Corporate Governance Systems and Firm Value: Empirical Evidence from Japan’s Natural Experiment

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ABSTRACT

This study uses panel data to explore economic efficiency of corporate governance systems by examining the effects of cross-sectional differences among Japanese firms selecting one of two legal systems. The paper presents evidence that the adoption by Japanese firms of a shareholder-oriented, more transparent, system of corporate governance creates greater corporate value in comparison to the traditional system of statutory auditors. The effect is not only significant, it is important in magnitude. This paper takes advantage of the unique opportunity afforded by Japan’s introduction of a dual system of corporate governance in 2003, when companies were offered a choice to adopt a new system of outside directors, which is a shareholder-oriented committee system. Data analysis shows a significant increase in firm valuation, as measured by Tobin’s q, for companies that adopted the committee system, even though comparative financial data show little difference. This finding is attributed to signal sending, as companies that adopted this system signal a choice toward transparency via monitoring by outsiders, suggesting a reduction of asymmetric agency costs.

Keywords: Corporate Governance, Japan, Committee System, Board of Directors

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1. INTRODUCTION

Recent economic turmoil has refocused examination of corporate governance systems. Seen by some observers as the standard of corporate governance, the US system of shareholder-oriented governance by board committees and independent directors has come under re-examination. Before September 2008, some streams of academic thought pictured a *de facto* convergence on the US governance model because, it is reasoned, economic efficiency will motivate governments seeking efficient systems to adopt legal structures to emulate US norms. In Japan, firms such as Sony and Hitachi sought to create Anglo-American firm-level governance institutions within the laws that then existed, (Nottage and Wolff 2005), and foreign shareholders exerted influence to revise corporate governance practices, (Simon and Deakin 2009). However, the question of whether different corporate governance systems result in demonstrably differential corporate value—so that the supposed efficiency gains that may drive convergence can be studied—is incompletely addressed. Now, with U.S. corporate governance practices being called into question for failures of incentives and monitoring inefficacies, examination of the purported efficiency gains from an Anglo-American corporate governance system seems beneficial.

Despite the abundant academic research on comparative corporate governance systems, where much attention is paid to the issue of convergence, the issue remains unresolved. (Jacoby 2002), argues that the dynamic economy and increasing assets values on financial markets during the 1990s—in contrast to Japan and Europe—drove firms to seek listings on US exchanges and consequently caused those firms to adopt US corporate practice. Other scholars take the position that economic efficiency drives corporate governance systems toward
convergence, (Hansmann and Kraakman 2001). Indeed, they propose that convergence towards the Anglo-American shareholder-oriented model has already occurred, to what Nottage and Wolff (2005) called a “shareholder-oriented model of corporate governance, involving extensive use of market-based control mechanisms to guide corporate activity and corporate law.” There is some evidence that at least a convergence of opinion on corporate governance principles, such as the necessity of transparent information systems (Khanna, Kogan et al. 2006), or the US market for corporate control (Jensen and Ruback 1983) has occurred.

In contrast, other scholars, for example, (Bebchuk and Roe 1999), (Schmidt and Spindler 2002), and (Gordon, Roe et al. 2004), argue that the path-dependent nature of corporate governance structures — via the presence of sunk costs, the logic of corporate governance, complimentarity, or institutional inertia — imply that any convergence will be gradual if not meet outright resistance. Moreover, comparative institutional analytic literature suggests path-dependence from the systems of corporate governance deriving from the underlying local organizational and industrial architecture (Aoki and Jackson 2008), or historical-economic context (Greif 2006). Gilson proposes that, even if governance practices should follow path-dependent trajectories and retain formal structures, there may be a convergence in functionality, given similar economic forces, (Gilson 2001).

Corporate governance plays an important role in efficient financial monitoring and thus shareholder protection, which affects firm valuation as measured by Tobin’s q (Wolfe and Sauaia 2003); (Morck, Shleifer et al. 1988); (Pacheco-de-Almeida, Hawk et al. 2008). Additional literature on the association of corporate systems with firm performance has made extensive use of q (Shleifer and Vishny 1997); (Denis and McConnell 2003).
The link between features of corporate governance and performance are well established, Brown and Caylor (2006) found a link between a firms value as measured by Tobin’s-q using the Institutional Shareholder Services database to score firms with seven dimensions of corporate governance and find valuation positively related to score, (Brown and Caylor 2006). Miyajima (2006), using similar methods, studied Japanese firm performance under varying corporate governance variations by assigning scores to normalize the firms’ policies to study firm performance. He found that Japanese firms with higher scores did have better performance as measured by return on assets and Tobin’s q. That paper found that increasing economic pressure from Japanese capital markets encouraged corporate managers to attempt corporate governance reform and found reform more likely the higher the percentage of foreign investors and a lower percentage of long-term, stable shareholders. Gompers et al, (2003), found that firms with fewer shareholder rights had lower valuations,(Gompers, Ishii et al. 2003). Black , et al, (2006) found that firms in Korea with a high proportion of outside directors have higher values, (Black, Jang et al. 2006).

Because it is very rare for countries to legislate two parallel systems, studies of intra-country corporate governance advantages have tended to rely on scoring assessments of governance practice. Cross-national studies, (Bebchuk and Cohen, 2005; Bebchuk et al., 2005; Cremers and Nair, 2005) have used the Investor Responsibility Research Center (IRRC) database to rate corporate governance by scores, and have found that better governance is associated to higher firm valuation measured by Tobin’s Q. Scores produce a single number against which firms can be compared and valuation assessed. On the other hand, Bebchuk and
Hamdani (2009) argue that scores may not accurately reflect the fit of a governance system in a national economic ecology. What may be a complimentary and advantageous governance system in an ecology may not be advantageous in a different ecology. In this sense, it does not necessarily follow that a governance practice in one economy can be transferred or even evaluated through the analytic lens of another, (Bebchuk and Hamdani 2009).

Resolution of the debate between convergence and path-dependence is incompletely resolved because it is difficult to adjudicate with only theoretical work and empirical examinations of single systems in an economic domain are inevitably confounded by local conditions as they change over time. Accordingly, an empirical study sufficient to establish convergence, beyond the analytic understanding of system changes, remains elusive. Cross-national comparisons are confounded by fundamental economic dynamics and rarely do when diverse corporate governance regimes are extant at the same time in a national system, they are focused on differing legal purposes, say partnership versus corporation, and thus the legal functional differences confound efficiency comparisons. A reasonable comparison for analysis requires that systems of corporate governance co-exist in an economic ecosystem so that comparative efficiencies and perhaps convergence itself can be observed.

Japan provided an opportunity to study this empirical conundrum in a law enacted in 2002 allowing two corporate governance systems to operate concurrently in the same corporate domain, Japanese stock issuing public corporations. The Japan Commercial Code revision of 2002 introduced a new committee system similar to Anglo-American systems, designed deliberately as a competitor to the then extant stakeholder-oriented system. By April 2009, 112 publicly traded companies, including prominent business groups like Hitachi, Nomura, and
Sony, adopted the new system\(^1\). This study proposes that by examining the differences in value among firms in the same national economy at the same time, useful data might be generated that can contribute to this inquiry. Such opportunity for study, by having two legal structures operate in one economy at the same time, is seldom available.

Since enactment of the new corporate law establishing the parallel systems, few empirical studies have compared the two systems given the little time that has passed since companies began adopting the new system. Using event-study methods to examine share prices, (Gilson and Milhaupt 2004) found little discernable difference in the value of the firms as tested by stock price trajectories. More recently, (Buchanan and Deakin 2007) conducted a survey of CEOs, directors and senior managers, academics and government officials to determine how divergent assessments of Japan’s corporate governance experimentation are. They found it paradoxical that changes in corporate governance practice did not depend on whether a firm selected the iinkai system or not. Further, they conclude that the adoption of western structures, as envisioned in the iinkai system, does not result in actual practices that diverge widely from the more traditional models. Resolution of these paradoxes is difficult without empirical evidence of the comparative, intra-economy value of a comparative corporate change.

This paper, seeking to address the empirical need, examines the comparative change in corporate value upon a Japanese firm’s adoption of the committee system of corporate governance against the value of firms that did not transform, and finds higher value among adopting firms. It may be that by selecting the new system, wherein management submits its

\(^1\) Interestingly, in addition to Nomura, forty-seven private, newly-formed companies have also adopted the iinkai system as of 2008. (Teikoku Data Bank, 2008).
books and other records to outside directors for examination, away from the supervision of the CEO and the board of directors, a firm signals a willingness to be examined by outsiders.\(^2\) To the extent that transparency is the disclosure of accurate information to outsiders, (Bushman, Piotroski et al. 2004), the \textit{inkai} system is more transparent and might therefore accrue greater value in the capital markets. The implication of this result is relevant to research on corporate governance convergence as well as agency costs from information asymmetries. Section 2 will describe the legal and functional nature of the two parallel corporate governance regimes and compare them descriptively; section 3 contains the methodology for the empirical results in the paper using univariate analysis, event study, and regression analysis. Section 4 discusses the results of and Section 5 concludes.

2. Japanese Corporate Governance Changes

In what has come to be called the “J-firm” (Aoki 1990); (Aoki and Dore 1994), describe the contingent governance system of Japanese firms characteristic of the postwar period. The firm manages its own affairs, supervised by boards usually composed of insiders promoted from the managerial ranks - unless the corporation found itself in financial difficulty. In that contingency, the financers of the firm, usually the bank, would rescue or liquidate the firm (Aoki and Patrick 1994). In part to detect such contingencies, a monitor, or committee of monitors, called a “statutory auditor,” or \textit{kansayaku} in Japanese, is chartered to audit and present the financial and legal condition of the firm to shareholders, (JCAA 2008). In addition, while the shareholders elect the auditor, he is nominated by the board, that consisted of managers who

\(^3\) In Japanese law, “outside” directors are legally distinct from the more Anglo-American concept of “independent” directors. In Japanese law, “outside,” while meaning the officer is not, and never has been, employed by the subject company; family ties, affiliation, and being the employee of a parent firm, conform to the legal definition of “outside” director.
reported to the CEO who, in turn, were thought to distribute the auditors’ information amongst stakeholders.

A broad academic and business practitioner criticism arose of this contingent governance and associated monitoring system during the 1980s and accelerated during the 1990s in response to changes in Japan’s socio-economic environment in the post-bubble period. Beginning in 1997, in response to these criticisms, the continuing broad economic slowdown and the equity market boom in the United States, Japan underwent a series of aggressive reforms to its corporate governance legal structure, (Schaede 2008). Stock option plans and repurchasing of company shares was liberalized, merger law was rewritten, holding companies were allowed, startup capital requirements were severely lowered, limits placed on director liability, and bankruptcy laws were reformed.

These reforms were undertaken with several goals sought by the policy makers in the Japanese government. First, the reforms were intended to create a more transparent corporate governance system from the standpoint of shareholders and, secondly, to modernize corporate law to accommodate the demands of funding new industries. Third, reformers hoped to improve financial intermediation, especially venture capital fundraising measures and, fourth, to create a greater congruence with the increasing internationalization of corporate legal practice and norms. Finally, there was a technical objective of modernizing language terms and consolidating provisions of the company law, (Egashira 2005).

In 2002, one of the series of reforms to the commercial code permitted the optional

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adoption of a shareholder-oriented, Anglo-American form of corporate governance option for Japanese firms called the “committee system” (iinkai secchi kaisha; abbreviated to “iinkai” in this paper.). Alternatively, firms could continue with the incumbent “statutory auditor” system, called kansayaku secchi kaisha, termed “kansayaku” in this paper. The law became available in 2003 and some 40 public firms adopted the iinkai system in its first year, growing to 112 firms by January 2008, even though a few firms have rescinded the adoption (JCAA 2008). This represents a quite small proportion of the more than 3000 publicly traded firms in Japan.

The Kansayaku System

Before 2006, a kansayaku company had at least one representative director and one auditor. The board of directors appoints a representative director, who legally and personally represents the company, and may optionally appoint subordinate executive directors. The representative director and executive directors manage the company under the supervision of the board of directors. The kansayaku are nominated by the representative directors and confirmed by the shareholders. While their role differs depending on the size of the company, fundamentally the kansayaku is to audit financial accounting and certify the directors’ proper and legal execution of affairs. In larger companies, more than one auditor performs these tasks.

In a kansayaku firm, both the board of directors and the corporate auditors are expected to monitor and control the firm, but the kansayaku gained a reputation of ineffectiveness in this

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4 In Japanese corporate law, additional rules exist for the auditing system, depending on the size of the company, Takahashi, E. S., Madoka (2005). "The Future of Japanese Corporate Governance: The 2005 Reform." The Journal of Japanese Law 19(35). For small firms, for example, the full iinkai structure is not required. In addition, the role of a corporate auditor in a small company is only to audit accounting and does not include the corporate auditor function. For this study, examines only public firms, which are all large by legal definition, and the commentary is restricted to those features of Japanese law that are relevant to large companies.
role, (Sarra and Nakahigashi 2002). They were not nominated by shareholders and rarely rejected by them, were poorly supported with inside staff with divided loyalties, and had poor status as they were often viewed as senior employees who failed to become directors (Ahmadjian 2003). Perhaps more importantly, the kansayaku lacked sanctioning authority—the power to nominate, appoint, or remove directors—and thus could not necessarily enforce shareholder or employee interests. Further, frequently the board that nominated the auditors consisted of managers whom rarely challenged a chief executive. Thus, the question of who monitors the monitor was inadequately resolved in this system. With management retaining both selection and retention decisions with respect to the kansayaku, the incentives of the system simply did not include the primary interests of shareholders and other stakeholders, and was thus inconsistent with the concepts of stakeholder advocacy in Japanese corporate governance.5

The Inkai System

The inkai system is a shareholder-oriented alternative to the kansayaku system enacted in 2002 but available for adoption in 2003. It was METI’s original intention, during the formulation of reforms in the late 1990s, to simply replace the kansayaku system with an Anglo-American committee system, giving a more ascendant position to shareholders through a governing system by committees of independent directors modeled on reforms innovated by Sony, (Whittaker and Deakin 2009). Responding to the wishes of corporation organizing bodies such as Keidanren, and constituencies within METI and other government organs, the reform was instead offered as a choice. Firms could choose either system following shareholder approval. Its designers supposed that this might also create competition between the two systems and thus perhaps the market would select the more efficient system and improvements

5 Starting in 2006, committees of kansayaku were required to include more outside auditors.
to corporate governance would follow (Nottage and Wolff 2005).

In contrast to statutory auditor companies, iinkai companies have three committees—a nominating committee, an audit committee, and a compensation committee—and must appoint one or more executive officers. The board of directors appoints the members of each committee of three or more directors, with outside directors holding the majority of each committee. These committee’s decisions immune to veto by either the whole board or the management, including the president or CEO\(^6\), (Ohara 2009).

In an iinkai firm, similar to a kansayaku firm, executive authority rests with the president and subordinate executive officers. On the other hand, in an iinkai company, the nominating committee appoints the president and executive officers, and compensation for the president and executive officers is determined by another board level committee, subject to confirmation by the shareholders. Moreover, the financial information reported to shareholders as well as the legal veracity of company actions are monitored and certified by an audit committee. Since these key functions—executive pay, executive appointment, and financial monitoring—are supervised by committees, the majority of whose members are outsiders, and which cannot be overruled by the president, the iinkai system was, and is, hoped by its designers to provide more transparent and effective monitoring.

The iinkai law prohibits co-mingling features of both auditor and iinkai systems. That is, a company cannot have, for example, only one or two of these three committees, or both a

\(^6\) In this paper, “president” or “CEO” is more technically correctly called the “representative director” or daihyo torishimariyaku. We adopt the common CEO term to more effectively communicate the parallel role.
corporate auditor and the audit committee. Nevertheless, this is not to say that *kansayaku* firms eschew all forms of the committee system. In a corporate governance form-versus-function phenomenon anticipated by Gilson in 2001, essential features of the *iinkai* system such as outside directors and the separation of executive management from board management are increasingly being adopted by many traditional firms. While only about 100 firms adopted the *iinkai* system, a Tokyo Stock Exchange Survey of 2006 found that 42.3% of all listed companies had outside directors (*TSE* 2007). Further, the distinction between them diminished after 2005 and is more completely explored in the next section.

In 2005, Japan enacted a further revision to its commercial code, which reformed the authority and responsibilities of *kansayaku* firms, that both allows and requires them to more closely resemble *iinkai* firms (*Takahashi* 2005), reducing the scope of institutional differences. The law provided that, for large public companies, the majority of the appointed auditors must be independent and that at least one of a firm’s auditors must be engaged by the firm on a full-time basis. Moreover, the new law required firms to establish either governing bodies, such as a board of *kansayaku* consisting of accounting consultants (*kaikei san’yo*), or the three committees (nominating committee, audit committee and compensation committee), which are close analogs of the *iinkai* framework. With the 2005 law, then, a *kansayaku* firm could closely mimic an *iinkai* system firm in almost all its essential features.

For the purposes of this paper, then, the differences in the institutional framework was at its greatest from 2003 through 2005 and those years are the focus of the natural experiment that we examine.
3. EMPIRICAL METHODOLOGY

The Sample

Proprietary and public databases are used for this research. To learn company financial information for Tobin’s q computations, two sources are employed. The primary source is the Thomson Financials One Banker database that presents financial information in standard format conforming to Japanese standard accounting practices. Thomson compiles its data from the reports that all public Japanese companies, iinkai or kansayaku, are required to file (equivalent to US 10K forms) (Thomson Corporation 2003). For non-financial statement data that is not available from the Thomson reports, such as the presence of a stock option, we relied on data sources from the Financial Services Agency of the Japanese Government, (Financial Services Agency (2008)).

The data for this study consists of kansayaku and iinkai companies, with the iinkai firms identified by the Japanese Corporate Auditors Association, www.kansa.or.jp, (JCAA 2008). They include 103 Japanese firms that have adopted the system through December 2007. To control for differences across industries, the 103 companies were grouped into industry groups using the Japan Standard Industrial Classification system. Selected firms are publicly traded and have data on relevant variables available during the study period of the 1999–2007 fiscal years.

Of the 103 total available firms, a market price is not directly obtainable for 21 firms because they are subsidiaries of other companies. As subsidiaries, the independence of board committees

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7 As of April 11, 2009, 114 public, or subsidiaries of public firms have selected the iinkai system as reported by the Japanese Corporate Auditors Association.
might be compromised by assigning parent company employees to the committees, which is consistent with law. In addition, most of these subsidiaries have Hitachi as the parent and inclusion of all these Hitachi related companies was thought to introduce bias into the sample. Moreover, forty iinkai companies were unsuitable for the analysis because they were private or had insufficient available information caused by bankruptcy or merger. The remaining forty-two iinkai firms were classified into six industry-type categories: finance, electronics, pharmaceuticals, manufacturing, trade, and internet/communications. Five dummy variables control for these differing industries in the regression analysis.

For kansayaku companies, we assigned all companies from the “Kaisha Shikiho (会社四季報) 2007,” into JSI classifications and then into one of the six industry-type categories. From these categories, 86 companies for the years FY1999 through FY2007 were selected at random proportionate to the industries in the iinkai sample. The study uses this proportional sampling technique because the frequency of pharmaceutical and Internet companies in the iinkai sample that was substantially different from the population of kansayaku companies that bias might occur if a simple random sampling was used.

Most sampled companies have a March 31 fiscal year end and the study uses year-end data. In the few cases where the fiscal year is not 3/31, the actual close is within one quarter and should not introduce bias into the results. Complete lists of iinkai and kansayaku study companies are in Appendices 1 and 2 respectively.
Dependent Variable - Tobin’s q

Consistent with past research, we use Tobin’s q ratio to measure a firm’s value. The q ratio is used in studies such as cross-sectional differences in investment and diversification decisions, the relationship of managerial equity ownership and firm value, the relationship between managerial performance and tender offer gains, investment opportunities and tender offer responses, and financing, dividend, and compensating policies, (Chung and Pruitt 1994). Firms with a $q > 1$, as opposed to firms with $q < 1$, have been found to be better investment opportunities, indicate that management has performed well with the assets under its command (Lang, Stulz et al. 1989), and have higher growth potential (Brainerd and Tobin 1968). The q ratio is useful to study the effects of corporate decisions on performance, especially where standard accounting methods have failed to detect any performance effects, as in increases in intangible asset value. For example, if a firm selects a business strategy that materially improves the marginal productivity of assets at small marginal cost, the market value of the firm may increase even though no significant relationship between the selected strategy and the financial accounts are detected.

The q ratio is used extensively as a measure of a firm's intangible value based on the assumption that the long-run equilibrium market value of a firm must be equal to the replacement value of its assets, giving a q-value close to unity. Deviations from this relationship (where q is significantly greater than 1) are interpreted as signifying an unmeasured source of value and generally attributed to intangible value in the firm. Studies have exploited the relationship between q and intangible value to examine the effects of factors such as R&D, advertising, and brand equity, which are deemed to contribute to a firm's intangible value.
Recently, several studies have used the q ratio to establish important results. Ciner and Karagozoglu (2008) found that foreign trading activity is associated with information trading on the Istanbul Stock Exchange, and it was recently shown using Tobin’s q that firms gain a valuation advantage when selecting business strategies based on service as opposed to product (Fang, Palmatier et al. 2008).

For this study, Tobin's q calculations follow the method of Chung and Pruitt (1994), which resolves the practicable difficulties of calculating the q-value since market values of assets are difficult to obtain or estimate ex post. Their method instead estimates the market value of the firm as the sum of the market value of common and preferred shares for the period under examination, plus the current liabilities (net of current assets), book value of inventories, and long-term debt. This sum is divided by the total book value of assets to obtain an approximate q-value for a firm. This calculation method allows use of publicly available financial data and is robustly correlated with q-values calculated by more complex alternative methods.\(^8\)

**Descriptive Statistics**

Table 1 presents descriptive statistics of the companies in our sample over the fiscal years 1999 through 2007 grouped by governance system: *iinkai* and *kansayaku*.

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While the overall Tobin q values of committee system firms appear greater than auditor firms, the difference is significant only after 2004, (Table 2). *Iinkai* companies in the sample also differ from sampled *kansayaku* firms in closely-held shares proportion, foreign ownership and the frequency of a stock option plan but do not seem to differ in profit as a percent of sales, revenue per employee, cash flow as a percent of sales, or return to assets. *Iinkai* firms, while apparently performing no better than *kansayaku* firms, are more broadly owned by foreign interests (26% versus 12%), are held more closely by insider shareholders (45% to 35%), and much more frequently have stock option plans (83% to 34%).

Noticeably, q-values for both styles of firms decline from 2005 onward and the difference between the medians narrow to insignificance by 2007. Two likely possibilities act individually or in concert to explain this narrowing of value differences. First, the *iinkai* system could be novel when selected and act to signal a welcome corporate push for increased performance. When the performance differential is not delivered, shareholder evaluations may be subject to downward revisions. Alternatively, or in concert, it may also be that the diminished formal legal difference between the two systems from 2005 onward, created a diminishing comparative expected transparency difference, that is, a lessened clarity of signaling for governance practices, with respect to the committee system. A more complete discussion is in the concluding section.

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Insert Table 2 about here

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Within differing industries, in contrast, the data show marked differences. Figures 1 through 6 give the Tobin’s q medians and ranges for each studied industry: trade, electronics,
manufacturing, ICT, pharmaceuticals and finance. While those companies using the *iinkai* system retain greater median Tobin’s q-values in each industry, the range and degree of difference seems to depend on the industry. The data shows that q-values trend downward for both types of firms from 2005, and that the difference between systems’ values narrows, consistent with the convergence of laws governing *iinkai* and *kansayaku* firms after the 2005 legal reforms.

Model Specification and Econometric Concerns

To extend these univariate results and determine whether they are robust to controlling for financial and governance variables, as well as controlling for the firm’s industry, a Tobit random-effects panel regression is used to analyze the data.

The dependent variable of the study, Tobin’s q, is a continuous variable and takes only non-negative values between zero and one. Since the percentile value is left-censored, the Tobit regression model’s assumptions of homoskedastic, normally distributed errors with censored data are thus consistent with our dataset. We regress the Tobin’s q data against the independent variable of the corporate governance system, a set of variables to control for governance and financial effects, and on a set of dummy variables for the different categories of companies. For the study’s independent variable, the *iinkai* system is modeled as a dummy variable that takes a value of one if the company has selected that system.
Variables

Governance Controls—From the available literature, limited to the studies consistent with the data available for our study, four indicators of corporate governance were selected: the size of the board of directors, the presence of a stock option plan, the ratio of debt to equity - as a measure of the risk choices of the firm and as a variable of the director’s choice of corporate structure, and, lastly, the proportion of closely held shares.

Agrawaal and Knoeber (1996) examine mechanisms to mitigate agency costs with control mechanisms such as debt structure. They find that controlling shareholders, outside directors, board composition and debts structure among other aspects, are interdependent and decisive in determining a firms value in terms of Tobin’s Q. Following that literature, our board size variable captures the idea that larger boards are more amenable to control by a small faction allied with the CEO who might have an opportunity to advance private interests. Since it is argued that differing corporate governance aspects will determine the debt structure of a firm, we employ the debt-to-equity ration to capture this. That this is an exogenous selection of policy is supported by the control literature similar to Agrawal, and Knoeber.

Similarly, a rich set of literature suggests that a board which collectively owns a larger proportion of shares in a focal firm is presumed to be motivated differently than a board owning few shares, a variable capturing the proportion of closely held shares is used to control for the differing effect of entrenchment in firms. Several empirical studies have made much of the closely held proportion of shares as an entrenchment mechanism, (Kaplan and Minton 1994);
(Bebchuk, Cohen et al. 2004)). Moreover, (Bebchuk and Fried 2004) associate high rates of closely held shares with lower CEO pay and better governance. Schmidt and Spindler (2002) theorize that controlling interests seek status quo governance structures as a means to extract ownership rents. In the context of this paper, firms with controlling owners, motivated as Schmidt and Spindler hypothesize, might resist adoption of the iinkai system. Accordingly, we control for this effect by including a variable of the percentage of shares held by officers. Although, since this data is not available for all firms, we analyze this effect in a third model, consisting of the sample of 221 observations that report closely held shares.

We capture the influence of foreign business practice by including two variables, the foreign sales as a percent of total, and the presence of a stock option plan. In Japanese corporate governance literature, the shareholder-oriented iinkai system is viewed as an Anglo-American- or at least a foreign- system and there is some evidence in the literature that foreign ownership and influence can change the value of a firm, (Asaba 2005). To control for foreign influence on firm governance, the study measured foreign ownership as a percentage of total shares outstanding. Another measure of foreign influence might be the recent stock option plan implementations in Japan. While initially promulgated in 1997, these plans were reformed in 2002 in the same corporate law change that created the iinkai system. This study uses the adoption of this, an innovation in Japan, as a control for foreign influence and its potential effect on q, similar to foreign ownership, and thus includes a dummy variable that takes on a value of one if the firm has a stock option plan.

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9 Entrenchment, in this regard, means structures and mechanisms of corporate governance that impede the replacement of managers who control the assets.

10 In contrast, Miyajima’s 2006 study, using corporate governance scores to capture entrenchment, finds the closely held proportion of shares unrelated to performance.
Financial Performance Controls—To examine the performance variables suggested by this literature, we present models using, return on assets, sales per employee, foreign sales, and dividends. For financial performance controls, our study relies on the empirical literature in economics, finance, law, and Japanese corporate governance that had modeled firm performance (Hoshi, Kashyap et al. 1991); (Bebchuk, Cohen et al. 2004). Other studies for the United States have found that Tobin’s q is related to common financial measures (Hermalin and Weisbach 1991); (Gompers, Metrick et al. 2002) such as sales, cash flow, and profit from operations. Since Tobin’s q is affected by the market value or the book value of the firm, we sought controls amongst the common performance variables that might most directly affect book or market value. Return on assets is a common measure of operational efficiency of a firm. A positive return implies that the firm is generating profit and cash, and the more efficiently it does this with a set of assets, the greater the return. Future return is also enhanced as a more efficient use of assets implies a lower gross funding need than a less efficient firm. Accordingly, we suppose that return on assets captures the panoply of operational performance such as profit and cash flow data but that benefits from being a dimensionless ratio directly comparable across firms in the same line of business.

Productivity of the firms is also a reflection of the efficiency of the use of assets and the environment within which the firm operates. While estimates of total factor productivity and capital productivity are not supported by the scope of the data in this analysis, sales per employee is a common measure of overall productivity of the firm. Sales per employee has been used to study the productivity of Japanese automobile firms, (Cusmano 1985), the effectiveness of human resource management, (Huselid, Jackson et al. 1997), and explain the productivity
gains from human capital flows and technology gains across national domains, (Saxenian 2002). We adopt it to control for the effect of productivity changes on the value of a company.

(La Porta, Lopez-de-Silanes et al. 2000) found, in an empirical analysis across diverse economic national domains, that higher dividends may be associated with shareholder rights. To control for this effect, we also include the dividend, measured as the log of the annual payment, following the prior analysis of ultimate returns from an agency theory perspective. In calculating logarithms, we ensure a minimization of bias by retaining all firms, including those with zero dividends, by using an infinitesimal epsilon quantity in otherwise zero cells.

All models also control for the industry classification of the firm with five dummy variables for the machinery, electronic, manufacturing, finance, and trade (retail and wholesale) industries holding the pharmaceutical industry as the baseline.

We present three random effects Tobit regression models. Model 1 enters the corporate governance and performance variables, however to avoid econometric difficulties given some firms did not report ownership data, this model does not include the insider control variable. Model 2 employs an instrument to address the concern that return on assets may be endogenous by using profit as a percent of sales as one of the more material efficiencies in return to assets. It is a measure of efficiency of cash operations for a focal firm but at best only weakly related to q. Similarly, Model 3 uses the somewhat reduced sample of firms that report managerial share to control for managerial ownership with both governance and financial controls that we discussed in an earlier section. Table 3 reports the results of all three models.
4. DISCUSSION

The coefficient on the governance system variable is positive, material, and significant in all models. This finding suggests that selection of the *iinkai* system seems to confer a value advantage. The magnitude of the coefficient is material economically implying that selecting the *iinkai* system increases a companies Tobin q value by over .91 in model 1 and over 1.01 in model 3. The study also found that amongst the study’s governance variables, this was the only variable with a significant affect. Among performance controls, the variable measuring the efficiency of the firm – return on assets - was significant at the 99% level and also material in magnitude while all other controls had insignificant coefficients. When ROA was instrumented by sales efficiency, (profit as a percentage of sales), the control variable was not significant. This implies that unobserved variables, or the endogeneity of the ROA variable, contributed to its significance in the non-instrumented model. Since the variable of interest, the corporate governance system, has similar magnitudes and significance in both approaches, we are confident that, in addition to the univariate analytic charts and the event study, that the system selection seem to be causal of increased company value after selection. These results are consistent with the idea that corporate governance changes are a signal, rather than an operational enhancement, and the signal manifests itself as intangible value. To add robustness to the idea that intangibles might be driving q-values, the coefficients on the dummy variables for the electronics, trade, and manufacturing industries are negative, with the pharmaceuticals being the base industry in the regression.
In terms of financial controls, industry selection seems to be an important determinant of value. Increasing Tobin’s q is associated with increasing intangible assets. Since technology and information firms are associated with human capital intangibles, we expect and find that firms in the information, communication and technology industry segment have greater values than other industries. We find that the coefficients on all variables were not significant suggesting that the increased q value in iinkai firms is not the results of operating or payout performance. The significant negative coefficient of the dividend payout level does not hold in significance or sign in the instrumented analysis, implies, as in the case of return to assets, that unobserved variables may affect this value.

It is notable that the results in model 3 discover no significant coefficient on the closely held share variable. We hypothesized that firms with a larger proportion of ownership by outsiders would tend to resist the adoption of the iinkai system with its requirement of injecting outsiders into board decisions. However, the small value and insignificance of the coefficient make it also possible that, since iinkai companies certainly overcame some opposition, residual effects on firm value from continued resistance, if present, are not detected.

*Performance, Endogeneity and Timing*

We found that there is a difference in value between differing system firms, but have left unresolved as to the direction of causality. For, its it that the committee system increases a firm’s value or do simply the better firms select the committee system? To better understand these apparent differences in value, it is of interest to see; a) if firms that selected the committee system differed from firms that did not before adoption of the new system, b) if adoption of the committee system is temporally associated with the increase in value, and, c) if firms that adopt
the system react similarly to other exogenous events. This is important also for determining the mechanism and causal direction of increased value since, if the value rise manifests soon after adoption of the new system, it implies that the market value of the firm has changed (the numerator of the q calculation), as opposed to the liquidation value or efficiency of the firm’s assets (the denominator). We examine these questions with a univariate analysis of performance data, and an event study to analyze the temporal nature and uniqueness of any value change.

We examine the trajectory of performance measures for companies that selected the iinkai system in 2003 and compare them to kansayaku firms. We track the period FY 1999 through FY 2008, thus looking at data two years before the system could be formally adopted to assess any differences before new system selection and to capture changes in value upon both adoption. For the univariate analysis, we examine; return on assets, return on equity, total investment return, to capture performance; foreign income as a percent of total, and research and development expenditures as a percent of sales, to capture important discussion in the academic and business literature on important strategies for Japanese firms. The results are shown in figures 7 though 11.

There are no material apparent differences between kansayaku and iinkai companies ex ante, or ex post selection of the committee system by iinkai firms in terms of performance, with the only exception being an advantage to auditor firms with respect to foreign income in 2003. Further, while to-be committee firms consistently spend marginally more than auditor companies on research and development, t-tests (available from the author) show that the difference is not
significant before or after selection of the new system. In short, the univariate analysis does not support the endogeneity argument that firms that selected the committee system may have already had advantages that would be expressed in greater performance or value.

To analyze the temporal and the possibility of unique manifestation of value, and to add further robustness to the idea that firms selecting the committee system are not unique before the selection, we study the data over a longer period, FY1999 through FY2007, using event study methodology.

Our null hypothesis is that the event of selecting the committee system has no abnormal, differential affect on the q value of firms that selected it. Said otherwise, we want to find if the selection event affects q values differently than non-selecting firms but that prior events do not. To test this hypothesis, let "Unanticipated TQ" be the difference between the measured q value of a firm and its expected value attributable to unexpected variation in q:

\[
\hat{Q}_{i,j} = Q_{i,j} - E(Q_{i,j} | X_{i,j}),
\]

(1)

where \( Q_{i,j} \) is the observed Tobin q value for firm i at time j, given by:

\[
Q_{i,j} = \frac{S_{i,j} \cdot (C_{i,j} + P_{i,j}) + I_{i,j} + D_{i,j}}{A_{i,j}}, \quad \text{after Chung and Pruitt, (1994)},
\]

(2)

\( C_{i,j} \) and \( P_{i,j} \) are the firm’s common and preferred stock issues respectively, \( I_{i,j} \) is inventory, \( D_{i,j} \) is net debt, \( A_{i,j} \) is total assets, and \( X_{i,j} \) is a vector comprising the financial information, decisions, and outcomes of the firm.
To find the expected q value for a firm, let $F_{i,j}$ be the projected share price of a firm $i$ from time $j-1$, using the capital asset pricing model, (Sharp 1964), with the coefficient $\beta$ from the Thompson data:

$$F_{i,j} - R_j = \beta_i (E[R_m] - R_f)$$

(3)

Since the market returns are known, we can rewrite (3) as:

$$F_{i,j} - R_j = \beta_i (R_{m,j-1} - R_f)$$

(4)

And, substituting, we can write the projected q value as:

$$E(Q_{i,j} | X_{i,j}) = \frac{F_{i,j} \cdot (C_{i,j} + P_{i,j}) + I_{i,j} + D_{i,j}}{A_{i,j}}$$

(5)

Calculating these values for the years FY1999 though FY 2008, using the Bank of Japan discount rate as $R_f$, and the Nikkei 225 index to estimate the market returns, average values $\hat{Q}_{i,j}$, of 38 committee system firms and 75 randomly selected auditor firms, (normalized to a market beta of $\beta = 1$), are shown in Fig. 9 with $p=.05$ limits. At $t = T$, we align the date that committee system firms implement the system. The result is in figure 12, below.

Before the announcement, no unanticipated variation in either system is evident, while in the year that firms implement the new system, q values of committee system firm deviate from predicted values at a significant 95% confidence level, causing us to reject the null hypothesis that no differential effect would manifest itself. Subsequent non-deviation from predicted values
suggests a resumption of variation attributable to anticipated market forces. This data is suggestive of an immediate manifestation of value upon announcement and is consistent with the idea that shareholders’ changing evaluations of the firm caused the change in q values.¹¹

Other exogenous events could cause the deviation of actual q values from predicted but given the artificial alignment of announcement dates for this analysis, that is unlikely. We aligned the announcement dates of all firms at t=0, regardless of whether it was 2003, 2004 or any year. So, an alternative exogenous event would need to have a temporal effect pattern identical to the adoption years of iinkai firms and only affect those particular firms. We view this as a singularly unlikely circumstance.

5. CONCLUSIONS

The objective of the study was to detect if there is empirical evidence of differing company value between differing corporate governance systems co-existing in the same economy. We find that the iinkai corporate governance system produces higher corporate value than the traditional kansayaku governance. The study also finds evidence that it is the governance signal provided by adoption of the legally credible system, not the financial performance variables, which account for this difference. For, without evidence of clear performance advantages, and with the diminishing advantage as the institutional differences lessened, the value seems to derive from the key difference between the systems, which is the inclusion of outsiders that are independent of board and managerial control on committees.

¹¹ The q-value can be increased through its denominator, if, for a given market value, less assets are used, or through the numerator, by increasing the market value on the stock market. Since value increased in anticipation of iinkai system adoption, sufficient time for changing the productivity of assets is unlikely.
These results provide empirical evidence of the economic efficiency, in terms of investor value, of the *iinkai* system with implications for the corporate governance convergence debate. Moreover, since the new system is a shareholder-oriented model of governance, as opposed to the incumbent stakeholder-oriented model, some support is offered to the cross-country research that has yielded similar findings.

The detection of increased value from the western, shareholder-oriented style governance system in Japan leads to two issues that we wish to probe. First, it seems important to determine what might cause the increased value. Second, why did so few companies adopt the system given that greater value follows adoption of the *iinkai* system? Efficiency should motivate companies, but little more than 100 adoptions from some 3000 public companies in Japan over five years seems hardly a remarkable phenomenon.

To analyze the first question, we adopt the framework of Gilson and Milhaupt in their 2004 paper where they argue that there might be four reasons why a difference in performance or value might exist between firms using different Japanese governance systems. The first potential reason is signaling of perceived good corporate governance practice improves shareholder value if the new system is perceived as superior because of a belief that US systems are superior. Secondly, endogeneity may account for a value difference if the firm adopts the *iinkai* system because it is simply more efficient and appropriate for the focal firm. The third potential reason to adopt an *iinkai* system is to permit a corporate group to express group control over subsidiary firms since the legal definition of outsiders permits parent companies to supply parent company employees as “outsiders.” The final proposed motivation is simple indeterminacy, because the rule was legislated as a compromise in the political economy context.
of Japan, and similar processes may be involved in the selection of a governance system at the firm level.

Subsidiary groups because controlled subsidiaries were not examined in this study and indeterminacy cannot be analyzed since the adoption process is beyond the scope of the study. However, this study can add insight to the endogeneity and signaling arguments and we suggest that it is indeed signaling that motivates adoption. First, our study does not support the idea that the direction of causality is that better firms select the committee system. Our univariate and event study seems to confirm that the value gain benefited both lesser performing and better performing firms manifesting value upon announcement independent of performance.

The data, on the other hand appears consistent with the idea that management signals improved corporate behavior by adopting a (perceived) superior governance system. Signaling is particularly well supported by the data from the initial adopters when the value increase occurred upon the 2002 announcement as opposed to implementation in 2003. Nevertheless, is it true, as Gilson and Milhaupt (2004) write that the US system is perceived as superior since the *iinkai* system is seen as American? While it seems reasonable that adopting the *de facto* standard of corporate governance – the Anglo-American shareholder oriented system - during the time of rising equity prices affected initial selection of an iinkai system, the narrowing of the difference in value between systems in subsequent years - as the functional differences decreased - suggests that perhaps it is the features of the *iinkai* system, as opposed to congruency with Anglo-American standards, that are attractive to shareholders.

We suggest that the iinkai system reduces information asymmetries between
management and shareholders given the inclusion of outsiders on three critical board functions. Organizational changes that are associated with a new cohort of outside directors certainly entail some cost, but if the effect of outside directors is the reduction of tunneling and shirking agency costs, then the signal is associated with higher cost from the perspective of managers and a benefit from the perspective of shareholders. We further argue that shareholders can credibly rely on the signal because it is costly for management to send, (Farrell and Rabin 1996), and cannot be secretly revoked. Moreover, outsider participation on audit, compensation and nomination committees can certainly be associated with a greater risk of detection of inappropriate behaviors and an increased risk of sanctions. Overall, the adoption of the committee system is a credible signal that assures shareholders of lower agency costs from asymmetric information.

The nature of the signal is further illuminated by the gradual decline in the difference between systems as measured by Tobin’s q is consistent with the reduction of the structural differences between the systems in law. If, on the other hand, it were the system’s American-ness that drove valuation, it would be inconsistent that q differences declined during the time of increased equity market valuation in the United States. We conclude, then, that it is likelier that the shareholders respond to the agency cost aspects of the new system when management signals the adoption.

A remaining puzzle, however, is why most companies resist adopting the committee system in Japan. Further research may investigate what mechanisms might account for the slow pace of adoption: is path-dependence deterrence operating? Do controlling interests block adoption? Are switching costs too high? This may lend support to Schmidt and Spindler’s
arguments that when switching costs are high, suboptimal choices can result even if rational processes are followed, (Schmidt and Spindler 2002). While this study does not provide demonstration of efficiency beyond firm valuation in context of a public market, our data supports the central idea that corporate governance laws have consequences and encourages additional study of the effects of corporate signaling and the consequences of increased shareholder orientation of agents.


JCAA. (2008).


Table 1

Descriptive Statistics Comparisons - Auditor vs. Committee System Firms

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.E.</th>
<th>Median</th>
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<tbody>
<tr>
<td></td>
<td>Audit</td>
<td>Committee</td>
<td>Audit</td>
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<tr>
<td>Tobin’s Q</td>
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<td>2.269</td>
<td>.0442</td>
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<td>Governance Variables</td>
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<td></td>
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<tr>
<td>Management Held Shares (%)</td>
<td>33.2</td>
<td>41.9</td>
<td>18.8</td>
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<td>Foreign Ownership (%)</td>
<td>12.6</td>
<td>7.5</td>
<td>11.6</td>
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<tr>
<td>Board Size</td>
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<td>9.33</td>
<td>3.47</td>
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<td>Stock Option Plan (%) ad(0pting)</td>
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<td>84.7</td>
<td>48.2</td>
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<tr>
<td>Debt-to-Equity Ratio</td>
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<td>47</td>
<td>5587</td>
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<td>Performance Variables</td>
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<tr>
<td>Revenue (millions Yen)</td>
<td>220.7</td>
<td>127.8</td>
<td>643.9</td>
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<td>Cash Flow from operations (mY)</td>
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<td>82.7</td>
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<td>Profit (% of sales)</td>
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<td>-0.13</td>
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<tr>
<td>Dividend (millions Yen)</td>
<td>2202</td>
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<td>Dividend (pct sales)</td>
<td>1.01</td>
<td>1.50</td>
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Table 2

Median, Upper and Lower Quartile Tobin q Values

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<tr>
<td>Upper Qtl</td>
<td>1.76</td>
<td>1.50</td>
<td>1.58</td>
<td>1.72</td>
<td>1.75</td>
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<td>1.79</td>
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<td>Median</td>
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<td>1.24</td>
<td>1.22</td>
<td>1.32</td>
<td>1.31</td>
<td>1.54</td>
<td>1.43</td>
<td>1.34</td>
<td>1.13</td>
<td>1.25</td>
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<td>Lower Qtl</td>
<td>1.06</td>
<td>1.02</td>
<td>0.98</td>
<td>1.06</td>
<td>1.06</td>
<td>1.31</td>
<td>1.15</td>
<td>1.02</td>
<td>0.88</td>
<td>0.95</td>
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<tr>
<td>Committee System</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Upper Qtl</td>
<td>1.85</td>
<td>1.76</td>
<td>1.90</td>
<td>2.01</td>
<td>1.96</td>
<td>1.88</td>
<td>1.84</td>
<td>1.76</td>
<td>1.39</td>
<td>1.51</td>
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<tr>
<td>Median</td>
<td>1.65</td>
<td>1.53</td>
<td>1.49</td>
<td>1.51</td>
<td>1.58</td>
<td>1.76</td>
<td>1.61</td>
<td>1.44</td>
<td>1.18</td>
<td>1.37</td>
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<tr>
<td>Lower Qtl</td>
<td>1.19</td>
<td>1.23</td>
<td>1.16</td>
<td>1.29</td>
<td>1.43</td>
<td>1.54</td>
<td>1.34</td>
<td>1.20</td>
<td>0.92</td>
<td>0.96</td>
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* = significant difference, 90%, two sided
Figures 1 through 6
Figure 8
Figure 9

Total Investment Return

Return on Assets
Figure 11

Figure 12
<table>
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<tr>
<th>Dependent Variable:</th>
<th>Tobin’s q</th>
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<tr>
<td>Governance System</td>
<td>.9191**</td>
<td>.9187**</td>
<td>1.0762**</td>
<td>(8.6068)</td>
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<td>Board Size</td>
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<td>-.0313</td>
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<td>.0232</td>
<td>.1571</td>
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<td>.0006</td>
<td>-.00005</td>
<td>-.004</td>
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<td>Insider Control</td>
<td></td>
<td></td>
<td>.0042</td>
<td>(.0137)</td>
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<tr>
<td>log Dividend</td>
<td>-.4067**</td>
<td>-.3709</td>
<td>-.5242**</td>
<td>(2.442)</td>
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<tr>
<td>Return on Assets</td>
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<td>.0942</td>
<td>.1924***</td>
<td>(.0538)</td>
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<td>Foreign Sales % of Total</td>
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<td>-.0035</td>
<td>-.0077</td>
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<td>Sales per Employee</td>
<td>-.0107</td>
<td>.0109</td>
<td>-.0103</td>
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<td>.5958</td>
<td>.9648</td>
<td>(.7363)</td>
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<td>ICT Industry</td>
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<td>2.4580***</td>
<td>3.1012***</td>
<td>(1.1262)</td>
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<td>Electronics</td>
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<td>-.1339</td>
<td>-.3569</td>
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<td>Trade</td>
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<td>Finance</td>
<td>.2904</td>
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<td>(.7915)</td>
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<td>1.7267</td>
<td>1.7885</td>
<td>(.1296)</td>
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<tr>
<td>Wald chi²</td>
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<td>29.29***</td>
<td>41.44***</td>
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<td>334</td>
<td>264</td>
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<td>Number of Groups (Firms)</td>
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<td>85</td>
<td>67</td>
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<td>ROA</td>
<td>N/A</td>
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*** The coefficient is significant at the 1% level (two-tailed)
** “ 5%, * “ 10% “