

A Cross-Country Comparison of Corporate Governance and Firm Performance:
Do Financial Structure and the Legal System Matter?

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ABSTRACT

We blend the corporate governance and the financial structure/legal system literature streams to study whether firm performance is enhanced when its governance structure embodies the demands of the host country's financial structure and legal system. Using a sample of 1,736 unique firms representing 22 countries, we find that the *joint* effect of a country's financial structure and legal system does matter when explaining the relationship between performance and the overall level of corporate governance in a given country. The results also suggest that firms operating in the market/common combination countries tend to command higher market valuations than firms with a comparable level of corporate governance that operate in the bank/civil combination countries.

Key Words: Governance, Financial/Legal System, Performance

JEL Classification Codes: F30, G15, G28, G32, G34, K22, K40

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1. Introduction

This study examines whether and how a country's financial structure and its legal system impact a firm's corporate governance structure and consequently its market performance. We do not derive any hypotheses in this paper, instead we explore three research questions: (1) Does firm-level corporate governance vary across different combinations of financial structure and legal system? (2) Do a host country's financial structure and legal systems, individually and jointly, impact firm-level corporate governance and consequently its performance? and (3) Do different corporate governance mechanisms impact firm performance differently in distinctive combinations of financial structure and legal systems. Our findings indicate that firm-level corporate governance varies across different combinations of financial structure and legal systems which in turn exerts differential influence on the market performance of firms in host countries.

Prompted by the financial scandals of Enron and WorldCom, a steady stream of research has emerged that primarily focuses on untangling the relationship between a firm's governance practices and its operating, financial and market performance. Concurrently, other research scholars have focused on how differences in the financial structure—process of allocating capital to entrepreneurs—and legal systems—the way laws are formulated and quality of their enforcement—across countries impact (i) the firm-level corporate governance practices (Klapper and Love, 2004) and (ii) the overall flow of capital in a country (Levine, 2002).

On the surface, the goals of these two research streams may appear to differ—enhancing firm performance via good governance practices versus country-wide economic development through enhanced capital flows resulting from “financial deepening and legal sophistication”—but they both converge on the role of corporate governance. Both perspectives embrace the

notion of investor protection (i.e., what mechanisms a firm has put in place to protect its shareholders and how effective are the laws in a country to enforce contracts with a firm) and market for corporate control (i.e., how “investor-friendly” are a firm’s “decision and control” rights and how effective are the capital markets in a country to drive out poor managers). The former research stream analyzes the impact of governance practices at the firm-level while the same phenomena are investigated at the country-level in the latter research stream.¹ In this paper, we triangulate these two research streams to explore the joint mitigating effect, if any, of a host country’s financial structure and legal system on the firm-level governance-performance link.

The remainder of the study is organized as follows. Section 2 summarizes the literature and develops the research questions. Section 3 describes the data used to explore the research questions. Section 4 presents the empirical model and discusses the findings. Section 5 presents the conclusions and areas for future research.

2. Related Literature and Research Questions

A. Corporate Governance and Firm Performance

Shleifer and Vishny (1997, p. 737) observe that “most advanced market economies have solved the problem of corporate governance at least reasonably well, in that they have assured the flows of enormous amounts of capital to firms, and actual repatriation of profits to providers of finance.” Thus market economies have achieved adequate “investor protection” through some combination of firms’ voluntary disclosures and requiring a “legal minimum” set of good governance practices. However, there is considerable variation in corporate governance systems across countries (Maher and Andersson, 1999; Dallas, 2004; Solomon and Solomon, 2004; Shleifer and Vishny, 1997) and across firms within a country (Brown and Caylor, 2006; Klapper and Love, 2004). Researchers have been trying to identify the factors that account for this cross-

¹ See, for example, Demirguc-Kunt and Maksimovic (2002) on the role of a country’s financial structure, and La Porta et al. (1998, 2000) on the impact of a country’s legal system on capital flows in a country.

country and inter-firm variation of governance practices, and to estimate the extent to which this variation accounts for differences in firm performance and valuation across countries.

Firms with good governance are assumed to provide transparent disclosures of the allocation of decision and control rights between the firm and its investors thereby making them more investor friendly than firms that do not. Therefore, because “better governance enables firms to access capital markets on better terms” (Doidge et al. 2007, p. 2), good governance practices should positively impact a firm’s valuation and market performance. Although, there is ample anecdotal evidence from surveys (McKinsey surveys by Felton et al. 1996 and Coombes and Watson, 2000) that supports the notion that investors are willing to pay a premium for firms with better governance practices in the form of either lower required returns or higher stock market valuations, the empirical evidence on governance-performance link is still inconclusive.²

The motivation to investigate the corporate governance and firm performance nexus is twofold. First, consistent with contracting (Jensen and Meckling, 1976) and transactions cost theories (Coase, 1937), managers have every incentive to choose a level of corporate governance that ensures compliance with all applicable “investor protection” laws of the host country at the lowest possible cost of compliance. Under this argument, country-specific requirements, exogenously imposed, provide a governance “floor” for a firm. Second, since better corporate governance practices such as more disclosure (Botosan, 2000) and higher levels of takeover vulnerability (Cremers and Nair, 2005) presumably lead investors to demand a lower-risk premium, managers have an incentive to voluntarily improve their firm’s corporate governance practices as long as the reduction in the firm’s cost of capital offsets the implementation costs. This argument establishes the conceptual “ceiling” for a firm in adopting better governance practices. In reality, though, the actual levels of corporate governance implemented by firms in a

² See, for example, Chidambaram et al. (2008), Ashbaugh-Skaife et al. (2006), Cheng et al. (2006), Cremers and Nair (2005), Core et al. (2004), Gompers et al. (2003), Bhagat and Black (2002), and Patel and Dallas (2002) for mixed results.

particular country lie somewhere in between these two points (Aggarwal et al., 2006 and Klapper and Love, 2004).

B. Role of Financial Structure

Financial structure refers to the process through which capital markets in a country transfer risks and channel resources to their most productive uses while ensuring that managers pursue capital providers' interests over their own interests. Thus, a well-developed financial structure facilitates transfer of savings to investment opportunities in the most cost-effective manner (King and Levine, 1993) while simultaneously creating a market for corporate control to affect external governance. A large body of empirical research comprised of “cross-country studies, industry-level studies, firm-level studies, and time-series evaluations” finds that a country's financial structure is an essential element to support its economic growth (Beck et al. 2004).

The two different types of financial structures—“the stock market-oriented Anglo-Saxon model and the bank-oriented continental European model”—are also sometimes characterized as “arm's length versus relationship-based” systems (Rajan and Zingales, 2001, p. 472). Although there is ample empirical evidence that “suggests a positive, first-order relationship between financial development and economic growth” (Levine, 1997, p. 688) there still exists a significant debate about the relative merits of market-based versus bank-based financial systems as exogenous to economic growth and corporate governance.

Proponents of bank-based financial system argue that banks are better than markets in “mobilizing savings, identifying good investments, and exerting sound corporate control, particularly during the early stages of economic development and in weak institutional environments” (Levine, 2002, p. 398). This view also highlights the comparative shortcomings of the market-based financial system based on the premise that markets tend to reveal information more quickly, which in turn reduces incentives for individual investors to

proactively seek information to effect better internal monitoring of the managers who control their capital (Beck et al. 2004). They argue that a market-based system promotes liquidity at the expense of efficient governance of firms (Bhide, 1993). In a liquid market investors vote with their “feet” instead of their “voice” because they can sell their shares rather inexpensively. Arguing for the efficiency of a bank-based financial system, Rajan and Zingales (2001) note that the banks’ “ability to ‘internalize joint surplus’—that is, to trade off short-term losses for long-term gains” -- provides them with the necessary power to force the borrower to reveal private information thereby reducing the need to rely less on corporate governance mechanisms to ensure that its debts are paid off.

On the other hand, the market-based view argues that the effective cost of financing in a bank-based financial system is substantially higher than the market-oriented system because the absence of competition and disclosure in a bank-based system works against providing any price signals to guide investment allocation decisions (Rajan and Zingales, 2001, p. 473). Further, since “markets facilitate diversification and the customization of risk-management devices” (Beck et al. 2004, p. 191), they tend to encourage economic growth through more risk-taking. To support their view, market-based proponents highlight the deficiencies of the banks in a relationship-based system. Since banks can extract private information from the entrepreneur about the value of his/her investments and subsequently negotiate more rent, they tend to create a disincentive for the firm to undertake riskier projects with larger payoffs (Rajan, 1992).³

C. Role of Legal Systems

According to Dahya et al. (2008, p. 80) the legal system of a country or the quality of legal protection afforded to minority shareholders is often viewed as being made up of two elements: (1) statutory provisions (i.e., de jure protection) and (2) the degree to which the statutes

³ Even though capital markets or banks dominate in these systems, the two financial structures are not mutually exclusive. Thus, classifying a country’s financial structure as bank-dominated or market-oriented essentially captures the main source of funds for the private sector, not the only source.

are enforced (i.e., de facto protection). Lack of unanimity (Rajan and Zingales, 1998 and Levine 1999) on the “finance-growth” causality has led to the conjecture that “the differences in legal protections of investors might help explain why firms are financed and owned so differently in different countries” (La Porta et al. 1998, p. 1114). La Porta et al. (2000, p. 4) further contend that differences in a variety of aspects of countries’ financial structure “appear to be explained both conceptually and empirically by how well the laws in these countries protect outside investors.”

The link between the “law and finance” (La Porta et al. 1998) views securities as also bringing rights to their owners (Hart, 1995) as opposed to only cash flows under the traditional finance model (Modigliani and Miller, 1958). Equity securities not only bring dividends to the shareholders, but also rights to vote on matters such as appointment and removal of directors and auditors, and merger and acquisition proposals. Similarly, debt securities return interest and principal to the creditors and rights to repossess the collateral in case the company defaults on its promise. However, these “investor rights” are meaningless when commercial laws in a country are either weak or the quality of their enforcement is poor.

Empirical evidence (La Porta et al. 1997, p. 1149 and 2002, p. 1147) supports the claim that by protecting the financier from expropriation by the entrepreneur, a stronger legal environment motivates investors to surrender their capital in exchange for investor rights, thereby expanding the scope of the capital markets. Thus, the financial system develops in response to “what rights security holders have and how well these rights are protected” (La Porta et al. 1998, p. 1114).

D. Financial Structure, Legal Systems and Corporate Governance

Research on the link between “law and finance” within the context of corporate governance (Durnev and Kim, 2005; La Porta et al, 2002; Wurgler, 2000; and Kumar et al., 1999) supports the notion that “the differences in the nature and effectiveness of financial

systems around the world can be traced in part to the differences in investor protections against expropriation by insiders, as reflected by legal rules and the quality of their enforcement” (La Porta, et al., 1997, p. 1131). In this view, the reason why investor protection leads to financial market development is because better legal protection assures them that in addition to their original investment more of the firm’s profits will come back to them as dividends and interests, and this assurance motivates them to pay more for financial assets offered by the entrepreneur. Thus, “by limiting expropriation, the law raises the price that securities fetch in the marketplace which in turn, enables more entrepreneurs to finance their investments externally, leading to the expansion of the financial markets” (La Porta et al., 2002, p. 1147). Consequently, proponents of this school of thought argue that “the legal approach is a more fruitful way to understand corporate governance and its reform than the conventional distinction between bank-centered and market-centered financial systems” (La Porta et al. 2000, p. 3).

La Porta et al. (1999, 2002) and Djankov et al. (2002) find that a country’s legal system drives the development of its financial structure. In that respect, Glaeser and Shleifer (2002, p. 1194) observe that “one area where the greater insecurity of property rights in civil-law countries shows up clearly is the development of financial markets. On just about any measure, common-law countries are more financially developed than civil-law countries.” Thus, the idea that “relationship-based systems can survive in environments where laws are poorly drafted and contracts not enforced...and the prompt and unbiased enforcement of contracts by courts is a precondition for the viability of a market-based system” (Rajan and Zingales, 2001, p. 472) leads one to ask why financial systems in common-law countries tend to be market-oriented and in civil-law countries bank-dominated (La Porta et al. 1997, 1998).

The answer may lie in the way judges exercise their interpretive powers within each legal tradition (Ergungor, 2004). Unlike the common-law tradition, increased reliance on the “bright line” rules (i.e., codification of laws) in the civil-law system (Glaeser and Shleifer, 2002)

disables the courts from detecting expropriation through a “smell test” (Coffee, 2001). Investor contractual rights are enforced by looking at the “form” of the contract rather than the “substance” of the transaction. The way contracting parties work around this weakness in the civil-law system is through the creation of an intermediary or a relationship-based financial system (i.e., bank-based).

However, citing earlier research by Rajan and Zingales (1998) and Egli et al., (2001) that “relationship-based systems are superior to market-based systems in environments where laws are poorly drafted and enforced,” Ergungor (2004, p. 2870) argues that the two are not independent, suggesting that a country’s financial structure and legal system interact in ways to reinforce each other.

But “differences in institutions and markets across countries also have implications for corporate governance” (Allen and Gale 2000, p. 5). Researchers (e.g. Jensen and Murphy, 1990) have long argued that hostile takeovers in a well-developed equity market serve as a strong disciplining device for a mismanaged company, making it much easier to enhance firm-level corporate governance by tying managerial compensation to firm performance (Levine, 2002, p. 400). Additionally, research in accounting and finance (Francis et al., 2005; Botosan, 2000) finds an association between more disclosures – long considered a better governance practice – and lower cost of capital. The bank-based view suggests that banks acting as financial intermediaries serve as delegated monitors on behalf of their depositors and small investors. Hence banks are capable of acquiring information about firms and managers in a way that makes the need for open market disclosure of a firm’s “decision and control rights” less meaningful.

Consistent with contracting (Jensen and Meckling, 1976) and transaction-cost (Coase, 1937) theories, corporate governance mechanisms impose opportunity costs on a firm. Thus, while managers try to develop their firm’s corporate governance structure within the context of the host country’s financial structure and legal system, they also do so in light of the cost-benefit

constraint. As illustrated in Figure 1, to study the governance-performance nexus, it is important to link a country's legal system and its financial structure to firm-level corporate governance because *jointly* they influence the cost of implementing and sustaining the firm-level corporate governance structure needed to efficiently raise capital in that country.⁴

INSERT FIGURE 1 HERE

Thus it is conceivable that firms domiciled in countries characterized by common-market and civil-bank regimes will exhibit different levels of corporate governance to access capital at rates that will enable them to enhance their firms' financial and market performance. However, it is difficult to predict the direction of the relationship between firm-level governance and performance in the presence of the *joint* effect of a country's financial and legal systems because each may exert a different level of pull on the firm-level corporate governance structure. For example, in a bank-based financial system with civil-law regime, on one hand firms may be inclined to adopt minimum governance practices due to the bank's ability to extract private information from the managers but the ineffectiveness of the laws under a civil law regime may motivate the same firm to implement better firm-level corporate governance measures to counter the weakness in host country's legal system.

Since firms incur costs in implementing governance, it is prudent for them to understand what pressure, if any, is being exerted by the *joint* influence of their host country's financial structure and legal system (see Figure 1). When a firm incurs costs in endogenizing governance without considering what is expected by the *joint* influence of their host country's financial structure and legal system, it is like undertaking a negative NPV project that is bound to lower firm performance. Given that both financial and legal systems interact (Ergungor, 2004) to affect firm-level corporate governance, none of the research studies that attempt to explain the

⁴ Consistent with our justification, Jong et al. (2002), based on their three-country study (Belgium, The Netherlands, and the United Kingdom), also conclude that "country-specific features appear to be highly relevant" in studying the governance-performance relationship.

governance-performance link have investigated whether and how a host country's financial structure and legal system impact this link.

The forgoing discussion frames the issues that we explore empirically in this paper.

Specifically, we consider the following three research questions:

- Does firm-level corporate governance vary across different combinations of financial structure and legal system?
- Do a host country's financial structure and legal systems, individually and jointly, impact firm-level corporate governance and consequently its performance?
- Do different corporate governance mechanisms impact firm-performance differently in distinctive combinations of financial structure and legal system?

We conduct our analysis with data on corporate governance for 1,736 firms from 22 countries. We classify each country along each of the two dimensions of the financial structure—market-or bank-based—and along each of the two dimensions of the legal system—common law or civil law.⁵ In our primary analysis we then estimate regressions with Tobin's Q as a dependent variable and a proxy for firm-performance. The independent variables are corporate governance scores within various combinations of the financial structure and legal system and control variables.

3. DATA AND VARIABLES

A. Sample Data

Firms in our sample are drawn from the corporate governance database maintained by the Institutional Shareholder Service (ISS)⁶ and Thomson Worldscope[®] database from Thomson Financial. The ISS reports firm-level corporate governance data for global firms on a monthly basis, beginning November 2003. After excluding U.S.-based firms, we identify 2,559 foreign

⁵ Further in the paper, we breakdown the civil-law countries into three separate groups: French-civil, German-civil, and Scandinavian-civil to re-run the regressions.

⁶ Institutional Shareholder Service, a subsidiary of RiskMetrics, is the only proxy-advisory services firm that systematically collects and maintains the most comprehensive global database on corporate governance characteristics of firms. It utilizes a consistent rating scheme across the countries to compute the corporate governance quotient.

firms.⁷ We remove firms in the real-estate industry, all ADRs, non-UK firms listed on the London Stock Exchange, and firms listed on U.S. stock exchanges to ensure that cross-listing requirements do not confound the host country effects. We obtained the relevant financial data from the Thompson Worldscope[®] database, dropping those firms for which financial data are not available. The final sample consists of 1,736 firms from 22 different countries for the period October 2003 through June 2006⁸ as summarized in Table 1.

INSERT TABLE 1 ABOUT HERE

B. Dependent Variable

Consistent with prior research, for our dependent variable we use Tobin's Q (*TOBINSQ*) to measure firm performance (Brown and Caylor, 2006). The frequent use of Tobin's Q to measure firm performance in governance research is motivated by the fact that Tobin's Q captures the effect of firm-specific intangible assets such as "good managers" (Morck et al. 1988, p. 296) and financial/market valuation variables, both of which have been found to be influenced by the firm's level of corporate governance (Brown and Caylor, 2004).

We calculate Tobin's Q as the ratio of market value of assets to book value of total assets where the market value of assets is calculated as the sum of the book value of assets and the market value of common equity less the book value of common stock and deferred taxes (Gompers et al. 2003; Bebchuk and Cohen 2005). The market value of equity is measured as of the end-of-year stock price times the number of shares outstanding. Chung and Pruitt (1994) find that this approximation of Tobin's Q correlates very highly with other mathematically more complex and theoretically more representative measures of Tobin's Q.

⁷ We exclude U.S.-based firms because of differences in the methodology employed by the ISS to capture governance for U.S.-based vis-à-vis foreign firms.

⁸ For analysis purposes, we divide this time period into three fiscal years: Fiscal 2003 (October 03 to June 04); Fiscal 2004 (July 04 to June 05); and Fiscal 05 (July 05 to June 06). Note the ISS data come out on the 1st of each month and are matched to the financial data for the prior month (i.e., November 2003 ISS data are matched to October 2003 financials).

C. Independent Variables

We collected data on three independent variables: firm-level corporate governance, and classification of countries along the two dimensions of financial structure (market oriented and bank dominated) and legal system (common law and civil law).

Our firm-level corporate governance measure is the corporate governance quotient (*CGQ*) calculated by the ISS. The *CGQ* composite score takes into account a number of different governance provisions employed by a firm and organizes them into eight major and distinct subcategories as follows: (1) Board Characteristics (*BOARD*), (2) Anti-Takeover Provisions (*ATPROV*), (3) Executive and Director Compensation (*EXDIRCOMP*), (4) Qualitative Factors (*QUALFAC*), (5) Auditor and Audit Committee related (*AUDIT*), (6) Charter/Bylaws (*BYLAW*), (7) Director and Management Ownership (*OWNER*), and (8) Director Education (*DIRE*).⁹ We also analyze each one of these subcategories to understand which ones (more than others) drive our primary results.

The ISS global corporate governance quotient (*CGQ*) and the subcategories cover firms around the globe—8,000 companies from 22 different countries—and are widely watched and closely followed by the capital markets internationally. The ISS proprietary data coding scheme leads to a higher *CGQ* score implying better firm-level corporate governance than a lower *CGQ* score.

Classifying countries according to financial structure (*FINSTR*) and legal system (*LGLSYST*) follows previous research conducted in financial and political economics. To classify countries into *market-oriented* or *bank-based*, we use the bivariate classification developed by Demircuc-Kunt and Levine (2001, p. 121). Similarly, to classify countries into *common-law* or *civil-law* regimes, we rely on La Porta et al. (1998, p. 1130-31). Although they divide countries

⁹ Since the Director Education (*DIRE*) subcategory has a score of zero for all firms for all years in our sample, we will consider only the remaining seven subcategories in remainder of this paper. Additional details on each subcategory can be found at http://www.riskmetrics.com/sites/default/files/CGQ_Criteria_exUS.pdf. Note Qualitative Factors is now called Progressive Practices.

into four separate legal regimes—English-origin, French-origin, German-origin and Scandinavian-origin, consistent with La Porta et al. (2002, p. 1161) – we collapse the last three legal regimes into one broader legal regime of civil law.¹⁰ French civil law is considered the purest form of civil law and the German and Scandinavian adaptations “take an intermediate stance towards investor protection” (La Porta et al. 1998, p. 1151). Figure 2 depicts the resulting classification of the 22 countries in our sample by financial structure and legal system.

INSERT FIGURE 2 ABOUT HERE

Figure 2 shows that this 2x2 taxonomy creates four distinct combinations of *FINSTR* and *LGLSYST*. When a firm is domiciled in a country identified with the bank-dominated (market-dominated) financial structure, *FINSTR* is coded as 1(0). Similarly, when a firm is domiciled in a civil-law (common-law) country, we code *LGLSYST* as 1(0).

Our primary analysis includes exploring the governance-performance link within each one of these four distinct combinations, which are treated as four independent variables in our model: (1) $CGQ_{MKT\text{COMN}}$ (CGQ for a firm operating in a market-based financial structure with common-law investor protection); (2) $CGQ_{MKT\text{CVL}}$ (CGQ for a firm operating in a market-based financial structure with civil-law investor protection); (3) $CGQ_{BNK\text{COMN}}$ (CGQ for a firm operating in a bank-based financial structure with common-law investor protection); and (4) $CGQ_{BNK\text{CVL}}$ (CGQ for a firm operating in a bank-based financial structure with civil law investor protection).

In addition to country-level differences in financial structure and legal system that may affect a firm’s governance and performance, Himmelberg et al. (1999) argue that differences across firms’ contracting environments due to differences in their individual characteristics may potentially be the source of endogeneity in explaining the governance-performance nexus. Although we attempt to mitigate this problem by using time-series governance data that vary

¹⁰ Djankov et al. (2002) further validate the La Porta et al. (1998) cross-country legal family classification scheme.

over the three fiscal years covered in this study (Klapper and Love, 2004, p. 706), we also use five different control variables that proxy for firm profitability, firm growth, and degree of firm leverage: (i) percentage of pre-tax profit margin (*PTMARG*) calculated as pre-tax profit margin divided by total sales controls for firm profitability; (ii) percentage sales growth (*GSALES*) calculated as the increase or decrease in current period sales divided by the previous period's total sales controls for firm growth; (iii) debt ratio (*DEBTRAT*) calculated as total liabilities divided by total assets controls for degree of firm leverage; (iv) return on assets (ROA) calculated as net income divided by total assets to control for firm profitability; and (v) return on equity (ROE) calculated as net income divided by total common stockholders' equity as an additional control for firm profitability.

4. EMPIRICAL MODEL, FINDINGS, AND DISCUSSION

To answer our first research question, whether firm-level corporate governance varies across firms in countries with different types of financial structure and legal systems, we conduct two separate tests. First, we test for this variation *individually* at the financial structure and legal system level by comparing the mean *CGQ* score of (i) firms operating in market-based financial system with that of the firms operating within the bank-based financial system, and (ii) firms operating in the common-law regime with firms operating within the civil-law system. Second, we form six distinct pairwise combinations of the mean *CGQ* score from each one of the four distinct quadrants (see Fig. 2). Then we test to see whether the six pairs of mean *CGQ* scores differ statistically with each other.

To answer our second question, whether a host country's financial and legal systems *individually* exert any influence on firm-level performance, we regress firm performance, *TOBINSQ*, separately on the financial structure and legal system dummies as indicated in the following two models:

$$TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} + \varepsilon_{it} \quad (1)$$

$$TOBINSQ_{it} = \alpha + \beta_1 LGLSYST_{it} + \varepsilon_{it} \quad (2)$$

To further answer the second research question whether the relation between corporate governance and firm performance is mitigated *jointly* by the financial structure and legal system of the host country we regress the firm performance, *TOBINSQ*, on the *CGQ* for the four financial/legal system combinations as follows:

$$TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT\text{COMN}_{it}} + \beta_2 CGQ_{MKT\text{CVL}_{it}} + \beta_3 CGQ_{BNK\text{COMN}_{it}} + \beta_4 CGQ_{BNK\text{CVL}_{it}} + \beta_5 Control + \varepsilon_{it} \quad (3)$$

To answer our third question, do different corporate governance mechanisms impact firm performance differently in distinctive combinations of financial structure and legal systems, we expand the above regression by breaking out *CGQ* into its component scores.

Changes to our basic econometric model to test for alternative explanations are discussed later under robustness checks. We use annual fiscal year-end data to calculate *TOBINSQ* and the *CGQ* scores. Changes in a firm's corporate governance mechanisms tend to show up better in an annual period than in a shorter monthly or quarterly period. Further, our classification of a country into the 2x2 taxonomy of financial structure and legal system type does not change from year to year.

A. Descriptive Statistics and Analysis

Table 2 provides descriptive statistics. Although our sample size varies for each of the three years due to the missing data on either the *CGQ* variable or on one or more of the financial variables used in calculating the *TOBINSQ* and control variables, within each year we have a balanced panel data-set. Table 2 reports the mean, median and standard deviation for the dependent variable *TOBINSQ*, the two independent dummy variables representing financial structure (*FINSTR Dummy*) and legal system (*LGLSYST Dummy*), the overall corporate

governance quotient ($CGQ_{OVERALL}$), the seven CGQ subcategories, and five control variables ($GSALES$, $PTMARG$, $DEBTRAT$, ROA , ROE).

INSERT TABLE 2 ABOUT HERE

Although the mean/median $TOBINSQ$ gradually increases during each of the three years in our study, the standard deviation concurrently decreases. Because the $FINSTR$ and $LGLSYST$ classifications for each sample firm remain constant over the three-year period, other variables must be influencing $TOBINSQ$ over the same period. Our use of $GSALES$ (% sales growth), $PTMARG$ (% pre-tax margin), ROA (return on assets), ROE (return on equity), and $DEBTRAT$ (total liabilities to total assets) as control variables helps us to isolate the relationship between firm performance, corporate governance, and a country's financial/legal system unfettered by firm growth, profitability or leverage differentials.

A review of the mean overall CGQ and seven CGQ sub-category scores indicates a significant decline in fiscal 2004 causing one to question the stability of the scoring scheme employed by the ISS. Our discussions with the ISS on this issue indicate that for each year a firm's overall CGQ score is a relative measure meaning that although mean absolute scores for fiscal 2004 decline across the board, the relative ranking of the firms for that year is consistent with that of the preceding and succeeding years. Since CGQ is a relative score, changes in raw scores from year-to-year do not impact our results since in this study we focus on the level of CGQ for each year.¹¹

Table 3 contains Pearson correlation coefficients for the variables: $TOBINSQ$, $FINSTR$, $LGLSYST$, $CGQ_{OVERALL}$, seven CGQ subcategories; and (ii) results of the chi-square test for independence between the $FINSTR$ and $LGLSYST$ variables.

INSERT TABLE 3 ABOUT HERE

¹¹ ISS is continuously updating its governance criteria and calibrating the weighing scheme to adequately capture voluntary and mandatory changes in firm-level corporate governance instituted due to changes in host country's financial structure and legal system.

Table 3 reports correlations for fiscal 2003 as representative of the three years in our sample. A strong positive correlation of 0.7171 between *FINSTR* and *LGLSYST* for fiscal 2003 significant at the 1% level indicates that countries with bank-dominated financial structure tend to have a civil-law based legal system.¹²

Recall that we coded the *FINSTR* and *LGLSYST* variables “1” when the financial structure is bank-dominated and the legal system is civil-law based. For fiscal 2003, both *FINSTR* (-0.0712 significant at 5% level) and *LGLSYST* (-0.0732 significant at 0.01 level) dummy variables are individually negatively correlated with *TOBINSQ*. This indicates that (i) firms operating in a bank-dominated financial structure tend to underperform firms operating in a market-oriented financial structure, and (ii) firms operating in a common-law based legal system outperform firms operating in a civil-law based legal system.¹³

INSERT TABLE 4 ABOUT HERE

Overall, consistent with prior research (Ergungor 2004) these correlations also indicate that *FINSTR* and *LGLSYST* are highly interrelated variables. To offer more evidence on the potential relationship between *FINSTR* and *LGLSYST*, we report the results of a chi-square test in Table 4, further indicating that the two variables are not independent of each other.

B. Research Questions

Question 1: Does firm-level corporate governance vary across different combinations of financial structure and legal system?

To answer this question, we first compare each year’s mean (median) *CGQ* for the firms residing in countries characterized by four different combinations of financial structure and legal system. These *CGQ* scores with related results from test of differences are presented in Table 5, Panel A.

¹² Although not presented in the paper, the correlations for fiscal 2004 (.7111) and fiscal 2005 (.8201) are also significant at the 1% levels indicating the strength of the relationship between bank-based financial system and civil-law based legal system.

¹³ All of these correlations are statistically significant for fiscal 2004 and 2005 except for the legal system (*LGLSYST*) in fiscal 2005.

INSERT TABLE 5 ABOUT HERE

These results indicate that for each of the three fiscal years in our sample, the mean (median) *CGQ* is statistically significant and higher for firms operating within a market-oriented financial structure than for firms operating within a bank-based financial structure. The results show that there are differences in the ability of capital providers to acquire information from a borrower. For example, in a bank-based system, during the process of lending money, a bank is able to access information about a “firm’s prior projections, ability to meet prior targets, reliability and competence of personnel, etc.” that is not easily available to minority capital providers such as bondholders and equity owners (Rajan, 1992, p. 1368). Even after the bank has made a loan to the firm, it continues to exert this power to extract information through its ability to force the renegotiation of the debt. This continuing ability of the bank to extract, at will, non-public information from the borrower insulates the bank to some extent from the risk of expropriation by the owners, which in turn relegates the need for the firm to institute costly governance mechanisms. On the contrary, in a market-oriented financial system where there is significant diffusion of firm ownership and information asymmetry, it becomes imperative for the capital providers to ask for higher levels of corporate governance from firms to protect their capital from managerial opportunism. Under such a financial system, if a firm chooses to deny the market’s demand for higher levels of corporate governance, it risks increasing its cost of capital (Francis, et al. 2005; Botosan, 2000).

Alternatively, our results support Doidge et al. (2007, p.3) who show that good governance allows a firm to access capital at better terms: “But this benefit is worth less to a firm in a country with poor financial development because that firm will obtain less funding from the capital markets and hence will benefit less from any governance-related reduction in the cost of funds.” Consequently, a firm operating in a bank-based financial structure country may find it beneficial to invest less in corporate governance because major supplier of funds—banks as

“delegated monitors”—are able to exert direct control and monitoring to mitigate managerial opportunism.

Similarly, when we compare the *CGQ* for all firms in our sample for the three fiscal years along the two dimensions of common-versus civil-law regimes, we again find that the mean (median) *CGQ* is higher for firms operating within the common-law than the civil-law system. These results reinforce our earlier discussion that civil-law countries generally are reactive and weaker than common-law countries in making, interpreting and enforcing laws. Since civil-law regimes tend to place more emphasis on “form over substance” of a transaction, and judges strictly implement the “letter of the law” rather than the “spirit of the law,” it becomes counter-productive for a firm to implement more governance mechanisms to further protect its shareholders. These additional measures will not yield any value to the firm because contracts with shareholders are unwritten due to the “residual” nature of their risk-taking. The market will discount such implicit contracts due to questions about their enforceability.

We also explore whether *CGQ* mean values differ across six pairwise comparisons of the four quadrants presented in Figure 2. We use analysis of variance on differences to explore whether a host country’s financial structure and legal system *jointly* influence corporate governance. Results in fiscal 2003 and 2005 indicate that the mean *CGQ* differs significantly (1% or 5% levels) for all pairwise combinations other than Quadrants 1 (*CGQ_{BNKCOMN}*) and 4 (*CGQ_{MKTCVL}*). Similarly, for fiscal 2004 and 2005, the mean *CGQ* differs significantly (1% level) for all pairwise combinations other than Quadrants 1 (*CGQ_{BNKCOMN}*) and 2 (*CGQ_{MKTCOMN}*); see Table 5, Panel B. As explained later during the paper, perhaps the insignificance of differences between *CGQ_{BNKCOMN}* and *CGQ_{MKTCVL}* is due the fact that governance expectations are not clearly defined under these combinations of financial structure and legal system.

Table 5 clearly indicates that for all three years firms operating in market/common combination countries exhibit higher levels of corporate governance than firms operating in

bank/civil combination countries. These results reinforce our earlier discussion on how a country's financial structure and legal system individually influence firm-level corporate governance practices.

Question 2: Does a host country's financial structure and legal system, individually and jointly, impact firm-level corporate governance and consequently firm performance?

Here, we separately regress each one of the three main independent variables (*CGQ*, *FINSTR* and *LGLSYST*) on *TOBINSQ*. Recall from Table III that Pearson moment correlations indicate that these independent variables do correlate significantly with *TOBINSQ*.

Table 6, Panel A, indicates that each independent variable (*CGQ*, *FINSTR* and *LGLSYST*) exerts a negative pressure on firm performance (*TOBINSQ*). Specifically, (a) higher corporate governance values (*CGQ*) contribute to lower firm performance, (b) firms operating within civil-law (*LGLSYST*) countries exhibit lower *TOBINSQ* than those in common-law regimes, and (c) firms operating within a bank-dominated structure (*FINSTR*) underperform firms in a market-oriented structure.

INSERT TABLE 6 ABOUT HERE

Given our significant univariate regression results, we run five separate multiple regressions (Table 6 Panel B) to test for the significance of the variables *CGQ*, *FINSTR* and *LGLSYST* in the presence of each other and *jointly* in an interaction term. These results indicate that in all five separate regression models higher *CGQ* exerts a significant (1% level) negative drift on Tobin's Q. Models 1 and 2 also indicate that *LGLSYST* and *FINSTR* dummy variables separately exert significant negative pressure on a firm's Tobin's Q further confirming our main-effect regression results that firms within a bank-based/civil-law regime tend to have a lower Tobin's Q than firms in a market-oriented/common-law regime.

When *FINSTR* and *LGLSYST* are both introduced in Model 3, a country's financial structure dwarfs its legal system's effect on firm performance such that the *LGLSYST* dummy

variable becomes insignificant. This finding is contrary to La Porta et al. (1997), who argue that a country's financial structure is *subordinate* to its legal system. The interaction of the two remains significant in Model 4. Even though Model 5 includes all three variables (CGQ , $FINSTR$, and $LGLSYST$) and the interaction term ($FINSTR*LGLSYST$), the dummy variable $LGLSYST$ remains insignificant.

Given these results, we regress $TOBINSQ$ on the CGQ score in each of the quadrants of the 2x2 financial structure/legal system taxonomy as presented in Fig. 1 ($CGQ_{MKT\text{COMN}}$, $CGQ_{MKT\text{CVL}}$, $CGQ_{BNK\text{COMN}}$, and $CGQ_{BNK\text{CVL}}$). These results are presented in Table 7.

INSERT TABLE 7 ABOUT HERE

We find the estimated regression coefficients for the $CGQ_{MKT\text{COMN}}$ and $CGQ_{BNK\text{CVL}}$ to be significant at the 5% and 1% levels respectively. $CGQ_{MKT\text{CVL}}$ and $CGQ_{BNK\text{COMN}}$ are statistically insignificant. Thus, (a) Tobin's Q is **positively** impacted by higher corporate governance quotient for firms in countries with a market/common combination, and (b) **negatively** impacted by higher corporate governance quotient for firms in countries with a bank/civil combination.¹⁴

We explain our findings as follows. Earlier research (La Porta et al., 1997 and Rajan and Zingales, 2001) indicates that a market-oriented financial structure develops mostly in common-law countries while the bank-based or the "relationship-based" financial structure develops in civil-law countries. Given that market/common and bank/civil combinations of financial structure and legal system appear to develop in tandem, we propose that firms that expend resources on corporate governance mechanisms consistent with the "needs and demands" of their host country's financial markets and investor protection laws experience enhanced market values. Thus firms that expend resources to implement corporate governance structures while ignoring these considerations may find themselves investing in negative net present value

¹⁴ Although each financial-legal combination contains more than one country, we report results using a random effects cross-sectional regression. To counter the argument that 1417 groups in the random-effects model make the within-group variation less meaningful, we also ran our regressions using the fixed effects model. We find that effect on the coefficients is minimal with no change in the related signs. Our overall results and conclusions do not change.

projects. As Doidge et al. (2007, p. 3), observe “countries matter [in studying governance-performance nexus] because they influence the costs that firms incur to bond themselves to good governance and the benefits from doing so.”¹⁵

From a managerial perspective, Table 8 quantifies the positive and negative impact of a one-standard-deviation increase in a firm’s *CGQ* value within the two statistically significant combinations of market/common and bank/civil. These results suggest a company operating within a market/common country that implements changes in governance resulting in a one-standard-deviation increase in its *CGQ* will experience a higher Tobin’s Q averaging 3.76% (ranging from 3.49% to 4.04%). In contrast, the company operating within a bank/civil country that implements changes in governance resulting in a one-standard-deviation decrease in its *CGQ* experiences a higher Tobin’s Q averaging 2.79% (ranging from 2.46% to 3.19%).

INSERT TABLE 8 ABOUT HERE

Question 3: Do different corporate governance mechanisms impact firm-performance differently in different combinations of financial structure and legal system?

Given these findings, we further explore how each one of the seven *CGQ* subcategories drives our results; Table 2 provides initial insights. Within the seven subcategories of the ISS corporate governance quotient, company charter/bylaws subcategory (*BYLAW*) has the highest mean value across all three years. Consistent increases in the mean score for this sub-category with a decline in the standard deviation indicate that all firms across all countries in all three years are converging by implementing similar levels of charter/bylaws. Similarly, the director and officer ownership (*OWNER*) score is also increasing with a declining standard deviation once again indicating convergence. All firms in our sample are also scoring higher on the qualitative factor subcategory (*QUALFAC*). The qualitative factor subcategory captures firm-

¹⁵ Firms located in the market/civil or bank/common environments operate under “misaligned” financial and legal system. For this reason, it is not clear what impact, if any, governance will have on firm performance. As a result remainder of this research paper focuses only on market/common and bank/civil combinations.

level governance practices related to directors' retirement age, board performance reviews, outside directors' meetings, etc. On the contrary, the mean scores for board characteristics (*BOARD*) and anti-takeover provisions (*ATPROV*) are consistently declining. A decline in the *BOARD* subcategory score indicates a decline in internal corporate governance within a firm, and a decline in the anti-takeover provisions (*ATPROV*) subcategory score indicates a firm's attempts to put "roadblocks" for the market to decrease its vulnerability to takeovers. A decline in both subcategories points to increased managerial power.

We also computed the mean (median) for each fiscal year for the seven subcategories by dividing the sample first into market vs. bank-based financial structure and then common vs. civil-law based legal system. Of the 42 pairwise combinations¹⁶ created for testing the difference between the means (medians), all were statistically different at the 0.001 level except for three pairs.¹⁷

Consistent with the prior econometric models used herein, we regress *TOBINSQ* on each one of the seven subcategories. We find that while *BOARD* and *QUALFAC* are significant at the 1% level, *AUDIT* and *BYLAW* subcategories are significant at the 5% level. The positive coefficient sign for *AUDIT*, *BYLAW* and *QUALFAC* indicates that a higher score on these governance subcategories exerts, in general, a positive influence on our sample firms' market value. The negative coefficient for the *BOARD* subcategory indicates that a higher score for this subcategory, in general, tends to exert a negative influence on our sample firms' performance.¹⁸ Incorporating the five control variables of *GSALES*, *PTMARG*, *ROA*, *ROE* and *DEBTRAT* further confirms these results.

¹⁶ We arrived at the 42 separate mean (median) comparisons as follows: 7 governance subcategories by 3 fiscal years by 2 types of financial structure and legal system.

¹⁷ *EXDIRCOMP* was significant at 0.08 levels for 2004 for the difference between common vs. civil law. *OWNER* was insignificant for 2004 for difference between market vs. bank and the difference between common vs. civil law.

¹⁸ Because there are 17 different elements within the larger *BOARD* subcategory, and due to the nonavailability of data on these individual elements, it is difficult to determine whether it is the board size, board composition, board attendance, etc., that is exerting a negative influence on firm performance.

Given these main-effect regression results for the seven *CGQ* subcategories, we run five separate multiple regressions to test for the significance of *LGLSYST* and *FINSTR* along with the *CGQ* subcategories in the presence of each other and *jointly* in an interaction term.

INSERT TABLE 9 ABOUT HERE

The results from all five separate regressions models (Table 9) indicate that a higher *BOARD* subcategory exerts a significant (1% level) negative drift on Tobin's Q. In addition, the governance subcategories of *QUALFAC*, *AUDIT* and *BYLAW* have a significant positive influence on *TOBINSQ* while the subcategories of *ATPROV*, *EXDIRCOMP*, and *OWNER* are statistically insignificant. The remaining results as they relate to *LGLSYST* and *FINSTR* are consistent with the aggregate *CGQ* results reported in Panel B of Table 6.

Given our earlier results of Tobin's Q being positively impacted (negatively impacted) by higher corporate governance quotient for firms in market/common (bank/civil) combination countries, we further regress *TOBINSQ* on the *CGQ* subcategories score in each of these two combinations. We find that a higher score in the *BOARD* subcategory exerts a negative influence (estimated coefficient -0.0050 significant at 1% level) on a firm's performance operating within the bank-civil combination. We do not find that this subcategory impacts a firm's performance in any way within the market/common combination. The *ATPROV* subcategory exerts a positive (estimated coefficient 0.0126 significant at 1% level) influence on a firm's performance within the market/common combination and has a negative (estimated coefficient -0.0199 significant at 1% level) influence within the bank/civil combination. The *EXDIRCOMP* has a negative (estimated coefficient -0.0081 significant at 1% level) impact on firm performance within the bank/civil combination. The *QUALFAC* subcategory positively influences firm performance (estimated coefficient 0.1638 significant at 1% level) within the bank/civil combination. The *AUDIT* subcategory positively impacts firm performance (estimated coefficient 0.0170 significant at 5% level) within the market/common combination but exerts a negative (estimated

coefficient -0.0105 significant at 10% level) impact within the bank-civil combination. The *BYLAW* subcategory exerts a positive influence on firm performance under market/common (estimated coefficient 0.0131 significant at 1% level) and bank/civil (estimated coefficient 0.0085 significant at 5% level) combinations. The *OWNER* subcategory is not significant in either of the combinations.¹⁹

These results indicate that higher corporate governance scores within the three subcategories related to board of directors, anti-takeover provisions, and auditor and audit committee positively influence performance of firms operating within the market/common combination. These same three subcategories have a negative influence on performance for firms operating within the bank/civil combination. The higher corporate governance score on the charter/bylaw subcategory influences equally the performance of all firms operating within the two combinations. Additionally, firms operating within the bank/civil combination benefit by implementing governance practices such as retirement age for directors, CEO succession plans, etc., but incur a cost by implementing practices in the area of executive and director compensation.

C. Robustness Checks

We conduct additional analyses to support the robustness of our primary findings, making various adjustments to our dependent and independent variables.²⁰ First, we adjust *TOBINSQ* for industry effects by subtracting from the firm's Tobin's Q the median value of the firm's industry's Tobin's Q. Then we make three separate adjustments to *CGQ* for each one of the four quadrant combinations of the financial structure and legal system. For each one of these adjustments, we subtract from the firm-specific *CGQ* value the median *CGQ* value

- of each financial/legal system combination to isolate the endogenous level of governance adopted by a firm located within a particular combination

¹⁹ Complete regression results are available upon request.

²⁰ Complete details of the results from the robustness checks are available from the authors.

- for the index to which the company belongs as identified by the ISS²¹ to isolate and focus only on the firm-level corporate governance, and
- of all firms operating within the same industry to control for any bias introduced into the firm-specific *CGQ* by the rating scheme employed by the ISS.

These adjustments do not change our original results: (a) *CGQ_{MKTCOMMON}* and *CGQ_{BNKCVL}* continue to be significant at the 1%, 5% or 10% levels, and (b) observed coefficient signs remain consistent with the earlier results.

We repeat the above analysis, incorporating the five specific control variables in our model: *GSALES* (% sales growth), *PTMARG* (% pre-tax margin), *ROA* (% return on assets), *ROE* (% return on equity), and *DEBTRAT* (% of total liabilities to total assets). These control variables help to neutralize the varying growth-rate, profitability, and the debt-load differentials of our sample firms that might otherwise exert either downward or an upward pressure on *TOBINSQ*. Although absolute values of sales, pre-tax margin, and liabilities are typically used to control for these effects, we use ratio variables (% sales growth, % pre-tax margin, and debt ratio) instead. Since our sample firms prepare their financial statements in accordance with various home-country GAAPs that report different accounting numbers for the same underlying business transaction, our use of the ratios mitigates, to some extent, the problem of lack of comparability in the accounting numbers of our sample firms. Since the Thomson Worldscope[®] database reports financial data for global firms in U.S. dollars, using ratios also helps us deal with problems associated with translating local currency financials into U.S. dollars.

INSERT TABLE 10 ABOUT HERE

These results (Table 10) indicate that *GSALES* is not significant; however, *ROA*, *ROE*, and *DEBTRAT* are significant at the 1% level while *PTMARG* is nearly significant at the 10% level. Nevertheless, the original results persist in all four regressions: (a) higher *CGQ* contributes ***positively*** to the valuation of firms operating in a market/common environment and (b) higher

²¹ ISS assigns each firm to an industry, such as S&P/TSX Composite or MSCI EAFE. Using these classifications, we adjusted the raw *CGQ* score.

CGQ *negatively* impacts firms' valuation when operating in a bank/civil environment. Additionally, it is important to note that since our results are based on three year data, one cannot argue that they are the artifact of a small period of time.²²

We also run all regressions using controls for year, country and industry. For the most part the results are consistent with our prior findings. These results are not included in the paper due to concerns about multicollinearity with these controls and some of our variables of interest as well as the difficulty in defining industries across countries. For example, the country control is going to be highly correlated with our measure of financial and legal system because these are, of course, based on the country.

As discussed earlier herein, civil-law countries can be further differentiated as belonging to French, Scandinavian, or German civil-law traditions. Using this finer breakdown of the civil-law family along with two types of financial structure results in a 2x4 matrix instead of the 2x2 as depicted in Figure 2. To explore whether our results change, we repeat Table 10 regressions with *CGQ* scores for each one of the eight combinations²³ as dependent variables (Table 11).

INSERT TABLE 11 ABOUT HERE

We find that all three finer classifications of bank/civil, French-civil: $CGQ_{BNKFRCVL}$, Scandinavian-civil: $CGQ_{BNKSCCVL}$, and German-civil: $CGQ_{BNKGRCVL}$ consistently have a negative coefficient. Although these coefficients are statistically significant only for French-civil ($CGQ_{BNKFRCVL}$) and German-civil ($CGQ_{BNKGRCVL}$) respectively at the 10% and the 1% levels, the differences in their magnitude indicate that the negative impact of higher *CGQ* on Tobin's Q is

²² We also ran the following random-effects cross-sectional time series regression to separate the interaction effects. These results also confirm our prior findings. Consistent with this model, we find, for market-common, β_1 to be positive and significant and for bank/civil the sum of $\beta_1 + \beta_3 + \beta_5 + \beta_7$ to be negative (-0.0037) and significant at the 10% level:

$$TOBINSQ_{it} = \alpha + \beta_1 CGQ_{it} + \beta_2 FINSTR + \beta_3 CGQ * FINSTR + \beta_4 LGLSYS + \beta_5 CGQ * LGLSYS + \beta_6 FINSTR * LGLSYS + \beta_7 CGQ * FINSTR * LGLSYS$$

²³ Given that we have two types of financial structure (market oriented or bank based), classifying countries into common-law regime and three types of civil-law legal traditions results in eight different *CGQ* variables as follows: CGQ_{MKTCMN} (market/common), $CGQ_{MKTGRCVL}$ (market/German civil), $CGQ_{MKTSCCVL}$ (market/Scandinavian civil), $CGQ_{MKTFRCVL}$ (market/French civil), CGQ_{BNKCMN} (bank/common), $CGQ_{BNKGRCVL}$ (bank/German civil), $CGQ_{BNKSCCVL}$ (bank/Scandinavian civil), and $CGQ_{BNKFRCVL}$ (bank/French civil).

less under the French-civil regime (-0.002) than under the German-civil regime (-0.006). These findings are not consistent with the notion that French civil-law countries have the weakest form of investor protection when compared with the German and Scandinavian civil-law traditions (La Porta et al. 2000).

Overall, while the finer classification of the civil-law regime into three separate civil-law traditions sheds additional light on the governance-performance link, these results further support our primary finding that implementing governance provisions that result in higher CGQ in countries with bank-dominated financial structure and civil-law regime, in fact, reduces a firm's Tobin's Q.

5. CONCLUSIONS AND FUTURE RESEARCH

In summary, our results provide evidence that the *joint* effect of a country's financial structure and legal system does matter when explaining the relationship between firm-specific performance and the firm's overall level of corporate governance. The results also suggest that firms operating in the market/common combination countries tend to exhibit better corporate governance as measured by the ISS CGQ score. Such firms tend to command higher market valuations than firms with a comparable level of corporate governance operating in bank/civil combination countries.

Our findings have important policy implications both for the regulators and the managers in today's increasingly global economy. In the aftermath of financial frauds such as Enron and WorldCom in the U.S., Conrad Black in Canada, Parmalat in Italy, and Royal Ahold in The Netherlands, boards of directors across the globe got "religion" in the form of heightened sensitivity to corporate governance in their companies. Regulators across the globe were also put on the alert as investor losses mounted. One knee-jerk reaction to such events is to spontaneously expend resources to require or voluntarily enhance governance mechanisms. "Knee-jerk" companies may rush to implement expanded corporate governance practices without carefully

considering the level of “financial deepening” and the extent of “investor protection” offered by their host country. Because corporate governance mechanisms are costly initiatives, our findings indicate that firms will be better off when their corporate governance mechanisms dovetail with the needs and demands of the financial structure/legal system in their host countries. Similarly, regulators must also actively consider their country’s financial structure and legal system before mandating additional governance mechanisms for firms doing business in their country.

Weisbach and Hermalin (2003) present a compelling argument for using caution in drawing conclusions about the relationship between a firm’s level of corporate governance and its performance, especially under the “out-of-equilibrium” phenomenon. Although, the debate on this nexus is far from settled, our findings provide an “equilibrium phenomenon” interpretation of this nexus through the mitigating effects of a country’s financial structure and legal system as “other variables.” Note also that there are many other country-specific variables such as level of political instability, extent of corruption, and differences in culture that can have an impact on a firm’s performance and its level of governance. Thus, our results should be interpreted with caution in light of these omitted variables.

Future research could examine other measures of market valuation, such as total stock returns, to explore the interplay within a country’s financial structure, legal system, firm-specific corporate governance practices and firm performance. Additional research would aid our understanding of how firms operating in market/civil and bank/common combinations of financial structure and legal system could optimize their governance structure to suit the needs and demands of their host country and thus enhance their shareholder value.

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FIGURE 1
Legal and Financial Systems and Corporate Governance - Framework²⁴

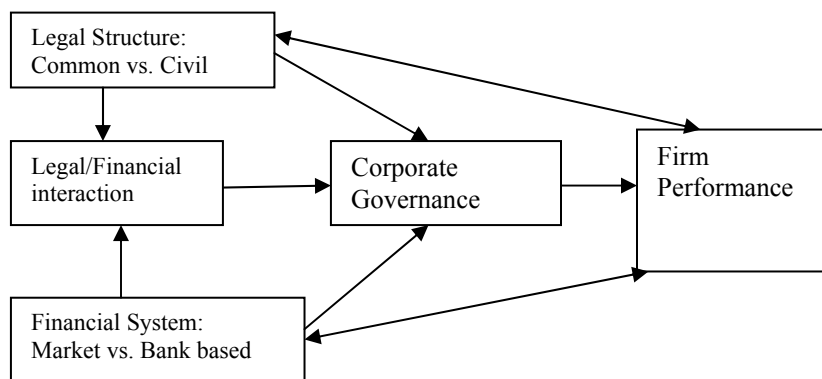


FIGURE 2

Classification Taxonomy by Financial Structure and Legal System Type and Sample Distribution

		Type of Legal System	
		<i>Common-Law Based (699 Firms)</i>	<i>Civil-Law Based (1037 Firms)¹</i>
Type of Financial Structure	<i>Bank Based (903 Firms)</i>	Ireland (2) New Zealand (14) 1	Austria (18), Belgium (22), France (61), Germany (72), Greece (37), Japan(539), Italy (61), Portugal (13), Norway (17), Spain (47) 3
	<i>Market Based (833 Firms)</i>	Australia (84), Canada (94) Hong Kong SAR ² (80) Singapore (46), United Kingdom (379) 2	Finland (23), Denmark (19), Sweden (29), The Netherlands (30), Switzerland (49) 4

¹ For our analysis, we collapse the three different categories of the civil-law regime into one broad category. Breakdown by country for each of the three categories: (i) German Civil (678 Firms): Austria (18), Germany (72), Japan (539) and Switzerland (49); (ii) Scandinavian Civil (88 Firms): Norway (17), Finland (23), Denmark (19), and Sweden (29); (iii) French Civil (271 Firms): Belgium (22), France (61), Greece (37), Italy (61), Portugal (13), Spain (47), and The Netherlands (30).

² SAR means Special Administrative Region under the “one country, two systems” created by the accord transferring sovereignty of Hong Kong to China in 1997.

TABLE 1

Sample Selection Criteria

Number of firms covered in the ISS Corporate Governance Database	2,559
Less real estate firms	(110)
Less cross-listed firms and/or firms with ADRs	(415)
Less firms with no corresponding financial data in the Thomson Database	(298)
Final Sample*	<u>1,736</u>

*Number of unique firms, data for all firms may not be available for all years studied

²⁴ We thank Bin Srinidhi of the Hong Kong Polytechnic University for suggesting this diagram while discussing this paper at the 2009 CAR/JCAE Joint Symposium held in Hong Kong during January 2009.

TABLE 2

Descriptive Statistics

Variables	Fiscal 2003 (n =1089)	Fiscal 2004 (n = 1114)	Fiscal 2005 (n =790)
Dependent Variables			
<i>TOBINSQ</i>	1.5346 (1.1869) [1.6224]	1.6254 (1.2843) [1.4653]	1.7119 (1.3699) [1.0521]
Independent Variables			
<i>FINSTR Dummy</i>	0.7340 (1.0000) [0.4420]	0.7082 (1.0000) [0.4548]	0.5901 (1.0000) [0.4920]
<i>LGLSYST Dummy</i>	0.6068 (1.0000) [0.4887]	0.5828 (1.0000) [0.4933]	0.5104 (1.0000) [0.5000]
<i>CGQOVERALL</i>	29.299 (26.100) [11.4759]	14.079 (10.900) [22.521]	25.772 (18.500) [21.308]
Independent Variables: CGQ Subcategories			
<i>BOARD</i>	9.35 (7.20) [7.82]	-3.03 (-8.8) [14.69]	4.83 (4.90) [12.48]
<i>ATPROV</i>	2.15 (0.00) [2.68]	0.15 (0.00) [5.33]	-2.92 (-5.50) [4.64]
<i>EXDIRCOMP</i>	8.16 (8.40) [4.15]	1.84 (4.00) [7.70]	5.21 (7.60) [7.04]
<i>QUALFAC</i>	0.24 (0.0) [0.44]	0.41 (0.0) [0.64]	0.76 (0.60) [0.89]
<i>AUDIT</i>	1.44 (1.20) [3.00]	-0.32 (-2.40) [3.58]	1.60 (1.20) [3.17]
<i>BYLAW</i>	9.95 (11.50) [4.55]	13.52 (14.80) [3.46]	13.98 (14.80) [2.96]
<i>OWNER</i>	0.87 (0.00) [1.83]	1.53 (1.80) [1.66]	1.69 (1.80) [1.62]
Control Variables			
<i>GSALES</i>	0.2048 (0.1691) [0.4380]	0.1585 (0.0983) [0.6141]	3.0949 (-0.0292) [120.781]
<i>PTMARG</i>	0.1515 (0.0586) [3.3462]	-0.7075 (0.0754) [43.7687]	0.1151 (0.0831) [0.7420]
<i>DEBTRAT</i>	0.2410 (0.2248) [0.1907]	0.2303 (0.2132) [0.1923]	0.2118 (0.1918) [0.1777]
<i>ROA</i>	3.52% (3.38%) [0.0737]	5.09% (4.29%) [0.0808]	5.87% (5.03%) [0.0891]
<i>ROE</i>	6.67% (8.33%) [0.2919]	11.00% (10.19%) [0.2711]	12.34% (12.09%) [0.3843]

TOBINSQ is a measure of firm performance and is equal to the ratio of the market value of assets to book value of total assets. FINSTR is an indicator variable for the country's financial structure and takes a value of 1 for firms operating in a bank-based system. LGLSYST is an indicator variable for the country's legal system and takes a value of 1 for firms operating under a civil-based system. CGQOVERALL is the corporate governance quotient and

is a relative measure of governance provided by ISS for each firm. The following are subcategories used by ISS to determine the CGQOVERALL: BOARD (board characteristics), ATPROV (anti-takeover provisions), EXDIRCOMP (Executive and Director compensation), QUALFAC (qualitative factors), AUDIT (Auditor and Audit Committee Related), BYLAW (Charter/Bylaws), and OWNER (Director and Management Ownership). The following are control variables: GSALES (annual growth in sales), PTMARG (pre-tax margin), DEBTRAT (total liabilities divided by total assets), ROA (return on assets), and ROE (return on equity).

TABLE 3

Pearson Correlations for Fiscal 2003 (N = 1089)

Variables	<i>TOBINSQ</i>	<i>FINSTR</i>	<i>LEGLSYST</i>	<i>CGQOVERALL</i>	<i>BOARD</i>	<i>ATPROV</i>	<i>EXDIRCOMP</i>	<i>QUALFAC</i>	<i>AUDIT</i>	<i>BYLAW</i>	<i>OWNER</i>
<i>TOBINSQ</i>	1.000										
<i>FINSTR</i>	-.0712**	1.000									
<i>LGLSYST</i>	-.0732***	0.7171***	1.000								
<i>CGQOVERALL</i>	0.0687**	-0.5402***	-0.6993***	1.000							
<i>BOARD</i>	0.0394	-0.5905***	-0.6137***	0.8596***	1.000						
<i>ATPROV</i>	-0.051*	0.5018***	0.3243***	-0.1136***	-0.3356***	1.000					
<i>EXDIRCOMP</i>	0.0801***	-0.4942***	-0.4970***	0.6172***	0.4834***	-0.1853***	1.000				
<i>QUALFAC</i>	0.0255	-0.5113***	-0.6324***	0.6631***	0.6538***	-0.2596***	0.4291***	1.000			
<i>AUDIT</i>	0.0921***	-0.5947***	-0.7009***	0.6671***	0.7066***	-0.5277***	0.3733***	-0.2152***	1.000		
<i>BYLAW</i>	-0.0008	0.1847***	0.0536*	0.0862***	-0.2530***	0.2798***	-0.2521***	-0.2297***	-0.1529***	1.000	
<i>OWNER</i>	0.0650**	-0.2958***	-0.3242***	0.3971***	0.3526***	-0.2513***	0.3195**	-0.1478***	0.3615***	-0.2529***	1.000

*** (**) (*) Indicates significance at 1%, (5%), (10%) level, two-tailed test

TOBINSQ is a measure of firm performance and is equal to the ratio of the market value of assets to book value of total assets. FINSTR is an indicator variable for the country's financial structure and takes a value of 1 for firms operating in a bank-based system. LGLSYST is an indicator variable for the country's legal system and takes a value of 1 for firms operating under a civil-based system. CGQOVERALL is the corporate governance quotient and is a relative measure of governance provided by ISS for each firm. The following are subcategories used by ISS to determine the CGQOVERALL: BOARD (board characteristics), ATPROV (anti-takeover provisions), EXDIRCOMP (Executive and Director compensation), QUALFAC (qualitative factors), AUDIT (Auditor and Audit Committee Related), BYLAW (Charter/Bylaws), and OWNER (Director and Management Ownership). The following are control variables: GSALES (annual growth in sales), PTMARG (pre-tax margin), DEBTRAT (total liabilities divided by total assets), ROA (return on assets), and ROE (return on equity).

TABLE 4**Chi Square Tests of Independence on Legal Structure and Financial Structure**

	2003			2004			2005		
	Common	Civil	Total	Common	Civil	Total	Common	Civil	Total
Bank	8	722	730	13	698	711	12	795	807
Market	320	161	473	343	166	509	636	138	774
	320	883	1203	356	864	1220	648	933	1581
T-value	618.5487			616.9403			1063.31		

TABLE 5**Panel A: Comparison of CGQ scores by financial and legal systems across years**

			2003	2004	2005
Type of Financial Structure	Bank	Mean (Median)	24.31 (23.6)	6.99 (9.5)	13.06 (10.8)
	Market	Mean (Median)	37.00 (35.3)	23.98 (30.6)	39.02 (43.8)
	Test for differences	Mean (Median)	.0001 (.0001)	.0001 (.0001)	.0001 (.0001)
Type of Legal System	Civil	Mean (Median)	24.47 (24.1)	4.28 (8.3)	14.62 (11.2)
	Common	Mean (Median)	42.63 (41.7)	37.87 (42.4)	41.83 (46.4)
	Test for differences	Mean (Median)	.0001 (.0001)	.0001 (.0001)	.0001 (.0001)

Panel B: Analysis of Variance

Fiscal 2003

	<i>CGQ_{MKT}COMN</i>	<i>CGQ_{MKT}CVL</i>	<i>CGQ_{BNK}COMN</i>
<i>CGQ_{MKT}CVL</i>	-17.3011***		
<i>CGQ_{BNK}COMN</i>	-10.4553***	6.846	
<i>CGQ_{BNK}CVL</i>	-18.6651***	-1.364**	-8.210**

Fiscal 2004

	<i>CGQ_{MKT}COMN</i>	<i>CGQ_{MKT}CVL</i>	<i>CGQ_{BNK}COMN</i>
<i>CGQ_{MKT}CVL</i>	-41.981***		
<i>CGQ_{BNK}COMN</i>	5.217	47.197***	
<i>CGQ_{BNK}CVL</i>	-31.357***	10.624***	-36.573***

Fiscal 2005

	<i>CGQ_{MKT}COMN</i>	<i>CGQ_{MKT}CVL</i>	<i>CGQ_{BNK}COMN</i>
<i>CGQ_{MKT}CVL</i>	-16.449***		
<i>CGQ_{BNK}COMN</i>	-6.899	9.550	
<i>CGQ_{BNK}CVL</i>	-29.229***	-12.781***	-22.330***

*** (**) (*) Indicates significance at 1%, (5%) (10%) level, two-tailed test

TABLE 6**Random Effects Cross-Sectional Time Series Regression of Tobin's Q on CGQ and Financial Structure and Legal System Dummy Variables****Panel A – Univariate regressions**

Model 1: $TOBINSQ_{it} = \alpha + \beta_1 CGQ_{it} + \varepsilon_{it}$

Model 2: $TOBINSQ_{it} = \alpha + \beta_1 LGLSYST_{it} + \varepsilon_{it}$

Model 3: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} + \varepsilon_{it}$

<u>Independent Variables</u> ^a	<u>Model 1</u>	<u>Model 2</u>	<u>Model 3</u>
INTERCEPT	1.6838*** (40.77)	1.7918*** (27.98)	1.7840*** (31.75)
CGQ	-0.0014** (2.44)		
FINSTR		-	-0.2563*** (3.32)
LGLSYST		-0.22253*** (2.81)	-
Number of Observations	2993	2993	2993
Number of Groups	1417	1417	1417
R ² – within	0.0072	0.0000	0.0000
R ² – between	0.0070	0.0056	0.0078
R ² – overall	0.0015	0.0036	0.0056

*** (**) (*) Indicates significance at 1%, (5%) (10%) level, one -tailed test

CGQ is the Corporate Governance Quotient computed by the Institutional Shareholder Service. *FINSTR* equals 1 if the firm is based in bank-dominated financial structure country, otherwise 0. *LGLSYST* equals 1 if the firm is based in civil-law based legal system, otherwise 0. t-statistics are provided in parentheses under the estimated coefficient.

Panel B: Multivariate Regressions

Model 1: $TOBINSQ_{it} = \alpha + \beta_1 LGLSYST_{it} + \beta_2 CGQ_{it} + \varepsilon_{it}$

Model 2: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} + \beta_2 CGQ_{it} + \varepsilon_{it}$

Model 3: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} + \beta_2 LGLSYST_{it} + \beta_3 CGQ_{it} + \varepsilon_{it}$

Model 4: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} * LGLSYST_{it} + \beta_2 CGQ_{it} + \varepsilon_{it}$

Model 5: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} + \beta_2 LGLSYST_{it} + \beta_3 FINSTR_{it} * LGLSYST_{it} + \beta_4 CGQ_{it} + \varepsilon_{it}$

<u>Independent Variables</u> ^a	<u>Model 1</u>	<u>Model 2</u>	<u>Model 3</u>	<u>Model 4</u>	<u>Model 5</u>
<i>INTERCEPT</i>	1.8617*** (27.29)	1.8413*** (30.90)	1.8664*** (27.36)	1.8551*** (31.39)	1.8447*** (26.82)
<i>CGQ</i>	-0.0017*** (2.97)	-0.0017*** (2.89)	-0.0017*** (2.96)	-0.0017*** (2.95)	-0.0017*** (2.95)
<i>FINSTR</i>	-	-0.2851*** (3.66)	-0.2159* (1.80)	-	0.7160* (1.68)
<i>LGLSYST</i>	-0.2667*** (3.27)	-	-0.0950 (0.76)	-	-0.0074 (0.06)
<i>FINSTR*LGLSYST</i>	-	-	-	-0.3145*** (4.04)	-1.0126** (2.29)
Number of Observations	2993	2993	2993	2993	2993
Number of Groups	1417	1417	1417	1417	1417
R ² – within	0.0072	0.0072	0.0072	0.0072	0.0072
R ² – between	0.0041	0.0060	0.0063	0.0080	0.0101
R ² – overall	0.0032	0.0049	0.0051	0.0056	0.0059

*** (**) (*) Indicates significance at 1%, (5%) (10%) level, one-tailed test

CGQ is the Corporate Governance Quotient computed by the Institutional Shareholder Service. *FINSTR* equals 1 if the firm is based in bank-dominated financial structure country, otherwise 0. *LGLSYST* equals 1 if the firm is based in civil-law based legal system, otherwise 0. t-statistics are provided in parentheses under the estimated coefficient.

TABLE 7

Random Effects Cross Section Time Series Regression of Tobin’s Q on Overall CGQ, and Four Different Combinations of CGQ Based on a Country’s Financial Structure and Legal System

$$TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \varepsilon_{it}$$

<i>Independent Variables</i> ^a	<i>Estimated Coefficients</i>	<i>Standard Errors</i>	<i>t-statistics</i>
INTERCEPT	1.637	.0430	38.08***
CGQ _{MKT COMN}	0.0029	.0012	2.49**
CGQ _{MKT CVL}	-0.0006	.0010	0.63
CGQ _{BNK COMN}	0.0135	.0089	1.51
CGQ _{BNK CVL}	-.0039	.0008	4.83***
Number of Observations	2993		
Number of Groups	1417		
R ² – within	0.0135		
R ² – between	0.0102		
R ² – overall	0.0059		

*** (**) (*) Indicates significance at 1%, (5%) (10%) level, one -tailed test

CGQ_{MKT COMN} is CGQ for a firm domiciled in a country with market-oriented financial structure and common-law based legal system. CGQ_{MKT CVL} is CGQ for a firm domiciled in a country with market-oriented financial structure and civil-law based legal system. CGQ_{BNK COMN} is CGQ for a firm domiciled in a country with bank-dominated financial structure and common-law based legal system. CGQ_{BNK CVL} is CGQ for a firm domiciled in a country with bank-dominated financial structure and civil-law based legal system.

TABLE 8

Percentage Change in Tobin’s Q for One Standard Deviation Change in CGQ by Year

	CGQ _{MKT COMN}	CGQ _{BNK CVL}
Change (%) in Tobin’s Q – 2003	0.058 (3.76%)	-0.049 (-3.19%)
Change (%) in Tobin’s Q – 2004	0.057 (3.49%)	-0.044 (-2.72%)
Change (%) in Tobin’s Q – 2005	0.069 (4.04%)	-0.042 (-2.46%)
Average	3.76%	-2.79%

TABLE 9

Random Effects Cross Sectional Time Series Regression of Tobin’s Q on CGQ Subcategories, Financial Structure, and Legal System

Model 1: $TOBINSQ_{it} = \alpha + \beta_1 LGLSYST_{it} + \beta_2 BOARD_{it} + \beta_3 ATPROV_{it} + \beta_4 EXDIRCOMP_{it} + \beta_5 QUALFAC_{it} + \beta_6 AUDIT_{it} + \beta_7 BYLAW_{it} + \beta_8 OWNER_{it} + \varepsilon_{it}$

Model 2: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} + \beta_2 BOARD_{it} + \beta_3 ATPROV_{it} + \beta_4 EXDIRCOMP_{it} + \beta_5 QUALFAC_{it} + \beta_6 AUDIT_{it} + \beta_7 BYLAW_{it} + \beta_8 OWNER_{it} + \varepsilon_{it}$

Model 3: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} + \beta_2 LGLSYST_{it} + \beta_3 BOARD_{it} + \beta_4 ATPROV_{it} + \beta_5 EXDIRCOMP_{it} + \beta_6 QUALFAC_{it} + \beta_7 AUDIT_{it} + \beta_8 BYLAW_{it} + \beta_9 OWNER_{it} + \varepsilon_{it}$

Model 4: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} * LGLSYST_{it} + \beta_2 BOARD_{it} + \beta_3 ATPROV_{it} + \beta_4 EXDIRCOMP_{it} + \beta_5 QUALFAC_{it} + \beta_6 AUDIT_{it} + \beta_7 BYLAW_{it} + \beta_8 OWNER_{it} + \varepsilon_{it}$

Model 5: $TOBINSQ_{it} = \alpha + \beta_1 FINSTR_{it} + \beta_2 LGLSYST_{it} + \beta_3 FINSTR_{it} * LGLSYST_{it} + \beta_4 BOARD_{it} + \beta_5 ATPROV_{it} + \beta_6 EXDIRCOMP_{it} + \beta_7 QUALFAC_{it} + \beta_8 AUDIT_{it} + \beta_9 BYLAW_{it} + \beta_{10} OWNER_{it} + \varepsilon_{it}$

<u>Independent Variables</u> ^a	<u>Model 1</u>	<u>Model 2</u>	<u>Model 3</u>	<u>Model 4</u>	<u>Model 5</u>
<i>INTERCEPT</i>	1.684*** (20.92)	1.681*** (23.44)	1.687*** (20.97)	1.695*** (23.76)	1.664*** (20.56)
<i>FINSTR</i>	-	-0.2411*** (3.01)	-0.2270* (1.87)	-	0.7108* (1.68)
<i>LGLSYST</i>	-0.1981** (2.35)	-	-0.0197 (0.16)	-	0.0699 (0.53)
<i>FINSTR*LGLSYST</i>	-	-	-	-0.2710*** (3.38)	-1.021** (2.31)
<i>BOARD</i>	-0.0045*** (3.80)	-0.0046*** (3.87)	-0.0046*** (3.87)	-0.0047*** (3.89)	-0.0046*** (3.88)
<i>ATPROV</i>	-0.0040 (1.25)	-0.0032 (1.01)	-0.0032 (1.02)	-0.0031 (0.97)	-0.0029 (0.90)
<i>EXDIRCOMP</i>	0.0004 (0.25)	0.0004 (0.26)	0.0004 (0.26)	0.0004 (0.27)	0.0004 (0.22)
<i>QUALFAC</i>	0.0667*** (3.32)	0.0660*** (3.30)	0.0658*** (3.28)	0.0651*** (3.25)	0.0662*** (3.30)
<i>AUDIT</i>	0.0091* (1.74)	0.0093* (1.78)	0.0092* (1.75)	0.0090* (1.72)	0.0092* (1.76)
<i>BYLAW</i>	0.0060* (1.91)	0.0064** (2.05)	0.0064** (2.03)	0.0065** (2.05)	0.0065** (2.04)
<i>OWNER</i>	-0.0048 (0.70)	-0.0053 (0.77)	-0.0053 (0.78)	-0.0055 (0.79)	-0.0052 (0.76)
Number of Observations	2993	2993	2993	2993	2993
Number of Groups	1417	1417	1417	1417	1417
R ² – within	0.0302	0.0302	0.0302	0.0303	0.0303
R ² – between	0.0074	0.0098	0.0098	0.0115	0.0137
R ² – overall	0.0060	0.0082	0.0082	0.0087	0.0087

*** (**) (*) Indicates significance at 1%, (5%) (10%) level, one -tailed test

FINSTR equals 1 if the firm is based in bank-dominated financial structure country, otherwise 0. *LGLSYST* equals 1 if the firm is based in civil-law based legal system, otherwise 0. The following are subcategories used by ISS to determine the CGQOVERALL: BOARD (board characteristics), ATPROV (anti-takeover provisions), EXDIRCOMP (Executive and Director compensation), QUALFAC (qualitative factors), AUDIT (Auditor and Audit Committee Related), BYLAW (Charter/Bylaws), and OWNER (Director and Management Ownership). t-statistics are provided in parentheses under the estimated coefficient.

TABLE 10

Random Effects Cross Sectional Time Series Regression (with controls) of Tobin’s Q on Four Different Combinations of CGQ Based on a Country’s Financial Structure and Legal System

$MODEL 1: TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \beta_5 GSALES + \varepsilon_{it}$
 $MODEL 2: TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \beta_5 PTMARG + \varepsilon_{it}$
 $MODEL 3: TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \beta_5 DEBTRAT + \varepsilon_{it}$
 $MODEL 4: TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \beta_5 ROA + \varepsilon_{it}$
 $MODEL 5: TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \beta_5 ROE + \varepsilon_{it}$
 $MODEL 6: TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \beta_5 GSALES + \beta_6 PTMARG + \beta_7 DEBTRAT + \varepsilon_{it}$
 $MODEL 7: TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \beta_5 GSALES + \beta_6 ROA + \beta_7 DEBTRAT + \varepsilon_{it}$
 $MODEL 8: TOBINSQ_{it} = \alpha + \beta_1 CGQ_{MKT COMN_{it}} + \beta_2 CGQ_{MKT CVL_{it}} + \beta_3 CGQ_{BNK COMN_{it}} + \beta_4 CGQ_{BNK CVL_{it}} + \beta_5 GSALES + \beta_6 ROE + \beta_7 DEBTRAT + \varepsilon_{it}$

<i>Independent Variables^a</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>	<i>Model 7</i>	<i>Model 8</i>
<i>INTERCEPT</i>	1.639*** (38.21)	1.639*** (38.20)	1.753*** (34.76)	1.580*** (37.32)	1.627*** (37.95)	1.745*** (34.79)	1.681*** (33.00)	1.773*** (34.62)
<i>CGQ_{MKT COMN}</i>	0.0028** (2.38)	0.0026** (2.20)	0.0029** (2.48)	0.0029** (2.48)	0.0026** (2.25)	0.0027** (2.35)	0.0027** (2.33)	0.0024** (2.08)
<i>CGQ_{MKT CVL}</i>	-0.0006 (0.65)	-0.0007 (0.67)	-0.0006 (0.61)	-0.0003 (0.30)	-0.0007 (0.68)	-0.0006 (0.65)	-0.0003 (0.32)	-0.0007 (0.66)
<i>CGQ_{BNK COMN}</i>	0.0052 (0.56)	0.0134 (1.51)	0.0148* (1.67)	0.0047 (0.51)	0.0051 (0.56)	0.0064 (0.70)	0.0057 (0.63)	0.0067 (0.73)
<i>CGQ_{BNK CVL}</i>	-0.0040*** (4.89)	-0.0039*** (4.84)	-0.0037*** (4.51)	-0.0038*** (4.51)	-0.0039*** (4.78)	-0.0037*** (4.59)	-0.0036*** (4.36)	-0.0037*** (4.51)
Growth in Sales	0.0010 (0.10)					-0.00004 (0.12)	0.00002 (0.22)	0.00002 (0.24)
Pretax Margin		-0.0006* (1.75)				-0.0005 (1.55)		
ROA				1.089*** (6.74)			1.0002*** (6.10)	
ROE					0.0870*** (2.59)			0.0666** (1.98)
Debt Ratio			-0.5140*** (4.31)			-0.4815*** (4.06)	-0.4122*** (3.42)	-0.6317*** (5.02)
Number of Observations	2987	2989	2986	2987	2944	2979	2977	2932
Number of Groups	1415	1415	1416	1416	1400	1413	1413	1398
R ² – within	0.0142	0.0150	0.0133	0.0144	0.0137	0.0152	0.0142	0.0156
R ² – between	0.0077	0.0093	0.0303	0.0843	0.0169	0.0260	0.0970	0.0405
R ² – overall	0.0053	0.0054	0.0202	0.0637	0.0117	0.0189	0.0732	0.0304

*** (**) (*) Indicates significance at 1%, (5%) (10%) level, one-tailed test

CGQ_{MKT COMN} is CGQ for a firm domiciled in a country with market-oriented financial structure and common-law based legal system.

CGQ_{MKT CVL} is CGQ for a firm domiciled in a country with market-oriented financial structure and civil-law based legal system.

CGQ_{BNK COMN} is CGQ for a firm domiciled in a country with bank-dominated financial structure and common-law based legal

system. CGQ_{BNKCVL} is CGQ for a firm domiciled in a country with bank-dominated financial structure and civil-law based legal system. The following are control variables: GSALES (annual growth in sales), PTMARG (pre-tax margin), DEBTRAT (total liabilities divided by total assets), ROA (return on assets), and ROE (return on equity). t-statistics are provided in parentheses under the estimated coefficient.

TABLE 11

Random Effects Cross Sectional Time Series Regression (with controls) of Tobin's Q on Eight Different Combinations of CGQ Based on a Country's Financial Structure and Legal System

<i>Independent Variables^a</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>	<i>Model 7</i>	<i>Model 8</i>	<i>Model 9</i>
<i>INTERCEPT</i>	1.645*** (37.95)	1.646*** (38.07)	1.758*** (34.64)	1.647*** (38.08)	1.590*** (37.24)	1.633*** (37.82)	1.750*** (34.60)	1.689*** (32.98)	1.778*** (34.52)
<i>CGQ_{BNKCMN}</i>	0.0133 (1.49)	0.013 (1.49)	0.015* (1.65)	0.005 (0.54)	0.0045 (0.50)	0.0050 (0.54)	0.006 (0.68)	0.0055 (0.61)	0.0065 (0.71)
<i>CGQ_{BNKGRCVL}</i>	-0.006*** (4.91)	-0.006*** (4.91)	-0.006*** (4.91)	-0.006*** (4.99)	-0.0057*** (4.66)	-0.0058*** (4.83)	-0.006*** (4.76)	-0.0056*** (4.60)	-0.0056*** (4.68)
<i>CGQ_{BNKSCCVL}</i>	-0.003 (1.15)	-0.003 (1.17)	-0.003 (1.08)	-0.003 (1.16)	-0.0020 (0.68)	-0.0038 (1.25)	-0.003 (1.10)	-0.0020 (0.67)	-0.0035 (1.17)
<i>CGQ_{BNKFRCVL}</i>	-0.002* (1.77)	-0.002* (1.79)	-0.002 (1.58)	-0.002* (1.79)	-0.0021* (1.75)	-0.0021* (1.75)	-0.002 (1.60)	-0.0020 (1.60)	-0.0018 (1.54)
<i>CGQ_{MKTCMN}</i>	0.003** (2.42)	0.002** (2.13)	0.003** (2.41)	0.003** (2.31)	0.0028** (2.40)	0.0026** (2.19)	0.003** (2.27)	0.0026** (2.24)	0.0024** (2.01)
<i>CGQ_{MKTGRCVL}</i>	0.003 (1.34)	0.003 (1.29)	0.003 (1.29)	0.003 (1.34)	0.0027 (1.23)	0.0029 (1.33)	0.003 (1.25)	0.0026 (1.18)	0.0028 (1.27)
<i>CGQ_{MKTSCCVL}</i>	-0.002* (1.86)	-0.002* (1.87)	-0.002* (1.73)	-0.002* (1.87)	-0.0017 (1.24)	-0.0023* (1.78)	-0.002* (1.75)	-0.0016 (1.20)	-0.0022* (1.66)
<i>CGQ_{MKTFRCVL}</i>	0.001 (0.32)	0.001 (0.32)	0.0004 (0.20)	0.001 (0.32)	0.0003 (0.12)	0.0003 (0.13)	0.0005 (0.21)	0.0010 (0.04)	0.00006 (0.03)
Pretax Margin		-0.001* (1.70)					-0.001 (1.51)		
Debt Ratio			-0.504*** (4.23)				-0.471*** (3.97)	-0.4064*** (3.37)	-0.6244*** (4.97)
Growth in Sales				0.001 (0.07)			-0.001 (0.15)	0.00002 (0.19)	0.00002 (0.20)
ROA					1.0664*** (6.57)			0.9811*** (5.95)	
ROE						0.0840** (2.51)			0.0640* (1.91)
Number of Observations	2993	2989	2986	2987	2987	2944	2979	2977	2932
Number of Groups	1417	1415	1416	1415	1416	1400	1413	1413	1398
R ² – within	0.0179	0.0194	0.0173	0.0188	0.0178	0.0181	0.0194	0.0176	0.0197
R ² – between	0.0128	0.0119	0.0330	0.0103	0.0816	0.0190	0.0287	0.0955	0.0429
R ² – overall	0.0073	0.0069	0.0216	0.0067	0.0606	0.0125	0.0202	0.0709	0.0311

*** (**) (*) Indicates significance at 1%, (5%) (10%) level, one-tailed test t-statistics are provided in parentheses under the estimated coefficient.