive to governance in their investment decisions and monitoring activities.

Using data from 1995 to 1997, a period in which there were no major scandals or changes in regulation that would have induced a stronger focus on governance, we find that approximately 10 percent of institutions are sensitive to director and shareholder governance mechanisms (i.e., governance characteristics significantly affect their portfolio weighting decisions). Using a holdout sample from 1998 to 2004, we confirm the validity of our revealed preference classification to ensure it is not an artifact of our statistical cutoff for governance sensitivity. Institutions classified as governance-sensitive continue to exhibit significant preferences for governance mechanisms. Institutions classified as governance-insensitive do not exhibit significant preferences for board characteristics in the later period, but do exhibit significant preferences for "weaker" shareholder rights, explaining the insignificant association for total institutional ownership. Thus, revealed preferences identify a group of institutional investors with persistent preferences for governance mechanisms.

Next, we address the question of whether these institutions simply invest in firms with preferred governance mechanisms or actively implement preferred mechanisms in their portfolio firms. We find strong evidence that changes in ownership by governance-sensitive institutions are associated with prior levels of, and contemporaneous changes in, board characteristics, implying that governance-sensitive institutions prefer to invest in firms with existing preferred governance mechanisms. Nevertheless, we find evidence that firms with a high level of ownership by institutions sensitive to shareholder rights exhibit significant future improvements in shareholder rights, implying that these institutions engage in shareholder activism. This empirical evidence complements survey results of 118 institutional investors in the U.S. and Netherlands stating that governance is a consideration in portfolio weighting decisions, and these institutions are willing to engage in activities that can improve the governance of their portfolio firms (McCahery, Sautner, and Starks 2010).

Further, we investigate the characteristics of institutions that are governance-sensitive. Consistent with their fiduciary responsibilities, bank trusts and pensions and endowments tend to have the highest percentage of governance-sensitive institutions. But neither type has more than 25

percent of its institutions classified as governance-sensitive, indicating that the legal type classifications do not fully proxy for general governance sensitivity.

Finally, we examine the association between governance sensitivity and a set of factors that describe the characteristics of institutions' portfolios. We find that large institutions and institutions holding a large number of stocks in their portfolios are more likely to be sensitive to corporate governance mechanisms, suggesting that institutions view governance mechanisms as a means to decrease monitoring costs. In addition, we find that institutions with preferences for growth firms tilt their portfolios toward firms with "better" board characteristics, implying that institutions view board governance as more essential for firms with a high level of growth opportunities. In contrast, institutions with long investment horizons and small-cap investment styles are more likely to tilt their portfolios toward firms with "better" shareholder rights, suggesting that shareholder governance allows these institutions to protect their large, stable investments. Interestingly, blockholder ownership by institutional investors is not significantly related to governance sensitivity, suggesting that block ownership serves as a substitute for governance mechanisms, rather than a complement. Overall, our results suggest that common proxies for governance sensitivity by investors (e.g., legal type, blockholding) do not fully capture important aspects of the motivation for governance sensitivity and, as a result, likely misclassify institutions with respect to their governance sensitivity.

Prior research has examined the role of institutional investors in the governance and decision-making of their portfolio firms. For example, research has examined the influence of institutional investors on public campaigns, such as shareholder proposals and voting (Brickley, Lease, and Smith 1988; Smith 1996; Wahal 1996; Gillan and Starks 2000; Aggarwal, Saffi, and Sturgess 2012), on private negotiations with management (Strickland, Wiles, and Zenner 1996; Carleton, Nelson, and Weisbach 1998), on anti-takeover charter amendments (Borokhovich et al. 2006), on shareholder voting rights (Li et al. 2008), on major corporate decisions such as forced CEO turnover (Parrino, Sias, and Starks 2003), on executive compensation (Hartzell and Starks 2003; Almazan, Hartzell, and Starks 2005; Dikolli, Kulp, and Sedatole 2009), and on mergers (Chen et al. 2007). These studies provide mixed evidence as to whether institutional investors act as effective monitors of management and/or whether their governance actions are profitable. Possible explanations for the mixed results are that, in general, these studies focus either on specific corporate events or on specific classes of institutions, such as public pension funds. In addition, these studies may not fully account for the fact that institutions can "vote with their feet" if they disagree with a firm's governance and decision-making (Bhide 1993; Admati and Pfleiderer 2009; Edmans 2009).[2]

Our study contributes to the literatures on institutional investors and corporate governance in the following ways. First, we investigate the preferences of institutional investors for corporate governance mechanisms, rather than their role in initiating or reacting to major governance actions.[3] By examining investment behavior, we are able to use a large sample of firms and institutions to investigate the market forces that influence firm-level governance mechanisms. Second, we

[2] In a similar vein, Agrawal and Knoeber (1996) find little evidence of an association between total institutional ownership and other possible control mechanisms (e.g., insider ownership, blockholders, outside directors, CEO human capital, and leverage). Of this list, outside directors are the only factors also considered in this study.

[3] Note that the international literature finds that foreign institutional investors prefer to invest in firms with "better" governance practices (e.g., Leuz, Lins, and Warnock 2009; Ferreira and Matos 2008). This literature assumes that firm-level corporate governance mechanisms substitute for weak country-level legal protections of minority shareholders. In contrast, our study examines the preferences of U.S. institutional investors for domestic securities. The U.S. legal system provides one of the highest levels of protection for minority shareholders. Therefore, the motivations for governance-sensitivity in our setting are more likely associated with investor characteristics.

document the governance sensitivity of a broad set of institutional investors, taking into consideration their heterogeneity. Not all institutional investors have the same investment objectives or philosophy, and some are constrained by fiduciary duties or influenced by political concerns. Understanding the heterogeneous preferences of institutional investors is increasingly important, given recent legislative attempts to increase shareholder oversight of boards of directors and executive compensation. For example, Section 971 of the Dodd-Frank Act would have increased shareholder access to proxy nominations of directors had the Securities and Exchange Commission (SEC) legislation to implement it not been overturned by the courts (U.S. House of Representatives 2010; Holtzer 2011). Additional amendments to other SEC rules not subject to that litigation do require companies to provide shareholder proposals regarding proxy access in company proxy materials (Shapiro 2011). Furthermore, similar legislation ("Shareholder Bill of Rights") introduced by Senator Schumer had been pending in the past (Davidoff 2009). This study provides insight into the preferences of institutional investors for such changes. Finally, we specify and validate a parsimonious method to classify the corporate governance sensitivity of institutional investors. In doing so, we provide evidence of the types of institutions likely to be active in corporate governance reforms, and develop a more refined method to classify institutions in the study of investor activism.

DATA AND SAMPLE

Sample

Our sample consists of 15,892 firm-year observations between 1995 and 2004. The sample period is constrained by the availability of data on board of director characteristics, obtained from the Directors database of the Investor Responsibility Research Center (IRRC). This database contains director information for approximately 1,800 companies (S&P 500, S&P MidCap, S&P SmallCap) from proxy statements dated 1996 to 2005. We match proxy statements to their fiscal year (i.e., 2001 proxy data for a December fiscal year-end firm applies to the 2000 fiscal year). As a result, the majority of the data applies to fiscal years 1995 to 2004.

As in Gompers et al. (2003), we obtain the data on shareholder rights from the IRRC Governance database. These data are available for the years 1990, 1993, 1995, 1998, 2000, 2002, and 2004, representing the year in which proxy statements were surveyed to gather the data. To form a complete panel of data for our tests, we use the 1995 survey for 1995–1996 fiscal years, the 1998 survey for 1997–1998 fiscal years, the 2000 survey for 1999–2000 fiscal years, the 2002 survey for 2001–2002 fiscal years, and the 2004 survey for 2003–2004. Note that this data structure prevents us from examining annual changes in the relation between governance factors and institutional investors.

We obtain institutional holdings from the Thomson Financial Spectrum database. These data compile SEC Form 13-F filings of institutional holdings. Under Rule 13(f), all institutional investors managing more than $100 million in equity are required to file all equity holdings greater than 10,000 shares or $200,000 in market value with the SEC on a quarterly basis. For each firm-year observation, we calculate institutional ownership for each quarter and then use the mean of the four quarters in empirical tests. We obtain data for our control variables from the Compustat and CRSP databases.

Proxies for Corporate Governance

Our proxies for corporate governance mechanisms are divided into two groups. The first group consists of board characteristics: board size, percent of independent directors, whether the CEO is the chairperson, presence of board interlocks, and board meeting attendance. These variables

capture the extent to which governance serves as an internal mechanism for monitoring managers (Hermalin and Weisbach 2003). The second group consists of the shareholder rights (or anti-takeover provisions) embedded in the corporate charter, identified by Gompers et al. (2003). Lower rights discipline managers by exposing them to the external market for corporate control. To be consistent with that paper, all governance variables are defined so that smaller values capture "better" governance.

Board Characteristics

Larger boards are considered ineffective because communication, coordination, and decision-making problems are greater (Yermack 1996). Our proxy for board size is the log of the number of directors (*LNDIR*). The combination of the CEO and chairperson positions is considered ineffective governance because it reduces the possibility that the board will objectively monitor management. We code an indicator variable (*CEO*) as 1 if the positions are combined, and 0 otherwise. Independent directors are considered more effective monitors of management because their careers are not dependent on the goodwill of management (Rosenstein and Wyatt 1990; Byrd and Hickman 1992). To proxy for ineffective governance, we calculate the percentage of directors that are not independent (*PNID*). Interlocked directors (directors who serve on each others' boards) are considered indicative of "weaker" governance, because such directors have reciprocating relationships that create incentives to vote in ways that benefit their counterparts and, hence, themselves (Hallock 1997). We code an indicator variable (*DLOCK*) as 1 if there are any interlocks on the board of directors, and 0 otherwise. Finally, attendance at board meetings is considered an indication of a director's effort in monitoring management. We include an indicator variable for bad attendance (*DBAD*) coded as 1 if any director misses 75 percent or more of board meetings, and 0 otherwise.[4]

We combine these five variables into an index of board of director characteristics to serve as a parsimonious measure of board quality. Bivariate correlations and factor analyses strongly suggest that these five characteristics are independently determined.

Thus, we create a formative index similar to that of Gompers et al. (2003).[5] The index (*DINDX*) is computed as the sum of the three indicator variables, *CEO*, *DLOCK*, and *DBAD*, and indicators for whether the firm has a high level of *LNDIR* and *PNID*. To form these indicators, we split the distribution of *LNDIR* and *PNID* into high and low groups using k-means cluster analysis. This approach allows for uneven clusters and is better suited to find breakpoints in the distribution than a median split, which often divides the distribution in the center of its mass, leaving observations in each group that are very similar.[6] Thus, *DINDX* ranges from 0 to 5, with 0 (5) representing boards with the best (weakest) combination of governance mechanisms.

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[4] There are two other board characteristics that we considered, but do not use due to data limitations: the mean number of other boards that directors serve on and the amount of ownership by officers and directors in the company. Both variables are missing prior to 1997, and service on other boards is reported for fewer than half of the observations after 1997. A second problem with ownership is that large values will be mechanically related to the percentage of institutional ownership, and small values are often missing because director ownership does not have to be reported if it is less than 1 percent. We do use director ownership as a control variable, as discussed later.

[5] Like the *GINDX* of Gompers et al. (2003), our *DINDX* does not reflect the relative impact of each component. It is, however, transparent, and it captures independent components in a parsimonious manner.

[6] This analysis starts with a low and high observation and classifies each subsequent observation into the high or low group based on the lower Euclidian distance between the observation and the two cluster means. Cluster means are recomputed after each new observation is classified and the procedure iterates until all observations are clustered. We were unable to split *LNDIR* for 2004 and, therefore, used the cut point for 2003.

Panel A of Table 1 presents descriptive statistics on *DINDX* and its component variables. Over 11 percent of firm-years have a *DINDX* score of 0, representing the best governance mechanisms, and over 35 percent have a score of 1. Thus, over 45 percent of the sample has boards characterized by "better" governance mechanisms. Only 3.4 percent of the firm-years have "weaker" governance on at least four of the five dimensions. Except for *LNDIR* at the highest level of *DINDX*, the mean values of each of the five components of the index increase monotonically in the *DINDX* score.

Panel B shows the time-series change in *DINDX*. The percentage of firms with the best board characteristics increased dramatically over time, from 6 percent in 1995 to 19 percent in 2004. Most of this movement stems from firms with a *DINDX* score of 3. Thus, firms with relatively "weaker" governance mechanisms have shown dramatic changes in governance mechanisms since 2001.

Shareholder Rights

We proxy for shareholder rights using the governance index (*GINDX*) constructed by Gompers et al. (2003), which is the sum of 24 individual corporate charter components and state laws relating primarily to takeover protections, voting rules, and liability limitations. Gompers et al. (2003) divides *GINDX* into five major subcomponents. *DELAY* is the sum of four provisions designed to slow down hostile bidders. *VOTING* is the sum of six provisions related to shareholder rights in elections or charter amendment votes. *PROTECT* is the sum of six provisions that protect officers and directors from firm-related liability and provide termination-related compensation. *OTHER* is the sum of six firm-level provisions relating to greenmail, directors' duties, fair price, pension parachutes, poison pills, and silver parachutes. These generally represent mechanisms to make takeovers more costly to potential bidders. *STATE* captures whether the firm is incorporated in states with specific anti-takeover laws and, if so, whether the firm chooses to opt out of the law.

Panel A of Table 1 presents descriptive statistics on *GINDX* and its component variables. For parsimony in presentation, we divide *GINDX* into six groups in the table (in the analyses, we use the continuous measure). The distribution of *GINDX* is more symmetric than that of *DINDX*, with most firms clustered in the middle and fewer firms at the tails. The mean component scores tend to increase monotonically in the level of *GINDX*, indicating that this is also a formative index with small intra-item correlations. Panel B shows that, unlike *DINDX*, there has been no secular trend toward "better" *GINDX* scores. In fact, firms with low *GINDX* scores have moved toward the middle range in the latter part of our sample.

Correlations

Panel C of Table 1 presents correlations among *DINDX*, *GINDX*, and all of their components. Note that the correlation between *DINDX* and *GINDX* is only 0.119, suggesting that these two forms of governance mechanisms operate independently. Among the components of *DINDX*, the highest bivariate correlation is between the number of directors (*LNDIR*) and bad attendance (*DBAD*), but is only 0.154. Among the components of *GINDX*, there are moderately high bivariate correlations (~0.35) among *DELAY*, *OTHER*, and *PROTECT*, but no other correlation greater than 0.13. *DINDX* exhibits only small correlations (less than 0.15) with the components of *GINDX*, whereas *GINDX* is moderately correlated with the number of directors (positive) and the percent of non-independent directors (negative). Thus, big boards with many independent directors exhibit a slight tendency toward lower shareholder rights, especially in the *PROTECT* and *OTHER* category.

Descriptive Statistics

Table 2 presents descriptive statistics for the variables used in our analyses. The mean institutional ownership in the sample firms is 60.5 percent. Two-year changes in institutional

TABLE 1

Descriptive Statistics for Corporate Governance Mechanisms

Panel A: Mean Values of Governance Variables for Each Level of Governance Index

	DINDX Scores							*GINDX* Scores					
Variable	**0**	**1**	**2**	**3**	**4**	**5**	**Variable**	**2–4**	**5–7**	**8–10**	**11–13**	**14–16**	**17–19**
CEO	0.00	0.60	0.83	0.87	0.93	1.00	*DELAY*	0.70	1.39	2.39	3.03	3.45	4.00
LNDIR	2.00	2.09	2.29	2.43	2.50	2.46	*VOTING*	1.57	1.88	2.12	2.46	3.07	3.92
PNID	0.29	0.33	0.38	0.45	0.55	0.63	*PROTECT*	0.63	1.44	2.12	2.97	3.80	3.69
DLOCK	0.00	0.01	0.06	0.27	0.62	1.00	*OTHER*	0.12	0.36	0.91	1.60	2.24	1.85
DBAD	0.00	0.04	0.15	0.52	0.75	1.00	*STATE*	0.77	1.27	1.70	2.09	2.58	5.69
Total	1827	5706	5618	2200	489	52	Total	286	1985	3344	2166	425	13

Panel B: Time-Series Movements in Governance Index Scores

DINDX	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	*GINDX*	**1995–1996**	**1997–1998**	**1999–2000**	**2001–2002**	**2003–2004**
0	84	132	137	175	166	203	186	207	253	284	2–4	49	88	54	50	45
	6%	8%	8%	10%	10%	11%	13%	14%	17%	19%		4%	5%	3%	3%	3%
1	376	473	572	565	600	671	550	597	628	674	5–7	307	481	429	384	384
	28%	30%	32%	31%	34%	37%	38%	41%	42%	46%		22%	28%	26%	23%	22%
2	522	595	647	680	618	607	501	514	490	444	8–10	517	622	671	726	808
	39%	38%	37%	38%	35%	34%	35%	35%	33%	30%		38%	36%	40%	43%	46%
3	266	295	324	297	291	258	180	137	102	50	11–13	420	440	438	423	445
	20%	19%	18%	16%	17%	14%	12%	9%	7%	3%		30%	26%	26%	25%	25%
4	78	79	78	81	60	50	31	17	9	6	14–16	86	83	85	90	81
	6%	5%	4%	4%	3%	3%	2%	1%	1%	0%		6%	5%	5%	5%	5%
5	6	8	9	10	8	4	1	1	3	2	17–19	1	2	2	4	4
	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%
Total	1332	1582	1767	1808	1743	1793	1449	1473	1485	1460	Total	1380	1716	1679	1677	1767

(continued on next page)

TABLE 1 (continued)

Panel C: Pearson (Upper Diagonal) and Spearman (Lower) Correlations among Governance Indices and Governance Variables

	DINDX	*CEO*	*LNDIR*	*PNID*	*DLOCK*	*DBAD*	*GINDX*	*DELAY*	*VOTING*	*PROTECT*	*OTHER*	*STATE*
DINDX	1.000	0.477	0.577	0.394	0.422	0.483	0.119	0.040	0.012	0.129	0.071	0.057
CEO	0.483	1.000	0.057	−0.089	0.014	0.008	0.125	0.081	−0.030	0.123	0.096	0.022
LNDIR	0.595	0.057	1.000	−0.101	0.110	0.154	0.241	0.103	0.010	0.239	0.189	0.095
PNID	0.381	−0.089	−0.101	1.000	0.122	0.016	−0.188	−0.117	0.050	−0.169	−0.191	−0.045
DLOCK	0.373	0.014	0.110	0.122	1.000	0.059	0.035	0.003	−0.006	0.031	0.029	0.030
DBAD	0.454	0.008	0.154	0.016	0.059	1.000	0.015	−0.008	0.004	0.029	0.005	0.024
GINDX	0.129	0.126	0.248	−0.192	0.033	0.019	1.000	0.614	0.404	0.609	0.642	0.342
DELAY	0.048	0.083	0.107	−0.117	0.005	−0.008	0.618	1.000	0.278	0.083	0.333	−0.122
VOTING	−0.001	−0.031	0.004	0.042	−0.011	−0.002	0.381	0.283	1.000	−0.042	0.119	−0.023
PROTECT	0.143	0.132	0.248	−0.170	0.033	0.029	0.598	0.081	−0.053	1.000	0.325	0.084
OTHER	0.068	0.096	0.183	−0.202	0.030	0.007	0.651	0.345	0.128	0.338	1.000	0.061
STATE	0.083	0.029	0.115	−0.049	0.035	0.037	0.311	−0.121	−0.019	0.083	0.048	1.000

This table presents descriptive statistics for the governance indices and their components. Panel A presents mean values of the components for each level of the respective index. Panel B presents time-series movements in the levels of the governance indices for the period 1995–2004. Panel C presents correlations among the governance indices and all of their components. Correlations greater than 0.024 in absolute value are significantly different from 0 at the 0.01 level.

Variable Definitions:

DINDX = an index of board of director characteristics and is calculated as the sum of the three indicator variables for whether the CEO is also the chairperson (*CEO*), whether there are one or more director interlocks (*DLOCK*), and whether one or more directors miss 75 percent or more of board meetings (*DBAD*), and indicators for whether the firm has a large board size (*LNDIR*) and a large number of non-independent directors (*PNID*);

GINDX = an index of shareholder rights and is calculated as the sum of 24 individual corporate charter components. The 24 individual charter components are aggregated into five subgroups:

DELAY = the sum of four provisions designed to slow down hostile bidders;

VOTING = the sum of six provisions related to shareholder rights in elections or charter amendment votes;

PROTECT = the sum of six provisions that protect officers and directors from firm-related liability and provide termination-related compensation;

OTHER = the sum of six provisions related to greenmail, directors' duties, fair price, pension parachutes, poison pill, and silver parachutes; and

STATE = whether the firm is incorporated in states with specific anti-takeover laws and, if so, whether the firm chooses to opt out of the laws.

TABLE 2

Descriptive Statistics for Variables Used in Analyses

Variable	Mean	Std. Dev.	Q1	Median	Q3
IH_TOTAL	0.605	0.198	0.472	0.628	0.757
CIH_TOTAL	0.049	0.104	−0.003	0.039	0.089
DINDX	0.353	0.203	0.200	0.400	0.400
CDINDX	−0.028	0.177	−0.200	0.000	0.000
GINDX	0.486	0.139	0.368	0.474	0.579
CGINDX	0.015	0.049	0.000	0.000	0.053
ODOWN	0.100	0.142	0.015	0.041	0.120
CODOWN	−0.010	0.062	−0.013	−0.001	0.005
LMV	7.443	1.465	6.384	7.251	8.364
CLMV	0.119	0.603	−0.210	0.122	0.461
LEV	0.249	0.188	0.081	0.244	0.374
CLEV	0.011	0.101	−0.038	0.000	0.052
EP	0.049	0.071	0.032	0.059	0.082
CEP	−0.009	0.086	−0.026	−0.002	0.021
BP	0.542	0.350	0.289	0.485	0.721
CBP	0.042	0.275	−0.089	0.014	0.149
DP	0.012	0.017	0.000	0.004	0.019
CDP	−0.001	0.010	−0.002	0.000	0.001
SGR	0.240	0.383	0.053	0.143	0.294
CSGR	−0.064	0.383	−0.179	−0.029	0.090
MRET	0.194	0.561	−0.125	0.095	0.386
CMRET	−0.015	0.753	−0.425	−0.040	0.412
IRISK	−3.682	0.444	−3.997	−3.697	−3.373
CIRISK	0.016	0.383	−0.267	0.015	0.290
BETA	1.041	0.546	0.665	0.941	1.307
CBETA	0.048	0.450	−0.228	0.041	0.334
TURN	0.158	0.144	0.066	0.106	0.193
CTURN	0.012	0.076	−0.010	0.010	0.035
SP500	0.281	0.450	0.000	0.000	1.000
CSP500	0.031	0.211	0.000	0.000	0.000
RATE	4.369	2.490	1.000	5.000	6.000
CRATE	0.230	1.274	0.000	0.000	0.000
ROE	0.170	0.276	0.100	0.163	0.239
CROE	−0.030	0.247	−0.094	−0.012	0.045
LTIME	2.660	1.077	2.092	2.779	3.437
CSHRS	0.631	1.344	0.009	0.152	0.963
MDAGE	4.067	0.076	4.027	4.078	4.116
MNA	0.623	0.839	0.000	0.000	1.000
CEOTURN	0.181	0.392	0.000	0.000	0.000

This table presents descriptive statistics for all variables used in the empirical analyses. Variables with the prefix "C" represent two-year changes.

Variable Definitions:

IH_TOTAL = percentage of shares outstanding held by all institutional investors;

DINDX = an index of board of director characteristics and is calculated as the sum of the three indicator variables for whether the CEO is also the chairperson (*CEO*), whether there are one or more director interlocks (*DLOCK*), and whether one or more directors miss 75 percent or more of board meetings (*DBAD*), and indicators for whether the firm has a large board size (*LNDIR*) and a large number of non-independent directors (*PNID*);

(continued on next page)

TABLE 2 (continued)

GINDX = an index of shareholder rights and is calculated as the sum of 24 individual corporate charter components. Both *GINDX* and *DINDX* are divided by their maximum values, so they range between 0 and 1;
ODOWN = percentage of shares outstanding held by officers and directors;
LMV = natural log of the market value of equity (CS#24 × CS#25);
LEV = ratio of debt (CS#34 + CS#9) to total assets (CS#6);
EP = ratio of income before extraordinary items (CS#18) to the market value of equity (CS#24 × CS#25);
BP = ratio of the book value of equity (CS#60) to the market value of equity (CS#24 × CS#25);
DP = ratio of dividends (CS#21) to the market value of equity (CS#24 × CS#25);
SGR = percentage change in sales (CS#12);
MRET = market adjusted buy-and-hold stock return measured over a year's time;
IRISK = log of the standard deviations of the market-model residuals of daily stock returns measured over a year's time;
BETA = market model beta calculated from daily stock returns measured over a year's time;
TURN = the average monthly trading volume relative to total shares outstanding measured over a year's time;
SP500 = an indicator variable set to 1 if the firm is in the S&P 500 index, and 0 otherwise;
RATE = S&P stock rating (9 = A+,. . .,1 = not rated);
ROE = ratio of income before extraordinary items (CS#18) to the book value of equity (CS#60);
CSHRS = change in the shares outstanding;
MDAGE = mean director age;
MNA = an indicator for the number of mergers and acquisitions activities that occurred (AFTNT#1 populated with "AA," "AB," "AR," and "AS") during the period; and
CEOTURN = an indicator variable set to 1 if there is a turnover in the CEO position during the two year window, and 0 otherwise.

ownership (4.9 percent) over the 1998–2004 period have been positive, on average, consistent with the long-term trend in increasing institutional ownership. The mean and median values for *DINDX* and *GINDX* differ from those reported in Table 1 because we divide each index by the maximum value. This transformation causes the variable to range between 0 and 1, which aids in the interpretation of the coefficients. Mean changes in the two governance indices (*CDINDX* and *CGINDX*) are small and the median changes are 0. These small, relatively infrequent changes in governance indices reduce the power of our changes analyses.

TOTAL INSTITUTIONAL OWNERSHIP AND CORPORATE GOVERNANCE

We first examine the relation between total institutional investor ownership and governance mechanisms by regressing the percentage of total institutional ownership in a firm on a governance measure—*DINDX* or *GINDX*—and a set of control variables that capture previously documented determinants of institutional ownership (Bushee 2001; Gompers and Metrick 2001). Prior research finds that, on average, institutions prefer large, liquid stocks that can be justified as prudent investments. We control for size with the log of the market value of equity (*LMV*). We also proxy for the prudence of the investment by including the S&P 500 stock rating (*RATE*) and an indicator variable for whether a firm is listed in the S&P 500 Index (*SP500*). We use turnover (*TURN*), calculated as the average monthly trading volume over the year divided by shares outstanding, to control for liquidity preferences of institutions.

To control for institutions' preferences for good recent performance, we include annual market adjusted returns (*MRET*). We also include the following fundamental growth and income ratios, upon which institutional investors base their trading decisions: the earnings-to-price ratio (*EP*), the book-to-price ratio (*BP*), the dividend-to-price ratio (*DP*), sales growth (*SGR*), and the return on equity (*ROE*). To proxy for risk, we include beta (*BETA*), calculated from a market model using daily returns, idiosyncratic risk (*IRISK*), calculated as the standard deviation of the market model residuals, and leverage (*LEV*), calculated as the debt-to-asset ratio. As an additional control variable, we include the percentage of officer and director ownership (*ODOWN*). Ideally, we would include director ownership as an indicator of the effectiveness of corporate governance. Because of

the mechanical (negative) relation between institutional holdings and ownership, we include it as a control variable instead.

We estimate the following regression for the period 1998 to 2004 using Rogers (1993) robust standard errors:

$$IH\_TOTAL_{it} = \alpha + \beta_1 GOV_{it} + \beta_2 LMV_{it} + \beta_3 RATE_{it} + \beta_4 SP500_{it} + \beta_5 TURN_{it} + \beta_6 MRET_{it} + \beta_7 EP_{it} + \beta_8 BP_{it} + \beta_9 DP_{it} + \beta_{10} SGR_{it} + \beta_{11} ROE_{it} + \beta_{12} BETA_{it} + \beta_{13} IRISK_{it} + \beta_{14} LEV_{it} + \beta_{15} ODOWN_{it} + \sum_{k=0}^{4} \beta_{16+k} DYEAR_{it} + \varepsilon_{jt},$$

where *IH_TOTAL* = percent of institutional ownership by all institutions; *GOV* = *GINDX* or *DINDX*; and *DYEAR* = year indicator.[7] Recall that lower *DINDX* and *GINDX* scores represent "better" governance; a negative β_1 coefficient indicates preferences for "better" governance.

Table 3 presents the results for these regressions. We find that the total level of institutional ownership is negatively related to *DINDX* (with a two-tailed p-value of 0.062), but not significantly related to *GINDX*.[8] In terms of economic magnitude, a one-standard-deviation decrease in *DINDX* is associated with a 0.6 percent increase in total institutional ownership. Thus, on average, firms with "better" governance in terms of board characteristics tend to have higher levels of total institutional ownership, but the effect is not large in either statistical or economic magnitude.[9]

Our analysis suggests weak governance sensitivity by institutional investors as a group. We, therefore, identify those institutions for which "better" corporate governance complements their investment decisions to provide greater insight into the characteristics of these institutions and their governance preferences. This analysis provides insight into the importance of corporate governance to particular institutional investors.

CLASSIFYING INSTITUTIONAL INVESTORS BASED ON REVEALED PREFERENCES FOR GOVERNANCE

Classification

In this section, we identify individual institutional investors that are governance-sensitive. We classify institutional investors as "governance-sensitive" if they significantly tilt their portfolio weights toward firms with "better" corporate governance, as measured by board characteristics (*DINDX*) and shareholder rights (*GINDX*). Governance sensitivity is likely to be a second-order effect in choosing of portfolio weights based on the strong evidence that factors such as size, performance, risk, and liquidity are first-order determinants of institutional investment (Bushee 2001; Gompers and Metrick 2001). Because these determinants could be correlated with governance characteristics, we control for them to determine whether governance mechanisms have an incremental impact on an institution's investment decisions. We estimate the following Tobit regression annually for each institutional investor, and base our classification on the sign and significance of the coefficient on the governance proxy:

[7] *GINDX* and *DINDX* are included separately so that we may investigate future changes in these variables.

[8] We also estimate annual regressions. The coefficient on *DINDX* is negative every year and significant at the 0.10 level only in 1999 and 2000. The coefficient on *GINDX* is negative five out of the seven years and not significant in any of the years.

[9] We also test whether changes in total institutional ownership are associated with changes in governance indices. Results for these tests are consistent for those of the levels tests—we find only limited evidence of contemporaneous changes in total institutional ownership and changes in governance indices.

TABLE 3

Level of Total Institutional Ownership and Level of Corporate Governance

	IH_TOTAL	
Intercept	0.433***	0.436***
DINDX	−0.031*	
GINDX		−0.001
LMV	−0.002	−0.003
RATE	−0.009***	−0.010***
SP500	0.030***	0.030***
TURN	0.219***	0.222***
MRET	−0.011**	−0.011***
EP	0.227***	0.222***
BP	−0.013	−0.016
DP	−3.811***	−3.838***
SGR	−0.019**	−0.019**
ROE	0.042***	0.041***
BETA	−0.004	−0.004
IRISK	−0.057***	−0.057***
LEV	0.085***	0.082***
ODOWN	−0.438***	−0.443***
Adj. R^2	0.328	0.327
n	8992	8992

*, **, *** Signify difference from 0 at the 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed test). This table presents results of OLS regressions of total institutional ownership on the governance indices for the period 1998–2004. Regressions are estimated using Rogers (1993) robust standard errors to control for firm-specific dependence. Included in regressions, but not tabulated, are year dummies. Definitions of control variables are provided in Table 2.

Variable Definitions:
IH_TOTAL = the percentage of shares outstanding held by all institutional investors;
DINDX = an index of board of director characteristics and is calculated as the sum of the three indicator variables *CEO*, *DLOCK*, and *DBAD*, and indicators for whether the firm has a high level of *LNDIR* and *PNID*;
GINDX = an index of shareholder rights and is calculated as the sum of 24 individual corporate charter components and state laws relating primarily to takeover protections, voting rules, and liability limitations.

$$PWGT_{ijt} = \alpha_{jt} + \gamma_{jt}GOV_{ijt} + \beta_{1jt}LMV_{ijt} + \beta_{2jt}RATE_{ijt} + \beta_{3jt}SP500_{ijt} + \beta_{4jt}LTIME_{ijt} + \beta_{5jt}TURN_{ijt} + \beta_{6jt}MRET_{ijt} + \beta_{7jt}EP_{ijt} + \beta_{8jt}BP_{ijt} + \beta_{9jt}DP_{ijt} + \beta_{10jt}SGR_{ijt} + \beta_{11jt}ROE_{ijt} + \beta_{12jt}BETA_{ijt} + \beta_{13jt}IRISK_{ijt} + \beta_{14jt}LEV_{ijt} + \varepsilon_{jt}$$

where *PWGT* = institution *j*'s portfolio weight in firm *i* at time *t*; and *GOV* = *DINDX* or *GINDX*.[10]

We estimate each institution-specific regression on the entire panel of firms for which we have data for governance and control variables. The portfolio weight (*PWGT*) is the percentage of the institution's total equity portfolio that is invested in a firm. If an institution has no investment in a sample firm, the portfolio weight equals zero. Because few institutions engage in short-selling,

[10] We do not include *ODOWN* in this regression because it is missing in 1995 and 1996. When we estimate this regression after 1996, both including and excluding *ODOWN*, we find very similar proportions of firms with significant coefficients on the governance variables.

these zero weights represent a truncated distribution and a Tobit model is the appropriate specification. In cases where an institution owns only a small number of the sample firms, the Tobit model will not converge and we are unable to classify the institution.

We estimate the model for each year from 1995–1997, and label an institutional investor as "governance-sensitive" if the γ_{jt} coefficient is *negative* and significant at the 0.10 level (one-tailed) in *at least* two of the three years. We label these institutions as *GSID* (*GSIG*) if they are sensitive to *DINDX* (*GINDX*). If the γ_{jt} coefficient is insignificant and/or positive in each year during 1995–1997, we classify the institution as "governance-insensitive" (*GIND* and *GING* for insensitivity to *DINDX* and *GINDX*, respectively). For institutions with only one year of data during 1995–1997 or with multiple years of data, but only one negative and significant γ_{jt} coefficient, we do not attempt to classify the institution because of the uncertainty over its governance preferences. We perform the classification on the 1995–1997 period to allow for a holdout sample to test out-of-sample validity. In addition, this period arguably provides a more powerful setting to assess governance preferences because there were no major scandals or changes in regulation that could have induced a stronger focus on governance.

Panel A of Table 4 presents the number of institutions classified into these three groups. No more than 11 percent of institutional investors during the 1995–1997 period explicitly tilt their portfolio weights based on "better" governance mechanisms: 11 percent are sensitive to board of director characteristics (*DINDX*) and 9 percent are sensitive to shareholder rights (*GINDX*).[11,12] Thus, only a small percentage of institutions consistently incorporate firms' governance characteristics in their portfolio weights. Moreover, only 23 institutions are classified as governance-sensitive to both shareholder rights and board characteristics, suggesting that even if institutions choose to tilt their portfolio toward governance characteristics, they generally focus on only one aspect of governance.

Because only 11 percent of institutions significantly tilt their portfolio weights toward *DINDX*, the results from the total institutional ownership regressions presented in Table 3 suggest that either these institutions tend to take significant ownership stakes or that enough institutions slightly tilt toward governance characteristics (i.e., have a negative, but insignificant, γ_{jt} coefficient in the classification regression) to produce an overall effect on percentage ownership. Alternatively, this result could be driven by institutions that are classified as insensitive to governance during 1995–1997 becoming more sensitive to governance in the holdout sample. To investigate this latter possibility, we estimate a three-year rolling classification over the full sample period. As presented in Panel B, the number of institutions classified as sensitive to *DINDX* is fairly constant in the sample period. The relatively constant percentages of institutions sensitive to *DINDX* may be driven by the secular improvement in *DINDX*, which may have reduced the incentives for institutions to tilt their portfolios toward "better" board characteristics. In contrast, there is a secular increase in the number of institutions sensitive to *GINDX* over the sample period: from 9 percent in 1997 up to 20 percent in 2002 and 2003. As the distribution of *GINDX* was relatively constant over the sample period, the increased focus on governance after Enron and Sarbanes-Oxley possibly provided an incentive for more institutions to tilt their portfolios toward firms with "better" shareholder rights.[13]

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[11] We find similar results when we compare the percentage of total market capitalization of all institutions in each category: 11 percent are sensitive to board of director characteristics (*DINDX*) and 9 percent are sensitive to shareholder rights (*GINDX*).

[12] One potential concern about our classification method arises from the fact that approximately 10 percent of institutions are sensitive to *DINDX* or *GINDX*, and our statistical cutoff for sensitivity is 10 percent. Note, however, that we require that the coefficient on governance be negative and significant for at least two out of three years and that we find persistence in governance sensitivity during the holdout period, thereby reducing the possibility that governance-sensitive classification is driven by random sampling variability.

[13] We also estimated all of our analyses using this alternative classification method and found similar results.

TABLE 4

Revealed Preferences for Corporate Governance

Panel A: Number of Institutions Classified as Governance-Sensitive Based on 1995–1997 Coefficients

	Frequency	Percent		Frequency	Percent
Sensitive to *DINDX* (*GSID*)	149	11%	Sensitive to *GINDX* (*GSIG*)	122	9%
Insensitive to *DINDX* (*GIND*)	809	62%	Insensitive to *GINDX* (*GING*)	853	65%
Not classified (NC)	354	27%	Not classified (NC)	334	26%
Total	1312	100%	Total	1309	100%

Panel B: Time-Series of the Percentage of Institutions Classified as Governance-Sensitive

	1997	1998	1999	2000	2001	2002	2003	2004
Sensitive to *DINDX* (*GSID*)	11%	13%	14%	14%	11%	12%	9%	10%
Insensitive to *DINDX* (*GIND*)	62%	59%	55%	55%	58%	58%	61%	60%
Not classified (NC)	27%	27%	31%	31%	31%	30%	30%	30%
Sensitive to *GINDX* (*GSIG*)	9%	10%	10%	11%	13%	20%	20%	16%
Insensitive to *GINDX* (*GING*)	65%	66%	65%	62%	58%	53%	56%	60%
Not classified (NC)	26%	25%	25%	26%	28%	27%	24%	24%

Panel C: Percentage Ownership of Firm by Governance-Sensitive and -Insensitive Institutions

	Mean	Std. Dev.	Q1	Median	Q3
Ownership sensitive to *DINDX* (*IH_GSID*)	0.112	0.065	0.064	0.103	0.149
Change in ownership sensitive to *DINDX* (*CIH_GSID*)	0.009	0.049	−0.017	0.007	0.035
Ownership insensitive to *DINDX* (*IH_GIND*)	0.273	0.117	0.190	0.271	0.348
Ownership sensitive to *GINDX* (*IH_GSIG*)	0.188	0.084	0.130	0.182	0.239
Change in ownership sensitive to *DINDX* (*CIH_GSID*)	0.017	0.058	−0.017	0.015	0.049
Ownership insensitive to *GINDX* (*IH_GING*)	0.244	0.110	0.166	0.240	0.319

This table presents results of classifications of institutional investor sensitivity to governance mechanisms. Sensitivity is measured by regressing portfolio weights on governance indices and control variables. Regressions are estimated using the Tobit model to account for the truncation of portfolio weights at 0:

$$PWGT_{ijt} = \alpha_{jt} + \gamma_{jt}GOV_{ijt} + \beta_{1jt}LMV_{ijt} + \beta_{2jt}RATE_{ijt} + \beta_{3jt}SP500_{ijt} + \beta_{4jt}LTIME_{ijt} + \beta_{5jt}TURN_{ijt} + \beta_{6jt}MRET_{ijt} + \beta_{7jt}EP_{ijt} + \beta_{8jt}BP_{ijt} + \beta_{9jt}DP_{ijt} + \beta_{10jt}SGR_{ijt} + \beta_{11jt}ROE_{ijt} + \beta_{12jt}BETA_{ijt} + \beta_{13jt}IRISK_{ijt} + \beta_{14jt}LEV_{ijt} + \varepsilon_{jt}.$$

Institutions are classified as governance-sensitive based on the sign and significance of the coefficient on *GOV* over the three-year window for the period 1995–1997. *GOV* is either *DINDX*, the index of board of director characteristics, or *GINDX*, the index of shareholder rights. If the coefficient on *GOV* is negative and significant (at the 0.10 level, one-tailed) for two years during the window, with a minimum of two years of data required, then an institution is classified as either *GSID* or *GSIG* based on the governance index (*DINDX* or *GINDX*) used in the regression. If the coefficient on *GOV* is negative and significant (at the 0.10 level, one-tailed) for only one year during the window, then an institution is classified as NC and not included in further analyses. All other institutions with a minimum of two years of data are classified as *GIND* or *GING* based on the governance index (*DINDX* or *GINDX*) used in the regression. Panel A presents the number of institutions classified as governance-sensitive. Panel B presents rolling classifications of institutions based on their governance sensitivity. Panel C presents the descriptive statistics of the percent of shares outstanding held by governance-sensitive and -insensitive institutions. Ownership percentages are calculated over the period 1998–2004. Variables with the prefix "C" represent two-year changes.

(continued on next page)

TABLE 4 (continued)

Variable Definitions:
IH_GSID = the percentage of shares outstanding held by institutions that are sensitive to board characteristics;
IH_GIND = the percentage of shares outstanding held by institutions that are insensitive to board characteristics;
IH_GSIG = the percentage of shares outstanding held by institutions that are sensitive to shareholder rights; and
IH_GING = the percentage of shares outstanding held by institutions that are insensitive to shareholder rights.

Panel C presents firm-level institutional ownership classified by governance-sensitivity. Despite the fact that institutions sensitive to shareholder rights under our classification method comprise no more than 10 percent of institutions, their average holdings in the sample firms (*IH_GSIG*) are 19 percent, which is not far below the 24 percent average holdings of insensitive institutions (*IH_GING*). This is not surprising because shareholder rights are likely to be an important factor for institutions holding large stakes. In contrast, ownership levels for institutions that are sensitive to board characteristics (*IH_GSID*) are, on average, similar to the percentage of institutions classified as *GSID*.

Levels Analyses

Panel A of Table 5 presents results for institutions classified by their prior sensitivity to board characteristics and shareholder rights. We use a specification that is similar to the one used in the third section, "Total Institutional Ownership and Corporate Governance," but replace the dependent variable with the percentage ownership by institutions in the relevant governance classification (*IH_GSID*, *IH_GIND*, *IH_GSIG*, and *IH_GING*) and control for the total level of institutional ownership:

$$\begin{aligned} IH\_GOVSEN_{it} = {} & \alpha + \beta_1 GOV_{it} + \beta_2 IH\_OTHER_{it} + \beta_3 LMV_{it} + \beta_4 RATE_{it} + \beta_5 SP500_{it} \\ & + \beta_6 TURN_{it} + \beta_7 MRET_{it} + \beta_8 EP_{it} + \beta_9 BP_{it} + \beta_{10} DP_{it} + \beta_{11} SGR_{it} \\ & + \beta_{12} ROE_{it} + \beta_{13} BETA_{it} + \beta_{14} IRISK_{it} + \beta_{15} LEV_{it} + \beta_{16} ODOWN_{it} \\ & + \sum_{k=0}^{4} \beta_{17+k} DYEAR_{it} + \varepsilon_{jt}, \end{aligned}$$

where *IH_GOVSEN* = percent of institutional ownership held by the relevant class of institutions (*GSID*, *GIND*, *GSIG*, and *GING*); *IH_OTHER* = percent of institutional ownership by all institutions less the level of the ownership of the relevant governance-sensitive subgroup; and *GOV* = *GINDX* or *DINDX*.

Ownership by institutions classified as sensitive to board characteristics (*IH_GSID*) is significantly negatively associated with *DINDX*, whereas ownership by institutions insensitive to board characteristics (*IH_GIND*) is not significantly related to *DINDX*. Holding total institutional ownership constant, a one-standard-deviation decrease in *DINDX* is associated with a 0.4 percent increase in *IH_GSID*. This is two-thirds of the effect for the association between total institutional ownership and *DINDX* shown in Panel A, Table 3. When we classify based on sensitivity to shareholder rights, ownership by governance-sensitive (-insensitive) institutions is significantly negatively (positively) related to *GINDX*. Holding total institutional ownership constant, a one-standard-deviation decrease in *GINDX* is associated with a 0.3 percent increase in *IH_GSIG*.

These results confirm that our classification methodology has descriptive validity out-of-sample and with firm-level percentage ownership, rather than the institution-level portfolio weights, as the measure of institutional investment. In addition, the results show that the association between

TABLE 5

Governance-Sensitive Institutions and Corporate Governance

Panel A: Levels of Governance-Sensitive Institutional Ownership and Governance Indices

	IH_GSID	*IH_GIND*	*IH_GSIG*	*IH_GING*
Intercept	0.101***	0.169***	0.070***	0.292***
DINDX	−0.018***	0.001		
GINDX			−0.025**	0.054***
IH_OTHER	0.063***	−0.012	0.066***	−0.220***
LMV	0.001	−0.005*	0.005***	−0.006**
RATE	−0.001**	−0.004***	−0.003***	−0.005***
SP500	−0.004	0.007	0.028***	0.008
TURN	0.047***	0.081***	0.038***	0.132***
MRET	−0.007***	−0.004	−0.005***	−0.006*
EP	0.023	0.110***	0.037**	0.187***
BP	−0.015***	0.008	0.024***	−0.025***
DP	−0.507***	−2.480***	−0.764***	−2.765***
SGR	0.000	−0.009*	−0.011***	−0.004
ROE	0.000	0.029***	0.012**	0.021**
BETA	−0.002	−0.004	0.004	−0.011*
LEV	−0.002	−0.048***	−0.014***	−0.041***
IRISK	−0.001	0.063***	0.030***	0.041***
ODOWN	−0.102***	−0.198***	−0.122***	−0.276***
Adj. R^2	0.152	0.141	0.195	0.170
n	8992	8992	8992	8992

Panel B: Levels and Changes in Governance-Sensitive Institutional Ownership and Levels and Changes in Corporate Governance Indices

	CDINDX (1)	*CIH_GSID* (2)		*CGINDX* (3)	*CIH_GSIG* (4)
Intercept	−0.120	0.034***	Intercept	0.092***	0.062***
CIH_GSID	−0.093**		*CIH_GSIG*	−0.024**	
IH_GSID	−0.054	−0.291***	*IH_GSIG*	−0.050***	−0.279***
CDINDX		−0.007**	*CGINDX*		−0.036**
DINDX	−0.315***	−0.019***	*GINDX*	−0.080***	−0.009**
CIH_OTHER	−0.001	−0.073***	*CIH_OTHER*	0.012*	−0.154***
IH_OTHER	−0.005	0.027***	*IH_OTHER*	−0.003	0.041***
CLMV	0.008*	0.013***	*CLMV*	−0.002	0.010***
CBP	0.003	−0.001	*CBP*	−0.002	−0.009***
CMRET	0.002	−0.003***	*CMRET*	0.002***	−0.002*
CIRISK	−0.009	−0.009***	*CIRISK*	0.002	−0.012***
CSHRS	−0.001	−0.001	*CSHRS*	0.001	−0.002***
MDAGE	0.048*		*MDAGE*	−0.009	
MNA	−0.003		*MNA*	0.003***	
CEOTURN	−0.024***		*CEOTURN*	−0.002	
CLEV		−0.003	*CLEV*		0.002
CEP		0.028***	*CEP*		0.010

(continued on next page)

TABLE 5 (continued)

	CDINDX (1)	*CIH_GSID* (2)		*CGINDX* (3)	*CIH_GSIG* (4)
CDP		−0.009	*CDP*		−0.194***
CSGR		−0.003**	*CSGR*		0.000
CTURN		0.056***	*CTURN*		0.061***
CSP500		−0.004	*CSP500*		−0.002
CRATE		0.000	*CRATE*		0.000
CROE		−0.004*	*CROE*		−0.006*
CBETA		−0.002*	*CBETA*		0.000
CODOWN		−0.016*	*CODOWN*		−0.026**
Adj. R^2	0.150	0.216	Adj. R^2	0.113	0.233
n	7608	7608	N	6415	6415

*, **, *** Signify difference from 0 at the 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed test). This table presents results of regressions of governance-sensitive institutional ownership and governance indices. Panel A presents OLS regressions of governance-sensitive institutional ownership on governance indices and control variables for the period 1998–2004. Panel B presents OLS regressions of changes in governance indices and changes in governance-sensitive institutional ownership for the period 1999–2004. Regressions are estimated using Rogers (1993) robust standard errors to control for firm-specific dependence. Included in regressions, but not tabulated, are year dummies. Variables without prefixes are levels at the beginning of the change period. Variables with the prefix of "C" are concurrent two-year changes. Definitions of control variables are provided in Table 2.

Variable Definitions:
IH_GSID (*IH_GIND*) = the percentage of shares outstanding held by all institutions that are sensitive (insensitive) to *DINDX*;
IH_GSIG (*IH_GING*) = the percentage of shares outstanding held by all institutions that are sensitive (insensitive) to *GINDX*;
DINDX = an index of board of director characteristics and is calculated as the sum of the three indicator variables *CEO*, *DLOCK*, and *DBAD*, and indicators for whether the firm has a high level of *LNDIR* and *PNID*; and
GINDX = an index of shareholder rights and is calculated as the sum of 24 individual corporate charter components and state laws relating primarily to takeover protections, voting rules, and liability limitations.

total institutional ownership and *DINDX* in Panel A, Table 3, is primarily driven by the governance-sensitive institutions, and that conflicting preferences of institutions classified as *GSIG* and *GING* drive the insignificant coefficient on *GINDX* in Panel A of Table 3.

Changes Analyses

In this section, we expand on the model in the prior section to test whether levels of, and changes in, governance-sensitive ownership are associated with contemporaneous changes in, and prior levels of, governance mechanisms. We include both levels and changes to test whether the results in the prior section are driven by governance-sensitive institutions investing in firms with preferred governance mechanisms or by governance-sensitive institutions actively implementing preferred governance mechanisms. For example, a finding that the level of institutional ownership is associated with future changes in governance would be suggestive of institutional activism, while contemporaneous changes are suggestive of institutions "voting with their feet." Such a model introduces the possibility of an association in both directions; i.e., changes in institutional ownership both drive and respond to changes in governance.

We estimate the regressions over the period 1999 to 2004 using Rogers (1993) robust standard errors. Changes in institutional ownership, governance indices, and the control variables are all

measured as two-year changes. Levels of institutional ownership, governance indices, and the control variables are measured at the beginning of the change period. We add the change in shares outstanding (*CSHRS*) to control for any new equity issues or repurchase programs that could affect the change in institutional ownership. We also include an indicator for the number of mergers and acquisitions (*MNA*) and an indicator for CEO turnover (*CEOTURN*) to proxy for any major changes in the company management or its capital structure that could lead to changes in governance. We estimate the following regressions using OLS:

$$\begin{aligned} CGOV_{it} = {} & \alpha + \beta_1 CIH\_GOVSEN_{it} + \beta_2 IH\_GOVSEN_{it} + \beta_3 GOV_{it} + \beta_4 CIH\_OTHER_{it} \\ & + \beta_5 IH\_OTHER_{it} + \beta_6 CLMV_{it} + \beta_7 CBP_{it} + \beta_8 MRET_{it} + \beta_9 CIRISK_{it} \\ & + \beta_{10} CSHRS_{it} + \beta_{11} MDAGE_{it} + \beta_{12} MNA_{it} + \beta_{13} CEOTURN_{it} + \sum_{k=0}^{4} \beta_{14+k} DYEAR_{it} \\ & + \varepsilon_{it}, \end{aligned}$$

$$\begin{aligned} CIH\_GOVSEN_{it} = {} & \alpha + \beta_1 CGOV_{it} + \beta_2 GOV_{it} + \beta_3 IH\_GOVSEN_{it} + \beta_4 CIH\_OTHER_{it} \\ & + \beta_5 IH\_OTHER_{it} + \beta_6 CLMV_{it} + \beta_7 CBP_{it} + \beta_8 MRET_{it} + \beta_9 CIRISK_{it} \\ & + \beta_{10} CSHRS_{it} + \beta_{11} CLEV_{it} + \beta_{12} CEP_{it} + \beta_{13} CDP_{it} + \beta_{14} CSGR_{it} \\ & + \beta_{15} CTVOL_{it} + \beta_{16} CSP500_{it} + \beta_{17} CRATE_{it} + \beta_{18} CROE_{it} + \beta_{19} CBTA_{it} \\ & + \beta_{20} CODOWN_{it} + \sum_{k=0}^{4} \beta_{21+k} DYEAR_{it} + \varepsilon_{it}, \end{aligned}$$

where *GOV* = *DINDX* or *GINDX*; *IH_GOVSEN* = percent of institutional ownership by governance-sensitive institutions (*GSID* and *GSIG*); and *IH_OTHER* = percent of institutional ownership by all institutions less the level of the ownership of the relevant governance-sensitive subgroup. Variables with a prefix of "C" are two-year changes. All other variables are prior levels. We include prior levels of governance and institutional ownership variables to control for situations in which changes are constrained (e.g., firms with the best governance score cannot improve their governance) and to capture any changes in response to existing levels (e.g., institutions buying firms with existing "better" governance, but no concurrent changes in governance).

Panel B of Table 5 provides results for governance-sensitive institutions using OLS. In the first and third columns, the results show that both the level of and change in ownership by governance-sensitive institutions are significantly negatively associated with changes in governance mechanisms for both board characteristics and shareholder rights. Thus, changes in ownership by governance-sensitive institutions have a significant incremental effect on governance improvements beyond the prior ownership levels. Changes in ownership by other institutions exhibit no significant association with improvements in governance, consistent with the results for the level of ownership. In the second and fourth columns, the results show that changes in governance mechanisms are significantly associated with changes in ownership by governance-sensitive institutions for both board characteristics and shareholder rights. In addition, the change in *GSID* (*GSIG*) ownership is associated with the prior level of *DINDX* (*GINDX*), implying that governance-sensitive institutions accumulate holdings in firms with preferred governance mechanisms.[14]

We find significant evidence of a contemporaneous association between changes in ownership by governance-sensitive institutions and changes in other governance mechanisms. In addition, we find that governance-sensitive institutions accumulate holdings in firms with "better" governance.

[14] In unreported tests, we attempt to estimate the models 2SLS, but our findings generally lack significance, likely due to the inability to find suitable instruments.

Finally, we find evidence consistent with governance-sensitive institutions actively improving shareholder rights in their portfolio firms. However, as these tests document associations in contemporaneous changes, we are unable to determine causality.

CHARACTERISTICS OF GOVERNANCE-SENSITIVE INSTITUTIONS

In this section, we investigate the characteristics of governance-sensitive institutions. We first examine whether governance sensitivity is associated with an institution's legal type. Next, we compare the portfolio characteristics of governance-sensitive and -insensitive institutions. The analyses are exploratory in that they investigate which characteristics and effects are associated with governance sensitivity, as opposed to what determines governance sensitivity. The resulting stylized facts do, however, provide insight into the incentives that can lead an institution to be governance-sensitive.

Legal Type

We first classify institutional investors based on legal type, using the Spectrum database. The database identifies bank trusts (*BNK*), insurance companies (*INS*), investment companies, independent investment advisors, and other. Because investment companies and independent investment advisers are both governed by the Investment Company Act of 1940 and have similar low levels of fiduciary responsibility, we combine them to form a group called investment advisers (*IA*). In addition, we identify the pensions and endowments (*PNE*) as the corporate or private pensions, public pensions, and university and foundation endowments within the "other" group.[15] Note that these holdings only represent internally managed investments; any externally-managed investments will be recorded as holdings by investment advisers, which often serve as external managers for pension and endowments in addition to managing mutual funds.

Although all fund managers are legally considered fiduciaries, the strictness of the prudent person standard differs depending on the legal form of the institution. Because of state trust laws and the Employee Retirement Income Security Act (ERISA), bank trusts and pensions face a higher standard of prudence, including the requirement that each investment be analyzed individually, than standards faced by investment advisers and insurance companies (Del Guercio 1996). Failure to adhere to the standard of prudence can lead to investor lawsuits. Therefore, those institutional investors subject to more stringent fiduciary standards likely have greater preferences for "better" corporate governance mechanisms as a defense against investor lawsuits. We, therefore, predict that bank trusts and pensions and endowments are more likely to be sensitive to governance than insurance companies and investment advisors.[16]

Table 6 presents a cross-tabulation of our governance sensitivity classification with the classification by legal type. There is significant heterogeneity across types in terms of governance sensitivity. Although Chi-square tests show that the distribution of legal types among governance-sensitive institutions significantly differs from the distribution for all institutions, no one type is dominated by governance-sensitive institutions. As expected, a high percentage of governance-sensitive institutions within a legal type are found among bank trusts (*BNK*) and pensions and endowments (*PNE*), consistent with their fiduciary incentives to demonstrate prudence in selecting portfolio firms. Pensions and endowments exhibit an especially high percentage of institutions

[15] Among the "other" category, there are also law firms, individuals acting as institutions, and other miscellaneous institutions that are difficult to classify. We do not include these in any of our analyses.

[16] Bank trusts may be sensitive to pressure from portfolio firms because of other business relations, such as banking and lending services (Brickley et al. 1988). As a result, banks may be more likely to acquire firms with better governance and less likely to actively implement governance changes in portfolio firms.

TABLE 6

Legal Type and Governance Sensitivity

	GSID	*GIND*	NC	Total	*GSIG*	*GING*	NC	Total
BNK	31	94	51	176	19	120	37	176
	21.5%	12.2%	14.0%	13.9%	16.1%	14.9%	12.1%	13.9%
INS	10	42	16	68	9	46	13	68
	6.9%	5.6%	4.3%	5.4%	7.6%	5.9%	4.2%	5.4%
IA	95	615	261	971	76	624	269	969
	66.0%	77.8%	77.6%	76.4%	64.4%	74.5%	81.2%	76.4%
PNE	8	34	14	56	14	36	6	56
	5.6%	4.4%	4.1%	4.4%	11.9%	4.7%	2.5%	4.4%
Total	144	785	342	1271	118	826	325	1269
Prob. (χ^2)	0.024	0.660	0.835		0.000	0.753	0.037	

This table classifies governance-sensitive institutions by their legal type: bank trusts (*BNK*), insurance companies (*INS*), investment advisers (*IA*), and corporate pension funds, private pension funds, public pension funds, and university and foundation endowments (*PNE*). Chi-square tests examine whether the distribution of legal types among governance-sensitive institutions is significantly different from the distribution of legal types among all institutions.

sensitive to shareholder rights, which have been a traditional target of public pensions like CalPERS, while bank trusts show a high percentage of institutions sensitive to board characteristics.

Investment advisers (*IA*), which are largely exempt from fiduciary responsibility, show lower rates of governance sensitivity. Insurance companies (*INS*), which can face some fiduciary responsibility, show slightly higher governance sensitivity. For every type except pensions and endowments, a lower percentage of institutions are sensitive to shareholder rights than to board characteristics.

Despite the fact that pensions and endowments and bank trusts tend to have the highest percentage of governance-sensitive institutions, neither of these types has more than 25 percent of its institutions classified as governance-sensitive, indicating that the legal type classifications do not proxy for general governance sensitivity. Therefore, we next investigate portfolio characteristics of governance-sensitive and -insensitive institutions.[17]

Portfolio Characteristics

To measure the characteristics of the institution's portfolio, we use factor analysis to create seven composite measures: institution size, portfolio turnover, size of investment positions, market capitalization of the portfolio firms, prudence of investments, value versus growth preferences, and riskiness of portfolio firms. Bushee (2001) and Abarbanell, Bushee, and Raedy (2003) use these factors to combine a large number of variables that have been used in prior literature into a parsimonious set of factors that describe institutional investor portfolios. Table 7 provides definitions of all of the variables that comprise each factor.

The first three factors capture the institutional investors' decisions with respect to how they manage their portfolio (Bushee 2001). We measure the institution's size with a factor, *ISIZE*, which

[17] In additional analyses, we regress the levels of bank and pensions and endowment ownership on governance indices and control variables (similar to Table 5). In these tests, we find that the levels of bank and pension ownership are *positively* associated with the governance indices, providing further evidence that legal type is not a good proxy for governance sensitivity because it suggests preferences for "weaker" governance.

TABLE 7

Portfolio Characteristics and Governance Sensitivity

Panel A: Portfolio Characteristics of Institutions Classified by their Governance Sensitivity

	GSID	*GIND*	Difference	*GSIG*	*GING*	Difference
ISIZE	0.500	0.066	0.434***	0.774	0.052	0.722***
NSTK	5.444	4.816	0.628***	5.767	4.838	0.929***
TE	13.946	13.409	0.537***	14.554	13.384	1.170***
PTURN	−0.165	0.063	−0.228***	−0.242	0.056	−0.298***
PT1	0.434	0.462	−0.028	0.414	0.456	−0.042*
PT2	0.263	0.287	−0.024	0.239	0.279	−0.040*
STABPN	0.674	0.638	0.036	0.708	0.625	0.083***
STABPH	0.580	0.472	0.108***	0.605	0.472	0.133***
BLOCK	−0.130	0.028	−0.158*	0.036	−0.017	0.053
LBPH	0.054	0.072	−0.018	0.077	0.067	0.010
LBPN	0.022	0.028	−0.006	0.034	0.024	0.010
WAPH	0.010	0.014	−0.004*	0.016	0.013	0.003
FSIZE	0.660	0.189	0.471***	0.445	0.261	0.184*
WAMC	9.328	8.816	0.512***	9.136	8.894	0.242**
WASP	0.692	0.583	0.109***	0.642	0.600	0.042*
WATIME	8.684	8.553	0.131***	8.623	8.577	0.046
WAEPRC	4.240	4.091	0.149*	4.322	4.098	0.224***
PRUDENCE	0.385	0.089	0.296***	0.319	0.118	0.201**
WADUP	0.285	0.255	0.030***	0.288	0.252	0.036***
WAPED	0.947	0.932	0.015**	0.948	0.934	0.014*
WARATE	6.752	6.339	0.413***	6.649	6.392	0.257***
WADE	0.278	0.327	−0.049***	0.299	0.315	−0.016
VALUE	−0.960	−0.899	−0.061	−0.905	−0.913	0.008
WAEP	0.043	0.042	0.001	0.044	0.042	0.002
WADP	0.019	0.020	−0.001	0.020	0.020	0.000
WABP	0.299	0.333	−0.034***	0.317	0.329	−0.012
RISK	0.149	0.372	−0.223**	0.259	0.322	−0.063
WAEGR	0.240	0.270	−0.030**	0.249	0.265	−0.016
WASGR	0.181	0.200	−0.019*	0.184	0.196	−0.012
WABTA	1.016	1.024	−0.008	1.019	1.017	0.002
WASTD	0.075	0.082	−0.007***	0.078	0.080	−0.002

Panel B: Multivariate Comparisons of Portfolio Characteristics Based on Governance Sensitivity

	GSID	*GSIG*
ISIZE	0.062***	0.076***
PTURN	−0.018	−0.040***
BLOCK	−0.032	−0.011
FSIZE	0.003	−0.031*
PRUDENCE	0.008	0.039*
VALUE	−0.126***	0.026
RISK	−0.042	0.008
BNK	0.009	−0.031

(continued on next page)

TABLE 7 (continued)

	GSID	*GSIG*
PNE	0.010	0.083
Pseudo R^2	0.069	0.112
Prob. (χ^2)	0.001	0.001
n	836	864

*, **, *** Signify difference from 0 at the 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed test). This table examines the portfolio characteristics of governance-sensitive institutions. Panel A presents mean comparisons of institutions' portfolio characteristics based on their governance sensitivity. We create seven factors to measure institutional portfolio characteristics: *ISIZE*, *PTURN*, *BLOCK*, *FSIZE*, *PRUDENCE*, *VALUE*, and *RISK*. Panel A presents means for each of the factors and the individual measures that comprise each factor. Panel B presents marginal effects at sample means for multivariate comparisons of portfolio characteristics estimated using logistic regression. The dependent variables are indicators for whether the institution is classified as *GSID* or *GSIG*.

Variable Definitions:

ISIZE = the institution's size and is composed of the logarithm of the number of stocks in the portfolio (*NSTK*) and the market capitalization of the portfolio (*TE*);

PTURN = the duration that an institution holds an investment. The following items comprise *PTURN*: portfolio turnover in terms of market capitalization (*PT1*), portfolio turnover in terms of sales transactions (*PT2*), percent of number of firms held in portfolio for at least two years (*STAB1*), and percent of total holdings held for at least two years (*STAB2*);

BLOCK = the extent to which an institution is a blockholder. It consists of the percent of total holdings with at least a 5 percent stake (*LBPH*), the percent of portfolio firms in which it has at least a 5 percent stake (*LBPN*), and the average percent ownership in portfolio firms (*WAPH*);

FSIZE = the typical size of firms in the institution's portfolio. It consists of the following measures: the weighted-average market capitalization of portfolio firms (*WAMC*), the weighted-average of whether firms are members of the S&P 500 Index (*WASP*), the logarithm of the weighted-average number of months that portfolio firms have been publicly listed (*WATIME*), and the weighted-average price per share of portfolio firms (*WAEPRC*);

PRUDENCE = the extent to which the institution invests in prudent stocks as dictated by fiduciary responsibilities: the percent of firms in the portfolio with five consecutive years of earnings growth (*WADUP*), the weighted-average of a positive earnings indicator variable (*WAPED*), the weighted-average S&P stock rating (*WARATE*), and the weighted-average debt to equity ratio of portfolio firms (*WADE*);

VALUE = the extent to which the institution follows a value investing strategy: the weighted-average earnings to price ratio (*WAEP*), the weighted-average dividend to price ratio (*WADP*), and the weighted-average book to price ratio (*WABP*); and

RISK = the riskiness of portfolio firms: the weighted-average earnings growth (*WAEGR*), the weighted-average sales growth (*WASGR*), the weighted-average beta (*WABTA*), and the weighted-average standard deviation of stock returns (*WASTD*).

is a combination of the number of stocks in the portfolio and the market capitalization of the portfolio. Institutions that hold a large number of stocks in their portfolio may view investing in firms with "better" corporate governance mechanisms as a means to reduce monitoring costs. In contrast, large institutions could enjoy economies of scale in monitoring activities and better access to management that would reduce reliance on internal governance mechanisms. We use the portfolio turnover factor, *PTURN*, to measure the investment horizon of the institution. Institutions with short investment horizons are less exposed to potential governance failures and are likely to be less sensitive to governance mechanisms, whereas buy-and-hold institutions, especially those following an index strategy, have a longer-term exposure to governance failures. We create a blockholder factor, *BLOCK*, to measure the extent to which an institution holds large positions in portfolio firms. Holding large positions in portfolio firms makes it more costly to liquidate the positions rapidly and increases the potential cost of governance failures, which could lead to governance sensitivity.

The remaining four factors measure investment styles (i.e., preferences for certain firm characteristics) that are apparent in the institution's portfolio holdings (Abarbanell et al. 2003). The

factor *FSIZE* measures the typical market capitalization of firms in the institution's portfolio. Firm size preferences could be associated with governance sensitivity for two reasons. First, smaller firms have a higher incidence of fraud (Bushee and Leuz 2005). Second, larger firms have richer public information environments and greater external monitoring by analysts and the media. Thus, institutions following small-cap styles have incentives to tilt toward firms with "better" governance mechanisms. We use the factor *PRUDENCE* to measure the extent to which the institution invests in firms with characteristics that would support the *ex ante* prudence of the investment. As mentioned earlier, firms with the most stringent fiduciary responsibilities have incentives to invest in "better" governed firms to reduce the probability of holding a firm that experiences a governance failure. We measure preferences for "growth" or "value" firms with the *VALUE* factor. It is unclear whether growth or value firms would be more likely to experience governance failures; thus, we do not have a prediction for how this factor would affect governance sensitivity. Finally, the factor *RISK* captures the risk of portfolio firms. Institutions that invest in riskier firms may prefer "better" governance because high levels of risk may make it more costly for the institution to monitor the firm's activities.

Panel A of Table 7 compares the means of portfolio characteristics for governance-sensitive and -insensitive institutions. We measure portfolio characteristics as of fiscal year-end 1997. In general, governance-sensitive institutions are significantly larger, both in terms of market capitalization and the number of individual stocks that they hold in their portfolio. In addition, they tend to have longer investment horizons than governance-insensitive institutions. Institutions that are sensitive to board characteristics are less likely to hold block positions in portfolio firms and more likely to follow a growth investment strategy. Governance-sensitive institutions of both types tend to invest in larger firms and to invest in firms that meet prudence standards.

Panel B presents estimated marginal effects at sample means for logistic regressions in which the dependent variables are coded as 1 if an institution is classified as *GSID* (*GSIG*), and 0 if classified as *GIND* (*GING*). The independent variables are the seven factors that measure portfolio characteristics and indicator variables for whether an institution is either *BNK* or *PNE*:[18]

$$GOVSEN_i = \alpha + \beta_1 ISIZE_i + \beta_2 PTURN_i + \beta_3 BLOCK_i + \beta_4 FSIZE_i + \beta_5 PRUDENCE_i + \beta_6 VALUE_i + \beta_7 RISK_i + \beta_8 BNK_i + \beta_9 PNE_i + \varepsilon_i,$$

where $GOVSEN = 1$ (0) if the institution is classified as *GSID* (*GIND*) or *GSIG* (*GING*).

The p-values for both regressions are less than 0.01, indicating that the independent variables provide explanatory power. The multivariate results are similar to the univariate results presented in Panel A. The marginal effects for *ISIZE* are positive and significant for both *GSID* and *GSIG*, indicating that larger institutions are more likely to be sensitive to both governance mechanisms. For *GSID*, the marginal effect for *VALUE* is negative and significant, indicating that institutions that follow a growth investment strategy are more likely to be sensitive to board characteristics. Institutions that invest in growth stocks may prefer "better" governance because they believe that firms with higher growth opportunities require higher-quality internal oversight. For *GSIG*, *PTURN* and *FSIZE* are negative and significant, implying that institutions that hold their positions for longer periods and that invest in smaller firms are more likely to be sensitive to shareholder rights. Consistent with the univariate test, the marginal effect for *PRUDENCE* is positive and significant, implying that institutions that follow an investment strategy concordant with fiduciary duties are more likely to be sensitive to shareholder rights. In contrast with the results presented in Table 6, pensions and endowments are not more likely to be sensitive to shareholder rights. Finally, note that

[18] Results are qualitatively similar in terms of sign and significance if we combine institutions that are not classified with the *GIND* and *GING* institutions.

blockholder ownership by institutional investors is not significantly related to governance sensitivity for either governance mechanism, suggesting that block ownership serves as a substitute for governance mechanisms, rather than a complement.

Although prior research commonly uses legal type to proxy for governance sensitivity, we find that governance sensitivity is more associated with the characteristics of an institution's portfolio than its legal type. In general, larger institutions are more likely to tilt their portfolio toward firms with "better" governance, suggesting that governance mechanisms decrease monitoring costs. Other than large institutions, only institutions with preferences for growth firms tilt their portfolios with "better" board characteristics, implying that board governance is viewed by institutions as more essential for firms with a high level of growth opportunities. In contrast, institutions with long investment horizons and small-cap investment styles are more likely to tilt their portfolios toward firms with more shareholder rights, suggesting that governance allows these institutions to protect their investments.

CONCLUSION

We examine institutional investors' preferences for firm-level corporate governance mechanisms within the categories of board of director characteristics and shareholder rights. Specifically, we investigate three questions: (1) To what extent is corporate governance a determinant of institutions' investment and trading decisions? (2) To what extent do institutions actively implement preferred governance mechanisms in their portfolio firms, as opposed to simply investing in firms with preferred mechanisms? (3) Which types of institutions display preferences for corporate governance mechanisms?

Using data from 1995 to 1997, we find that approximately 10 percent of institutions are sensitive to each set of governance mechanisms; governance characteristics significantly affect their portfolio weighting decisions. We find strong evidence that changes in ownership by governance-sensitive institutions are associated with prior levels of, and contemporaneous changes in, governance mechanisms. Despite the evidence that governance-sensitive institutions prefer to invest in firms with existing preferred governance mechanisms, firms with a high level of institutional ownership sensitive to shareholder rights exhibit significant future improvements in shareholder rights, implying some activism by these institutions.

Finally, we investigate the characteristics of institutions that are governance-sensitive. Consistent with their fiduciary responsibilities, bank trusts and pensions and endowments tend to have the highest percentage of governance-sensitive institutions. But neither type has more than 25 percent of its institutions classified as governance-sensitive, indicating that the legal type classifications are poor proxies for general governance sensitivity. Therefore, we examine the association between governance sensitivity and a set of factors that describe the characteristics of institutions' portfolios. We find that large institutions and institutions holding a large number of portfolio stocks are more likely to be sensitive to corporate governance mechanisms, suggesting that they view governance mechanisms as means to decrease monitoring costs. In addition, institutions with preferences for growth firms tilt their portfolios toward firms with "better" board characteristics, implying that institutions view board governance as more essential for firms with higher growth opportunities. In contrast, institutions with long investment horizons and small-cap investment styles are more likely to tilt their portfolios toward firms with "better" shareholder rights, suggesting that governance allows these institutions to protect their investments. Interestingly, blockholder ownership by institutional investors is not significantly related to governance sensitivity, suggesting that block ownership serves as a substitute, rather than complement, for governance mechanisms.

Our findings have implications for investors and researchers. For investors, understanding institutional investors' preferences for governance mechanisms becomes increasingly important as regulators and legislators continue to consider increased shareholder access as a means to improving corporate governance (Davidoff 2009; Holtzer 2011). For researchers, our results suggest that common proxies for governance sensitivity by investors (e.g., legal type, blockholding) do not fully capture important aspects of the motivation for governance sensitivity and, as a result, may misclassify institutions with respect to their governance sensitivity.

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