National Culture, Corporate Governance Practices, and Firm Value*

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Abstract

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Keywords: corporate governance; firm value; hierarchical linear model; individualism; national culture; uncertainty avoidance
JEL Classification: G18; G31; G32

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Abstract

We examine why corporate governance varies widely across countries and across firms, and why it matters. Using a new database from Governance Metrics International on corporate governance practices across a large number of countries and firms for 2006-2011 and employing the hierarchical linear model specification, we find that the national cultural dimension of individualism is positively associated with, whereas the national cultural dimension of uncertainty avoidance is negatively associated with, firm-level corporate governance practices. Within countries, there is a positive association between firm-level corporate governance practices and firm value; however, across countries, the association is negative or zero.

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1. Introduction

Why does corporate governance vary widely across countries and across firms, and why does it matter? In this paper, we focus on the role of national culture in explaining cross-country differences in firm-level corporate governance practices, and we examine whether such cross-country differences have implications for firm value.

Existing models explain controlling shareholders' choices of corporate governance practices as a trade-off between the costs of limiting their ability to expropriate and the benefits of a lower cost of capital (see, for example, La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2002; Shleifer and Wolfenzon, 2002; Doidge, Karolyi, and Stulz, 2004; Durnev and Kim, 2005; Stulz, 2005; Doidge, Karolyi, and Stulz, 2007). In these models, both the costs and benefits of good corporate governance practices depend on country-level formal institutions and economic and financial development as well as firm-level characteristics such as growth opportunities and need for external financing. There is considerable empirical support for the importance of these country- and firm-level variables as determinants of firm-level corporate governance practices around the world (see, for example, Klapper and Love, 2004; Durnev and Kim, 2005; Francis, Khurana, and Pereira, 2005; Doidge et al., 2007).

These models imply that because firms with good corporate governance practices can raise capital at a lower cost to exploit growth opportunities, such firms should have higher valuations (see, for example, Doidge et al., 2004; Durnev and Kim, 2005). The empirical evidence for this link is largely positive (see, for example, La Porta et al., 2002; Doidge et al., 2004; Klapper and Love, 2004; Durnev and Kim, 2005; Aggarwal, Erel, Stulz, and Williamson, 2009; and for mixed evidence, see, for example, Bhagat, Bolton, and Romano, 2008; Anderson and Gupta, 2009; Bebchuk and Hamdani, 2009; Black, de Carvalho, and Gorga, 2012).

However, there are few papers examining the role of informal institutions such as national culture in explaining firm-level corporate governance practices across countries. Stulz and Williamson (2003) and Licht, Goldschmidt, and Schwartz (2005) examine the role of religion and national culture in

explaining country-level differences in investor protection. Hope (2003) finds that both legal origin and national culture explain differences in firm-level disclosures.

Why should national culture matter in firm-level corporate governance practices? Guiso, Sapienza, and Zingales (2006, p. 23) define culture as "those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation." Hofstede (1980, p. 19) describes cultural values held by individuals as "a broad tendency to prefer certain states of affairs over others."[1] Williamson (2000) proposes a long-term causal relation where cultural values influence formal institutions and firm-level corporate governance practices over a period of decades and even centuries (see also Licht, 2001; Licht et al., 2005).

In this paper, we introduce a cultural component to the rational micro-foundation models of corporate governance (see, for example, Shleifer and Wolfenzon, 2002; Durnev and Kim, 2005; Doidge et al. 2007). Culture enters these models directly through its effect on firm-level corporate governance choices, and indirectly through its effect on formal institutions as well as on inputs to controlling shareholders' economic trade-offs (e.g., costs of raising capital, and costs of implementing firm-level corporate governance).

To explain cross-country differences in firm-level corporate governance practices, we focus on Hofstede's (1980, 2001)[2] widely used cultural dimensions of individualism (vs. collectivism) and uncertainty avoidance; both dimensions influence controlling shareholders' attitudes towards protecting outside investors. Individualism emphasizes independence and equal rights among individuals, whereas collectivism emphasizes the group's interests and harmony. In a corporate setting, practices in individualist countries should value accountability and transparency and respect equal rights by protecting both outside and inside investors. High uncertainty avoidance societies dislike ambiguity and unstructured situations. Controlling shareholders in high uncertainty avoidance countries should be less comfortable

[1] We thank Karolyi (2015a) for highlighting this particular quote.
[2] Karolyi (2015a) reports over 122,000 citations of Hofstede's own work on these cultural dimensions (according to Google Scholar's website), and over 92,000 citations of related work from the *Financial Times*' 45 journals (according to the Web of Knowledge) over the period 1980 to 2015.

with equity financing and the associated loss of control. As a result, they are less likely to raise equity capital and less concerned about the protection of outside shareholders. Given that cultural influences are different from the pure economic trade-offs of profit-maximizing controlling shareholders (see, for example, Doidge et al. 2004; Durnev and Kim, 2005; Doidge et al. 2007), across countries firms could end up adopting costly corporate governance practices that are not value-enhancing.

Using a new database from Governance Metrics International (GMI) on corporate governance practices across a large number of countries and firms for 2006-2011 and employing the hierarchical linear model specification, we find that Hofstede's individualism dimension is positively and significantly associated with, whereas his uncertainty avoidance dimension is negatively and significantly associated with, firm-level corporate governance practices. Within countries, there is a positive association between firm-level corporate governance practices and firm value; however, across countries, the association is negative or zero. Finally, we find that the positive association between firm-level corporate governance practices and firm value is mitigated in high uncertainty avoidance countries, and strengthened in countries with well-developed financial structure.

We conduct a large number of robustness checks on our main findings. We address endogeneity concerns related to culture by employing an instrumental variables approach. The effects of culture on firm-level corporate governance practices largely remain. We include two additional cultural dimensions—Hofstede's (2001) power distance and masculinity—in the baseline models. We find that the effects of individualism and uncertainty avoidance remain, and that power distance is negatively and significantly associated with firm-level corporate governance practices. We also employ Schwartz's (1999, 2004) related cultural dimension of affective autonomy, and find that the cultural dimension of affective autonomy is positively and significantly associated with firm-level corporate governance practices. To address the concern that it might be omitted country-level variables that drive our main findings, we include a composite index of formal institutions, and find that the effects of individualism and uncertainty avoidance remain. Another legitimate concern is whether our results depend on the inclusion of some countries with a large number of firms in our sample. When we exclude firms from

U.S., Japan, and U.K. that contribute the bulk of our sample observations, we find that our main results remain unchanged. When we limit our analysis to a sample of cross-listed firms, we find that national culture still matters in these firms' adoption of good corporate governance practices. Lastly, we decompose the overall governance measure into three subindices—board accountability, minority shareholder protection, and corporate behavior standards—and find that there are significant associations between measures of national culture and these governance subindices, and that within countries, there are largely positive associations between the three firm-level subindices and firm value; across countries, the evidence is mixed.

Our paper makes the following important contributions to the literature. First, we highlight the role of national culture in explaining cross-country differences in firm-level corporate governance practices. Our study offers insights into the nature of the country fixed effects that explain most of the differences in firm-level governance practices (Doidge et al., 2007; Aggarwal et al., 2009; see Hugill and Siegel, 2014 for a dissenting view). Second, through our hierarchical linear model (HLM) specification, we are able to capture both the country- and firm-level determinants of corporate governance practices, and to identify potentially different country- and firm-level value implications of corporate governance practices.

2. Our conceptual framework and hypothesis development

Our conceptual framework

In this paper, we introduce a cultural component to the rational micro-foundation models of corporate governance (La Porta et al., 2002; Shleifer and Wolfenzon, 2002; Doidge et al., 2004; Durnev and Kim, 2005; Stulz, 2005; Doidge et al., 2007).

In Doidge et al. (2007), a controlling shareholder sets firm-level corporate governance q that depends on not only country-level investor protection p, but also the costs of accessing capital markets and of implementing firm-level governance mechanisms. Culture enters this model directly through its effect on firm-level corporate governance choices q, and indirectly through its effect on investor protection p as well as on inputs to controlling shareholders' economic trade-offs.

By definition, culture influences every controlling shareholder within a country. To capture this, we decompose firm-level corporate governance q into $\bar{q}$ and q', where $\bar{q}$ is the country-level average of firm-level corporate governance, and q' is the firm-level deviation from $\bar{q}$. In this framework, $\bar{q}$ reflects country-level determinants of firm-level corporate governance practices that are common to all controlling shareholders within a country, including investor protection p, national culture, and any other national informal institutions; q' reflects firm-level determinants of corporate governance practices (after removing country-level differences).

Consistent with prior literature (see, for example, Durnev and Kim, 2005; Doidge et al., 2007), we expect that there is a significant relation between firm-level characteristics including investment opportunities, need for external financing, and ownership concentration, and firm-level corporate governance q'. New in this paper, we expect that there is a significant relation between national culture and the country-level average of firm-level corporate governance $\bar{q}$, even controlling for country-level investor protection p and economic and financial development.

Hypothesis development

How might national culture shape different countries' preferences for different firm-level corporate governance practices? To answer this question, we rely on the cultural framework developed by Hofstede (1980, 2001), who identified four cultural dimensions: individualism (versus collectivism), uncertainty avoidance, power distance, and masculinity. Of the four dimensions, our focus is on individualism and uncertainty avoidance, because both dimensions influence controlling shareholders' attitudes towards protecting outside investors.

Individualism emphasizes independence and equal rights among individuals, whereas collectivism emphasizes the group's interests and harmony (Trompenaars, 1993; Hofstede, 2001). In a corporate setting, practices in individualist countries should value accountability and transparency and respect equal rights by protecting both outside and inside investors, for example, by providing more information to the public and enhancing minority shareholders' voting rights. In contrast, practices in collectivist countries

should give priority to maintaining the interests of inside investors, rely more on within-group information-sharing, and rely less on protecting outside investors. Based on the above discussion, our first hypothesis is as follows:

H1: Individualism is positively associated with firm-level corporate governance practices.

Uncertainty avoidance emphasizes a society's intolerance for ambiguity and unstructured situations, and preference for clear rules and procedures. Cultures with high uncertainty avoidance attempt to mitigate the stress and anxiety caused by uncertainty by seeking out conditions of safety and security (Hofstede, 2001). Controlling shareholders in high uncertainty avoidance countries should be less comfortable with equity financing and the associated loss of control, which leads to concentrated ownership and informal ties and networks such that controlling shareholders are less concerned with protecting outside shareholders. Based on the above discussion, our second hypothesis is as follows:

H2: Uncertainty avoidance is negatively associated with firm-level corporate governance practices.

When examining the relation between firm-level corporate governance and firm value within a country, we expect a positive association between firm-level corporate governance and firm value. For example, in the models of Doidge et al. (2004) and Durnev and Kim (2005), good firm-level corporate governance is positively associated with firm value (as measured by Tobin's Q) because good governance reduces controlling shareholders' expropriation risk which reduces the cost of capital, and helps firms to realize growth opportunities. Across countries, the association between corporate governance and firm value could be zero or even negative because cultural influences are different from the pure economic trade-offs of profit-maximizing controlling shareholders (see, for example, Doidge et al., 2004; Durnev and Kim, 2005; Doidge et al., 2007). Controlling shareholders influenced by culture will make decisions based on both economic trade-offs (for example, between the costs of limiting their ability to expropriate and the benefits of a lower cost of capital) and values, traditions, and norms (Williamson, 2000). Thus we

assume q' reflects profit-maximizing choices of corporate governance practices, whereas $\bar{q}$ reflects both profit-maximizing and non-profit-maximizing influences such as national culture. To the extent that cultural influences on $\bar{q}$ are large, they could lead to costly corporate governance practices that are not value-enhancing. The above discussions lead to our third and final hypothesis:

> *H3: There is a positive association between firm-level corporate governance practices and firm value within countries; there is no or a negative association between firm-level corporate governance practices and firm value across countries.*

3. A hierarchical linear model

Our data structure is multilevel. At the country level, we have firms from 38 countries. At the firm level, we have over 3,500 firms for up to six years. Figure 1 provides a simplified example of such multilevel data structure. There are three clusters of scattered dots representing firms within three countries. The three solid positively-sloped fitted lines within each country capture the (expected) positive association between firm-level corporate governance practices and firm value within countries. The single dotted negatively-sloped fitted line across the three countries captures the potential negative association between firm-level corporate governance practices and firm value across countries. This indicates that the country with the highest average firm-level corporate governance (Country C) is also the country with the lowest average firm valuation.

To clearly separate the within-country and across-country effects of firm-level variables such as corporate governance practices on firm value, we employ the following hierarchical linear model specification (HLM, see Greene, 2011, Chapter 15.8 for an introduction):

$$y_{i,j,t} = \alpha_j + \mathbf{x}'_{i,j,t}\,\beta + u_{i,j,t}, \qquad (1a)$$

$$\alpha_j = \mathbf{w}'_j\,\gamma + \upsilon_j, \qquad (1b)$$

where $y_{i,j,t}$ is an outcome variable, such as firm-level valuation ratio, for firm *i* from country *j* in year *t*. $\mathbf{x}_{i,j,t}$ is a vector of firm-level characteristics including firm size, growth opportunities, and ownership

concentration. α_j is a country-level intercept term. To capture the pure firm-level (within-country) relation between $\mathbf{x}_{i,j,t}$ and the outcome variable $y_{i,j,t}$ in β of Equation (1a), we remove the country means from all firm-level observations in $\mathbf{x}_{i,j,t}$.[3] $\mathbf{w}_j$ is a vector of country-level characteristics including national culture. To capture the pure country-level relation between $\mathbf{w}_j$ and the country-level intercept term α_j in Equation (1b), we include in $\mathbf{w}_j$ both country-level variables such as national culture and measures of formal institutions and country-means of firm-level characteristics (as in $\mathbf{x}_{i,j,t}$). We estimate the HLM in Equation (1) using an iterative maximum likelihood fitting procedure available in Stata (using the procedure "mixed").

There are two major advantages to using the HLM in our setting. First, by decomposing firm-level variables in $\mathbf{x}_{i,j,t}$ into country means and firm-level deviations and adding the country means to the set of country-level predictors in $\mathbf{w}_j$, our approach completely separates the associations found within countries and across countries (Raudenbush and Bryk, 2002; Li, Griffin, Yue, and Zhao, 2011, 2013). Furthermore, this decomposition allows us to explore the potentially differential associations between firm-level characteristics such as corporate governance practices and firm value both within countries and across countries (as illustrated in Figure 1).

Second, the HLM framework corrects for the distortion introduced by varying sample sizes across countries[4] and for the distortion in standard errors due to within-country clustering (the latter is similar to a country random-effects model employed by La Porta et al. (2002), Durnev and Kim (2005), and Doidge, et al. (2004, 2007) where the standard errors are adjusted to reflect the cross-correlation between firms due to common country components).

[3] Note that removing the country means from all firm-level observations in $\mathbf{x}_{i,j,t}$ is equivalent to including country fixed effects in the within-country model of Equation (1a).

[4] Unlike the OLS regression where each firm-level observation receives equal weight, the HLM regression simultaneously models regressions at both the country level and the firm level, with the country-level regression weighted by the precision of the firm-level data.

4. Variable construction and sample formation

Constructing the corporate governance index

We employ firm-level corporate governance data compiled by GMI to construct a new overall corporate governance index (henceforth, the CG index). GMI measures corporate governance practices for firms covered by the MSCI World Index over the period 2006-2011. We use 72 questions and answers on governance attributes, which GMI groups into eight categories: (1) board accountability, (2) financial disclosure and internal controls, (3) shareholder rights, (4) remuneration, (5) the market for corporate control, (6) corporate behavior – employee relationship, (7) corporate behavior – environment, and (8) corporate behavior – reputation (see Appendix I for details). For each of these questions, GMI assesses whether a firm attains a minimum standard and records yes/no/not applicable.[5]

The sample used to construct the CG index contains 22,650 firm-year observations for approximately 4,500 firms in 50 countries. The panel is unbalanced, as the number of firms grows considerably over time (from 3,091 in 2006 to 4,276 in 2011).[6] We first code answers to 72 original questions into 61 well-defined governance attributes in the eight categories.[7] For example, under "board accountability (BA)," the attribute BA2 is created by consolidating the answers to three related questions. Specifically, BA2 takes a value of one if the answer to question 1.10g "Do any of the board members serve on the boards of at least three other public companies?" is "No," takes a value of 0.5 if the answer to question 1.10g is "Yes" and the answer to question 1.10h "Do 25% to 49.9% of directors serve on the boards of at least three other public companies?" is "No," and takes a value of zero if the answer to

[5] According to GMI, all data inputs are based on publicly available information, most compiled from company filings and reports. The GMI ratings process is fully automated, and applied consistently to all rated companies.
[6] For comparison, the S&P ratings based on 98 disclosure items (see, for example, Khanna, Palepu, and Srinivasan, 2004; Durnev and Kim, 2005) are available for 901 firms from 40 countries in 2002. The Credit Lyonnais Securities Asia (CLSA) ratings based on analyst responses to 57 questions (see, for example, Durnev and Kim, 2005; Klapper and Love, 2004) are available for 495 firms from 25 Asian countries in 2000. The RiskMetrics (formerly ISS) governance ratings based on 55 disclosure items (see, for example, Aggarwal et al., 2009) are available for 1,710 firms from 22 developed countries in 2003.
[7] In total, there are seven cases in which a particular attribute is based on consolidating answers to multiple questions.

question 1.10h is "Yes" or the answer to question 1.10i "Do 50% or more of directors serve on the boards of at least three other public companies?" is "Yes." We then sum up the values of all 61 attributes to obtain an unbalanced panel of the CG index.

In our additional investigation, using both our judgment and a pooled cross-country principal component analysis on GMI's eight categories,[8] we arrive at three CG subindices: board accountability that includes categories (1), (2), and (4); minority shareholder protection that includes categories (3) and (5); and corporate behavior standards that include categories (6), (7), and (8).

Measures of national culture

The two measures of national culture that we use in our analysis are Hofstede's (1980, 2001) dimensions of individualism and uncertainty avoidance. The measures were constructed from answers to a large survey study of 117,000 IBM employees across their worldwide subsidiaries in 70 countries between 1967 and 1973. It is worth noting that the specific items used to construct these measures are distinct from the context of corporate governance that we are studying (see Appendix II for a detailed discussion). For example, the most heavily weighted item in constructing the uncertainty avoidance index is "Competition between employees usually does more harm than good." This item, like others in the index, represents a guideline for appropriate behavior and does not directly translate into corporate governance practices.[9] In our additional investigation, we also consider two other Hofstede's dimensions, as well as another cultural value framework developed by Schwartz (1999, 2004).

[8] The principal component analysis reduces a larger set of correlated variables (i.e., the eight GMI categories) into a smaller set of largely uncorrelated composite variables (i.e., the three governance subindices) that account most of the cross-firm variance in a parsimonious way.

[9] We note that Hofstede's cultural dimensions were derived from a sample of IBM employees in the 1960s and 1970s, well before the beginning of our sample period and thus reducing endogeneity concerns. Nonetheless, any changes in cultural values that have occurred over the past 40 years would weaken our conjectured linkages between the measures of national culture and corporate governance practices. Similarly, to the extent that IBM employees do not share the same cultural values as investors, this would also weaken the conjectured linkages between the measures of national culture and corporate governance practices. Finding the robust effects of national culture on corporate governance would thus reinforce the belief that cultural values are enduring norms that are widely shared within a nation.

Measures of investor protection and economic and financial development

To characterize the level of investor protection in each country, we use four measures (see Appendix II for detailed variable definitions and data sources). First, we use La Porta, Lopez-de-Silanes, Shleifer, and Vishny's (1998) rule of law, an indicator of the effectiveness of regulatory enforcement. Second, we use La Porta et al.'s (1998) legal origin, which identifies the origin of the company law or commercial code in a country and classifies countries into legal families. Common law countries have been shown to have the strongest protection of outside investors—both shareholders and creditors—whereas French civil law countries have the weakest protection; German civil law and Scandinavian countries fall in between (La Porta et al., 1998). Common law is an indicator variable that takes a value of one for Common law, and zero otherwise. Third, we use Spamann's (2010) revised anti-director rights index, which measures how strongly the legal system favors minority shareholders against managers or dominant shareholders.[10] Fourth, we use Djankov, McLiesh, and Shleifer's (2007) revised creditor rights index, which measures secured lenders' power in bankruptcy.

Finally, we use two time-varying indicators of a country's economic and financial development: annual GDP per capita, and Demirguc-Kunt and Levine's (2001) financial structure, an index of stock market development based on measures of the size, activity, and efficiency of a country's stock market relative to its credit market. The former is from the World Bank's World Development Indicators Database, and the latter is constructed from the World Bank's Financial Development and Structure Dataset (updated November, 2013).

Measures of firm value and firm-level characteristics

To measure firm value, we employ Tobin's Q, which is the ratio of the sum of the market value of equity and the book value of debt to book assets.

[10] All of our main findings remain qualitatively unaffected when we use Djankov, La Porta, Lopez-de-Silanes, and Shleifer's (2008) revised anti-director rights index.

Turning to firm-level characteristics, we largely follow prior work (see, for example, Doidge et al., 2004; Klapper and Love, 2004; Durnev and Kim, 2005; Francis et al., 2005; Doidge et al., 2007). Firm size, in terms of total assets, is measured as the logarithm of millions of U.S. dollars (in 2011 dollars). Sales growth is the annual growth of net sales (net $sales_t$ / net $sales_{t-1}$) averaged over the past three years. Leverage is the ratio of total liabilities to total assets. Cash holdings is the ratio of liquid assets to total assets. To capture firms' financing needs, we use a measure of dependence on external finance (Rajan and Zingales, 1998) defined as capital expenditures minus cash flows from operations divided by capital expenditures, computed at the firm-year level. Tangibility is the amount of fixed assets divided by total assets. Closely-held shares is defined by the data provider, Worldscope, as shares held by corporate insiders and blockholders with more than 5% ownership. U.S. cross-list is an indicator variable that takes a value of one if a firm is listed on a major U.S. exchange either directly or through Level II or III American Depositary Receipts (ADRs), and zero otherwise (Doidge et al., 2004). All firm-level continuous variables are winsorized at the 1st and 99th percentiles to reduce the impact of outliers.

Sample formation

Our main data sources are GMI for firm-level governance attributes over the period 2006-2011, and Thomson Reuter's Worldscope/datastream and Bloomberg for firm-level characteristics over the same period. The GMI sample covers 4,457 unique firms with 22,650 firm-year observations from 50 countries. After dropping observations with missing data for country- and firm-level control variables, we obtain a sample that comprises 17,273 firm-year observations for 3,550 unique firms from 38 countries. Table A1 in the Internet Appendix summarizes our sample coverage across countries and over time.[11]

To address the concern that firms covered by GMI might be biased towards firms with particular characteristics, we compare our sample to the Worldscope universe of firms. Appendix III presents the result of this comparison. We find that all firm-level characteristics of our sample firms are between the

[11] The number of firms included by country varies from Panama, Peru, and Colombia on the low end to the U.S., Japan, and the U.K. on the high end. The sample coverage is increasing over time.

43rd – 63th percentiles of those in the Worldscope universe. It appears that our sample firms are fairly representative of the Worldscope universe of firms.

5. Main results

Descriptive statistics

Table 1, Panel A presents country-level correlations between the CG index and its three subindices—board accountability, minority shareholder protection, and corporate behavior standards—and Hofstede's two cultural dimensions—individualism and uncertainty avoidance—and the World Bank's Worldwide Governance Indicators (WGIs)—control of corruption, government effectiveness, political stability and absence of violence, rule of law, regulatory quality, and voice and accountability. We find that individualism is positively and significantly correlated with the CG index and its three subindices, whereas uncertainty avoidance is negatively and significantly correlated with the CG index and two of the three subindices—board accountability and minority shareholder protection. Further, all six of the World Bank's WGIs are positively and significantly correlated with the CG index and its three subindices. These positive and significant correlations between our corporate governance measures based on GMI and the World Bank's WGIs provide out-of-sample validation for the former.

Table 1, Panel B lists sample countries in descending order according to individualism and uncertainty avoidance. We find that the U.S., Australia, and the U.K. are the three countries with the highest scores on individualism, while Panama, Columbia, and Indonesia are the three countries with the lowest scores on individualism. The three countries with the highest scores on uncertainty avoidance are Greece, Portugal, and Belgium, while the countries with the lowest scores on uncertainty avoidance are Singapore, Denmark, and Hong Kong.

Table 2, Panel A provides summary statistics for the firm-level variables. Table 2, Panel B presents Pearson correlations among the firm-level variables after removing their respective country means using 2011 data. We find that the CG index and two of its three subindices—minority shareholder protection and corporate behavior standards—are negatively and significantly correlated with Tobin's Q, whereas

one subindex—board accountability—is positively and significantly correlated with Tobin's Q. However, simple correlations do not control for other confounding firm- and country-level variables that may mask the true relation between corporate governance practices and firm value. Table A2, Panel A in the Internet Appendix provides country-level summary statistics for the CG index, its three subindices, two cultural dimensions, and other country-level variables, and Panel B presents Pearson correlations among the country-level variables including the country means of the firm-level variables.

The relation between national culture and firm-level corporate governance practices

Table 3 presents the estimation results based on Equation (1) where the dependent variable is the CG index. Within countries, we find that firm size, leverage, dependence on external finance, and U.S. cross-list are positively and significantly associated with the CG index, while sales growth and closely-held shares are negatively and significantly associated with the CG index. Large firms and firms with high leverage are more likely to be under close scrutiny, and are also more likely to have more resources available to comply with the highest standard of corporate governance practices. Both existing theories and empirical evidence (see, for example, Durnev and Kim, 2005; Doidge et al., 2007) show that dependence on external finance is positively and significantly associated with the CG index, and our evidence is consistent with prior literature. U.S. cross-listed firms have to meet the host country's (U.S.) standard of corporate governance practices, so it is not surprising that U.S. cross-list is positively and significantly associated with the CG index. Sales growth can be used to proxy for investment opportunities and is expected to be positively associated with firm-level corporate governance (see, for example, Durnev and Kim, 2005). Our finding is inconsistent with the theoretical literature and prior findings (see, for example, Klapper and Love, 2004; Durnev and Kim, 2005). In existing models (see, for example, La Porta et al., 2002; Shleifer and Wolfenzon, 2002; Durnev and Kim, 2005), greater concentration of ownership leads to less expropriation because controlling shareholders expropriate more from themselves as their stake increases, so that the payoff from expropriation falls. As the controlling shareholders' ownership stake increases, we would expect them to invest less in costly firm-level

governance mechanisms because their incentives to expropriate are lower. Our finding of a negative association between closely-held shares and the CG index is consistent with prior theories. These firm-level results are largely consistent with prior work by Klapper and Love (2004), Durnev and Kim (2005), and Doidge et al. (2007) with one notable exception (i.e., sales growth).

Across countries, we find that the associations between firm characteristics and the CG index are sometimes consistent with, and other times inconsistent with, the associations within countries. For example, at the country level, we still find that firm size and dependence on external finance are positively and significantly associated with the CG index, and sales growth is negatively and significantly associated with the CG index. At the country level, closely-held shares is now positively and significantly associated with the CG index, whereas U.S. cross-list is now negatively and significantly associated with the CG index, both in contrast to the within-country firm-level evidence. We are puzzled by the first finding, which indicates that countries with high ownership concentration tend to have better corporate governance practices. Our second finding, which indicates that countries with a higher proportion of U.S. cross-listed firms tend to have poorer corporate governance practices, is consistent with the bonding hypothesis of Stulz (1999), Reese and Weisbach (2002), and Doidge et al. (2004) that firms from countries with poor corporate governance practices are more willing to commit to costly good governance through cross-listing. Finally, at the country level, cash holdings is now negatively and significantly associated with the CG index, whereas this variable is not significantly associated with the CG index within countries. We would expect firms with more cash to be less likely to access the capital markets, and hence a negative association between cash holdings and the CG index.

Importantly, at the country level, we find that individualism is positively and significantly associated with, whereas uncertainty avoidance is negatively and significantly associated with, the CG index, consistent with Hypotheses H1 and H2. Further, we find that Common law and GDP per capita are positively and significantly associated with the CG index. Common law, with its emphasis on enforcement, serves as a complement to firm-level corporate governance practices. Countries with greater economic development (as captured by higher GDP per capita) have the resources to implement high

standards of corporate governance practices. Our findings are also consistent with prior findings (see, for example, La Porta et al., 1998; Doidge et al., 2004, 2007). Finally, we find that financial structure is negatively and significantly associated with the CG index. Financial structure captures the development of a country's equity markets relative to its credit markets (Demirguc-Kunt and Levine, 2001). On the one hand, the development of a country's equity markets rely on minority shareholder protection, leading to a positive association between financial structure and the CG index at the country level. On the other hand, with well-developed equity markets relative to creditor markets and hence easy access to capital and lower costs of capital, there is no need for firms to practice good corporate governance. Our finding seems to be consistent with the latter interpretation but does not support the threshold effect modelled in Doidge et al. (2007) that at a sufficiently low level of economic and financial development, there is little gain to firms from improving corporate governance practices at their own expense.

The economic significance of our measures of national culture on the CG index is noteworthy: A one-standard deviation increase in individualism is associated with a 6.5% increase in the CG index, which represents about 44.5% of its unconditional standard deviation across countries in our sample; a one-standard deviation increase in uncertainty avoidance is associated with a 4.8% decrease in the CG index, which represents about 32.7% of its unconditional standard deviation across countries in our sample. By contrast, a one-standard deviation increase in ln(GDP per capita) (financial structure) is associated with an 2.2% increase (4.3% decrease) in the CG index.

In summary, the two cultural dimensions have consistent effects on the CG index, strongly supporting Hypotheses H1 and H2. There is a positive and significant association between individualism and the CG index; there is a negative and significant association between uncertainty avoidance and the CG index. We now examine the value implications of adopting good corporate governance practices.

The relation between firm-level corporate governance practices and firm value

Table 4 presents the estimation results based on Equation (1) where the dependent variable is Tobin's Q. Within countries, we find that the CG index, sales growth, closely-held shares, and U.S. cross-

list are positively and significantly associated with Tobin's Q, while firm size, leverage, and tangibility are negatively and significantly associated with Tobin's Q. These firm-level results are largely consistent with prior work by Doidge et al. (2004), Klapper and Love (2004), Durnev and Kim (2005), and Aggarwal et al. (2009).

The economic significance of our measure of firm-level corporate governance on Tobin's Q is noteworthy: A one-standard deviation increase in the CG index is associated with a 3.8% increase in Tobin's Q, which represents about 6.6% of its unconditional standard deviation across firms in our sample. By contrast, a one-standard deviation increase in sales growth (closely-held shares) is associated with an 8.2% (1.9%) increase in Tobin's Q; and a one-standard deviation increase in firm size, leverage, and tangibility is associated with a 14.0%, 1.5%, and 3.2% decrease in Tobin's Q, respectively.

Across countries, we find that the associations between firm characteristics including the CG index and Tobin's Q are sometimes consistent with, and other times inconsistent with, the associations within countries. Importantly, at the country level, we find that the CG index is negatively and significantly associated with Tobin's Q. The economic significance of our measure of country-level corporate governance on country-level Tobin's Q is noteworthy: A one-standard deviation increase in the CG index is associated with a 3.6% decrease in Tobin's Q, which represents about 6.2% of its unconditional standard deviation across countries in our sample. We argue that cultural influences are not economic. Controlling shareholders, influenced by culture, might make corporate governance choices that are not value-enhancing. Our finding is consistent with this argument and Hypothesis H3. Further, at the country level, we still find that leverage is negatively and significantly associated with, while U.S. cross-list is positively and significantly associated with, Tobin's Q.

At the country level, we find that uncertainty avoidance and GDP per capital are negatively and significantly associated with, while financial structure is positively and significantly associated with, Tobin's Q.

The economic significance of our measure of national culture on Tobin's Q is noteworthy: A one-standard deviation increase in uncertainty avoidance is associated with a 6.6% decrease in Tobin's Q,

which represents about 11.4% of its unconditional standard deviation across countries in our sample. By contrast, a one-standard deviation increase in ln(GDP per capita) (financial structure) is associated with a 6.2% decrease (5.8% increase) in Tobin's Q.

When examining the cross-level interactions between the CG index at the firm level and the two measures of national culture and financial structure at the country level, we find that the positive association between the CG index and Tobin's Q is mitigated in countries with high uncertainty avoidance, and strengthened in countries with well-developed financial structure (i.e., equity markets). Controlling shareholders in high uncertainty avoidance countries are less comfortable with equity financing and the associated loss of control. This leads to concentrated ownership and informal ties and network such that controlling shareholders are less concerned about protecting outside investors. Not surprisingly, in countries with high uncertainty avoidance, the relation between good corporate governance practices and firm value is weakened. Further, existing models suggest that the most important benefit of implementing good corporate governance is access to capital markets on better terms. Doidge et al. (2007) show that greater financial development increases the benefits of investing in firm-level corporate governance because it reduces the transaction cost of external finance and also the cost of investing in good corporate governance. Not surprisingly, in countries with well-developed financial structure, the relation between good corporate governance practices and firm value is strengthened.

In summary, Table 4 provides strong support for Hypothesis 3 that within countries, there is a positive and significant association between firm-level corporate governance practices and firm value; whereas across countries, the association is negative.

6. The instrumental variables approach

Naturally, there are alternatives to a simple causal link between the set of country- and firm-level explanatory variables that we use and firm-level corporate governance practices. For example, it is easy to see that U.S. cross-listings and corporate governance practices may have a bi-directional relation: U.S. cross-listings may promote good corporate governance practices (see, for example, Doidge et al, 2004),

and at the same time good corporate governance practices may increase the chance that a firm has a U.S. listing. Similarly, GDP per capita might also have a bi-directional story: Higher incomes may encourage the adoption of good corporate governance practices, while at the same time country-level good corporate governance practices may lead to a stronger economy. Formal and informal institutions such as the rule of law and culture change sufficiently slowly that they are less plausibly caused by corporate governance practices over the time horizon that we use here. Similarly, some of the cultural dimensions that we use to predict corporate governance practices in the 2000s were measured in the 1960s and 1970s. Our variables therefore differ in their susceptibility to reverse causation or endogeneity.

To address the endogeneity concern about country-level corporate governance practices and culture and reverse causality, we employ the instrumental variables approach. Following Hofstede (2001), Kwok and Tadesse (2006), Licht, Goldschmidt, and Schwartz (2007), Tabellini (2008), Guiso, Sapienza, and Zingales (2009), and Ahern, Daminelli, and Fracassi (2012), we use the following set of instrumental variables to isolate the exogenous components of our measures of culture: genetic distance to the U.S. (Cavalli-Sforza, Menozzi, and Piazza, 1994; Spolaore and Wacziarg, 2009), two linguistic variables on pronoun-drop and politeness distinctions (Kashima and Kashima, 1998; Abdurazokzoda and Davis, 2014), and continent (see Appendix II for detailed variable definitions and data sources).

Our first instrumental variable is a measure of genetic distance between the population in a given country and the population in the U.S. (i.e., the most individualistic country in our sample). Genetic distance between two populations indicates the length of time since those two populations diverged from a common ancestry. "Populations that share more recent common ancestors have had less time to diverge in a wide range of traits and characteristics that are transmitted across generations…" (Spolaore and Wacziarg, 2009, p. 470). Thus, pairs of countries that are closer genetically will share similar cultural values, satisfying the relevance condition for instrumental variables.

This measure is based on frequencies of blood types, which is the genetic information available for the largest number of countries, and aggregated over 2,000 groups of population across the globe to construct country-level data using ethnic shares (Spolaore and Wacziarg, 2009). Since there is no genetic

basis for economic development, our measure of genetic distance is very likely to satisfy the exclusion restriction.

Our second set of instrumental variables are based on language. Language evolves slowly and is closely related to culture but not directly related to economic variables (Licht et al., 2007; Tabellini, 2008). Pronoun-drop (languages not allowing "I" or "You" in a sentence) indicates that in a culture the individual is not emphasized relative to the group or background. This variable equals the share of a country's population that speak a language in which pronoun drop is permitted. Politeness distinctions (languages providing both formal and informal versions of "You") indicate that speakers must pay close attention to the social hierarchy and follow clear rules (Kashima and Kashima, 1998; Abdurazokzoda and Davis, 2014). This second variable equals the share of a country's population that speaks a language exhibiting multiple politeness distinctions and avoiding pronouns for politeness.

Our last instrument is continent, representing broad geographical clusters of environmental variables. According to Hofstede (2001), geographically proximate populations tend to share cultural values because of interactions and common environmental conditions such as climate and natural resources. This indicator variable takes a value of one if a country resides on a particular continent (i.e., Africa, Asia, Europe, North America, and South America), and zero otherwise.

Table 5 presents the results from the instrumental variables approach. Panel A presents the first-stage regression results where two measures of cultural dimensions are projected onto the instrumental variables comprised of genetic distance, pronoun-drop, politeness distinctions, and continent, as well as the country-level controls used in Table 3. The adjusted R^2 from the first-stage models ranges from 51% to 73%, which shows that our instrumental variables and other country-level controls have significant explanatory power. In both first-stage regressions, we report an F-statistic for the joint significance of all the instruments employed. The F-statistic is significant at the 1% level when the dependent variable is individualism, and at the 5% level when the dependent variable is uncertainty avoidance. In both regressions, none of other country-level controls is significantly associated with the two cultural dimensions.

Panel B presents the second-stage regression results. We again find that (instrumented) individualism is positively and significantly associated with, whereas (instrumented) uncertainty avoidance is negatively and significantly associated with, the CG index. The coefficients on individualism and uncertainty avoidance imply that a one-standard deviation increase in individualism (uncertainty avoidance) is associated with a 8.3% increase (4.5% decrease) in the CG index, which represents about 57.4% (31.3%) of its unconditional standard deviation across countries in our sample. The rest of the findings in Table 5, Panel B are largely the same as those in Table 3, with one exception that after instrumenting two cultural dimensions, Common law is not significantly associated with the CG index at the country level. Finally, we use the Sargan's test of overidentifying restrictions and fail to reject the null that all instrumental variables are uncorrelated with the error term in the CG regression (p-value = 0.339).

In summary, the substantial lag between the measurement of national cultural dimensions and the measurement of firm-level corporate governance practices, together with the instrumental variables approach, helps rule out alternative causal interpretations of our results.

7. Additional investigations

Employing the full set of Hofstede's measures

As a robustness check, we add Hofstede's two other cultural dimensions—power distance and masculinity—to our baseline model specifications in Tables 3 and 4. Power distance measures the acceptance of hierarchy or power differential within a country. Masculinity measures the acceptance of rigid gender roles in a country and a focus on work success relative to fostering the well-being of others. Unlike the two Hofstede's dimensions of individualism and uncertainty avoidance that we focus on, these two do not have a natural interpretation in terms of the protection of outside investors. Nonetheless, we conjecture that controlling shareholders in high power distance countries are less likely to adopt good corporate governance practices because they are more comfortable with inequality, and that controlling shareholders in high masculinity countries are less likely to adopt good corporate governance practices because they are less concerned about the well-being of others.

Table A3 in the Internet Appendix presents the estimation results. We find that the significant associations between both individualism and uncertainty avoidance and the CG index largely remain, and there is a negative and significant association between power distance and the CG index, consistent with our conjecture (Panel A). We further find that within countries, there remains a positive and significant association between the CG index and Tobin's Q, whereas across countries, there is a negative and significant association between the CG index and Tobin's Q (Panel B).

In summary, when including the full set of Hofstede's cultural dimensions, individualism and uncertainty avoidance continue to be significantly associated with firm-level corporate governance practices as predicted by Hypotheses H1 and H2.

Employing Schwartz's cultural dimension

The cultural theory of Schwartz (1999, 2004) has seven cultural dimensions based on a survey of elementary school teachers and college students from over 50 countries between 1988 and 2000. Respondents rate the importance of each of 57 values (e.g., equality, freedom, and pleasure) as "a guiding principle in MY life" (Schwartz, 2004, p. 48). According to Schwartz (2004, pp. 51-52), none of his seven cultural dimensions corresponds to Hofstede's dimension of uncertainty avoidance, whereas his dimension of affective autonomy (focusing on individual utility) shows the closest correspondence to Hofstede's dimension of individualism. Thus, we expect that affective autonomy is positively associated with firm-level corporate governance practices.

As a robustness check, we employ Schwartz's affective autonomy to explain firm-level corporate governance practices and firm value. Table A4 in the Internet Appendix presents the estimation results. We find that the cultural dimension of affective autonomy is positively and significantly associated with the CG index (Panel A). We further find that within countries, there remains a significant and positive association between the CG index and Tobin's Q, whereas across countries, there is a significant and negative association between the CG index and Tobin's Q (Panel B).

In summary, when employing an alternative framework to measure national culture, our main findings remain: There is a positive and significant association between affective autonomy and the CG index. Within countries versus across countries, the relations between the CG index and Tobin's Q are consistent with Hypothesis 3.

An alternative measure of formal institutions

To address the concern that it might be omitted country-level variables that drive our main findings, we include an alternative measure of country-level formal institutions. Employing the principal component analysis advocated by Karolyi (2015b), we combine all six WGIs from the World Bank, corruption and law and order from the International Country Risk Guide, and property rights and freedom from corruption from the Heritage Foundation Index of Economic Freedom to obtain one composite index of formal institutions.

Table A5 in the Internet Appendix presents the estimation results using this composite index in place of rule of law. We find that this new composite index of formal institutions is positively and significantly associated with the CG index. Furthermore, we find that the effects of individualism and uncertainty avoidance remain, consistent with Hypotheses H1 and H2. Finally, we find that the relations between the CG index and Tobin's Q within countries and across countries are consistent with Hypothesis 3.

Subsample analyses

According to Table A1 in the Internet Appendix, U.S. firms contribute 48% of the sample, and firms from the U.S., Japan, and the U.K. contribute 69% of the sample. So it is important to check if our main findings remain if we remove firms from those countries.

Table A6 in the Internet Appendix presents the estimation results after removing U.S. firms. Our main findings largely remain that there is a positive and significant association between individualism and the CG index, and there is a negative and significant association between uncertainty avoidance and the CG index. Within countries, there remains a significant and positive association between the CG index

and Tobin's Q, whereas across countries, there is no significant association between the CG index and Tobin's Q. Table A7 in the Internet Appendix presents the estimation results after removing firms from the U.S., Japan, and the U.K. Our main findings remain largely unchanged.

To conclude this subsection, we investigate whether financial globalization reduces the importance of national culture in explaining firm-level corporate governance practices. We limit our analysis to a sample of cross-listed firms.[12] Cross-listed firms in the U.S. are identified by either direct listings or listings via Level II or III ADRs (Doidge et al., 2007); cross-listed firms outside the U.S. are identified by listings on a nondomestic exchange (Sarkissian and Schill, 2014).

Table A8 in the Internet Appendix presents the estimation results. Panel A shows that over our sample period 2006-2011, about 16% of our sample firms are cross-listed. Panel B shows that U.S. cross-list is positively and significantly associated with the CG index both within- and across-countries, consistent with the findings in Doidge et al. (2004). More importantly, there remain significant associations between both individualism and uncertainty avoidance and the CG index, consistent with Hypotheses H1 and H2. Panel C further shows that there are positive and significant associations between U.S. cross-list and Tobin's Q both within- and across-countries. Finally, within countries, there remains a significant and positive association between the CG index and Tobin's Q, whereas across countries, there is no significant association between the CG index and Tobin's Q, largely consistent with Hypothesis H3.

We conclude that even with financial globalization, national culture still matters in firm-level corporate governance practices.

Using the three corporate governance subindices

As a final robustness check, we decompose the CG index into three subindices—board accountability, minority shareholder protection, and corporate behavior standards—based on both our

[12] We thank Sergei Sarkissian for providing data on cross-listings around the world.

judgment and a principal component analysis. Table 6 presents the estimation results when we replace the firm-level CG index by its three subindices.[13]

Panel A presents the results on firm- and country-level determinants of the three subindices. We find that there are positive and significant associations between individualism and board accountability and between individualism and corporate behavior standards, whereas there are negative and significant associations between uncertainty avoidance and board accountability and between uncertainty avoidance and minority shareholder protection, largely consistent with Hypotheses H1 and H2.

Panel B presents the results on the relations between the three subindices and firm value. Within countries, we find that there are positive and significant associations between minority shareholder protection and Tobin's Q and between corporate behavior standards and Tobin's Q. Across countries, we find that there is a negative and significant association between board accountability and Tobin's Q, whereas there is a positive and significant association between minority shareholder protection and Tobin's Q.

To explain the somewhat anomalous association between minority shareholder protection and firm value at the country level, we go back to Panel A where we present the results on the relation between national culture and minority shareholder protection. We find that the associations between both individualism and uncertainty avoidance and minority shareholder protection are very small, as compared to the strong associations found for the other two corporate governance subindices—board accountability and corporate behavior standards. Thus the effect of culture on $\bar{q}$ for minority shareholder protection is very small, hence $\bar{q}$ largely reflects profit-maximizing decisions, explaining the positive association between minority shareholder protection and Tobin's Q across countries.

In summary, including Hofstede's two additional cultural dimensions (power distance and masculinity), employing Schwartz's one related cultural dimension (affective autonomy), using various

[13] Because of the large number of potential cross-level interactions involving the three subindices that could enter in the Tobin's Q regression, we opt to focus on the main effects of the three subindices on firm value in this robustness check.

subsamples, and examining the three governance subindices, we find that the main effects of culture on firm-level corporate governance practices remain largely unchanged, as do the effects of firm-level corporate governance practices on firm value.

8. Conclusions

In this paper, we examine why corporate governance varies widely across countries and across firms, and why it matters. Using a new database from Governance Metrics International on corporate governance practices across a large number of countries and firms for 2006-2011 and employing the hierarchical linear model specification, we find that the national cultural dimension of individualism is positively associated with, whereas the national cultural dimension of uncertainty avoidance is negatively associated with, firm-level corporate governance practices. Within countries, there is a positive association between firm-level corporate governance practices and firm value; however, across countries, the association is negative or zero. Finally, we find that the positive association between firm-level corporate governance practices and firm value is mitigated in high uncertainty avoidance countries, and strengthened in countries with well-developed financial structure.

Our findings are relevant to both academics and practitioners, including securities regulators, policy makers, and fund managers around the world. For example, fund managers have traditionally been reluctant to invest in markets far away—both geographically and culturally—from their own home markets. To counter this "home bias," managers have turned to measures of corporate governance practices to assess the safety of investing in unfamiliar foreign markets and foreign firms. Our findings suggest that investors interested in the benefits of good corporate governance practices can use the cultural region of a firm as a guide for the level of corporate governance practices prevalent in that region. When fund managers make investment choices within a country, our findings suggest that good corporate governance practices at the firm level can help predict investment performance regardless of the cultural setting. However, when they choose countries to invest in, our findings suggest that fund manager should not rely solely on the average level of governance practices in a particular country, as there is some

evidence of a negative relation between a country's average level of corporate governance practices and its average investment performance. When fund managers simultaneously choose firms and countries to invest in, our findings suggest that they may need to consider both firm-level corporate governance practices and country-level financial market development, as the highest returns are achieved by firms with the best corporate governance practices in countries with the most well-developed markets. More research is needed on the complex relation at the country level between corporate governance practices and firm performance, given its important policy and practical implications.

Appendix I: Construction of the eight corporate governance summary scores

This table provides the scoring scheme as well as the original GMI questions. Mean score values are based on the full GMI sample, covering 4,457 firms in 50 countries (involving 22,650 firm-year observations) for the period 2006-2011.

Score item	Scoring scheme	GMI code	Question	Mean
Board Accountability				
BA1	BAindicator1=0; 1 if yes; 0 if missing	1.10a	Do the non-executive members of the board have a formal session without the executive members at least once a year?	0.624
BA2	BAindicator2=1 if no, 0.5 if yes & 1.10h no	1.10g	Do any of the board members serve on the boards of at least three other public companies?	0.762
	0 if yes	1.10h	Do 25% to 49.9% of directors serve on the boards of at least three other public companies?	
	0 if yes, ignore missing	1.10i	Do 50% or more of directors serve on the boards of at least three other public companies?	
BA3	BAindicator3=0; 1 if yes; 0 is missing	1.13d	Do all non-executive board members own shares after excluding options held?	0.515
BA4	BAindicator4=0, 1 if yes; 0 if missing	1.1c	Can the non-executive chair be classified as independent?	0.282
BA5	BAindicator5=1 if no; 0.5 if yes & 1.2h no	1.2g	Can 25% to 49.9% of the company's board members be classified as independent?	0.780
	0 if yes	1.2h	Can 0% to 24.9% of the company's board members be classified as independent?	
BA6	BAindicator6=0, 1 if yes; 0 if missing	1.6d	Are all or a majority of the governance or nomination committee members non-executive board members?	0.750
BA7	BAindicator7=1; 0 if yes; 0 if missing	1.6f	Does the CEO sit on the governance or nomination committee?	0.925
BA8	BAindicator8=0; 1 if yes; 0 if missing	1.9e	Did all members attend at least 75% of the board meetings and his or her committee meetings?	0.645
BA9	BAindicator9=0; 1 if 1.10e no	1.10e	Are there more than 15 board members?	0.933
BA10	BAindicator10=1, 0 if yes; 0 if missing	1.10m	Have any directors served on the board for 10 or more years?	0.317
BA11	BAindicator11=0.5, 1 if yes; 0 if missing or NULL	1.10o	If the board has a non-executive Chairman, does that Chairman have substantial industry knowledge?	0.341
BA12	BAindicator12=1, 0.5 if 1.12f yes	1.12f	Have there been related-party transactions in the past three years?	0.606
	0 if 1.12g or 1.12h yes	1.12g	Has there been a related-party transaction involving the Chairman, CEO, President, COO, or CFO, or a relative of the Chairman, CEO, President, COO, or CFO, or the controlling shareholder, if any, within the last three years?	
		1.12h	Did related-party transactions in the aggregate amount to at least one percent of this company's revenues for any single year within the last three years?	
BA13	BAindicator13=0, 1 if yes; 0 if missing	1.13e	Has the number of company shares held by officers and directors as a group increased by 10% or more over the last 12 months?	0.243
BA14	BAindicator14=1, 0 if yes; 0 if missing	1.13f	Has the number of company shares held by officers and directors as a group decreased by 10% or more over the last 12 months?	0.704
BA15	BAindicator15=1, 0 if yes; 0 if missing	1.14b	Within the last three years, has the company failed to adopt the specific recommendations (or a comparable alternative) of a shareholder proposal approved by a majority of the votes cast?	0.948

BA16	BAindicator16=0, 1 if yes	1.1f	Can the designated “lead” or senior non-executive board member be classified as independent?	0.328
BA17	BAindicator17=0, 1 if yes; 0 if missing	1.3d	Are some board members subject to nomination, election, or appointment by a constituency group?	0.115
BA18	BAindicator18=0, 1 if yes; 0 if missing	1.3g	Does the company accept shareholder nominations for board candidates?	0.756
BA19	BAindicator19=0, 1 if yes; 0 if missing	1.3h	Does the company use, or has it adopted, some form of majority voting in the election of directors?	0.594
BA20	BAindicator20=1, 0.5 if 1.9f yes; 0 if missing	1.9f	Have one or more members missed 25% or more of the board meetings and his or her committee meetings?	0.696
	0 if 1.9g yes; 0 if missing	1.9g	Have more than 25% of the board members missed 25% or more of the board meetings and his or her committee meetings?	
Financial Disclosure and Internal Controls				
FD1	FDindicator1=0, 1 if yes; 0 if missing	2.10d	Has the board adopted a separate committee or subcommittee responsible for oversight of risk management?	0.043
FD2	FDindicator2=0, 1 if yes	2.1a	Is there an audit committee?	0.870
FD3	FDindicator3=0, 1 if yes; 0 is missing	2.1c	Is the audit committee wholly composed of non-executive board members?	0.842
FD4	FDindicator4=0, 1 if 2.2d yes or 2.2g yes; 0 if missing	2.2d	Is there at least one non-executive member of the audit committee who has general expertise in accounting or financial management?	0.798
		2.2g	Is there at least one non-executive member of the audit committee who has recent expertise in accounting or financial management?	
FD5	FDindicator5=0, 1 if yes; 0 if missing	2.2t	Does the audit committee have sole authority to approve any non-audit services from the company's outside auditor?	0.649
FD6	FDindicator6=1, 0 if yes; 0 if missing	2.4d	Does the company use its outside auditors for internal audit services?	0.864
FD7	FDindicator7=1, 0 if yes; 0 if missing	2.4j	Did the company pay its auditor less for audit and audit-related services than for other services in the last year reported?	0.891
Shareholder Rights				
SR1	SRindicator1=1, 0 if yes; 1 if missing	3.3h	Must shares be deposited or blocked from trading in order to vote?	0.913
SR2	SRindicator2=0, 1 if yes; 0 if missing	3.4a	Do all common or ordinary equity shares have one-share, one-vote, with no restrictions?	0.823
SR3	SRindicator3=1, 0 if yes; 0 if missing	3.4b	If there are classes of stock with different voting rights, does the class that is widely held have lower voting rights than other classes held by insiders or other core shareholders?	0.930
SR4	SRindicator4=1, 0 if yes; 0 if missing	3.4d	Are voting rights capped at a certain percentage, no matter how many shares the investor owns?	0.963
SR5	SRindicator5=1, 0 if yes; 0 if missing	3.4f	Are voting rights different depending on the duration of ownership?	0.979
SR6	SRindicator6=1, 0 if yes; 0 if missing	3.4g	Does the company require a minimum amount of shares in order to vote?	0.897
SR7	SRindicator7=0, 1 if 3.8a yes; 0 if missing	3.8a	Do shareowners have a right to convene an EGM (or “Special Meeting”)?	0.746
SR8	SRindicator7b=0, 1 if 3.8b yes; 0 if missing	3.8b	Do shareholders have a right to convene an EGM with 10% or less of the shares requesting one?	0.566
Remuneration				

MR1	MRindicator1=0, 1 if 4.1b yes; 0 if missing	4.1b	Is the remuneration committee wholly composed of non-executive board members?	0.766
MR2	MRindicator2=1, 0 if yes; 0 if missing	4.1e	Does the CEO/Managing Director sit on the remuneration committee?	0.964
MR3	MRindicator3=1, 0 if yes; 0 if missing	4.1h	Are there no independent board members on the remuneration committee?	0.963
MR4	MRindicator4=0, 1 if yes; 0 if missing	4.3b	Does the company disclose specific numeric performance targets for the upcoming fiscal year (not the prior fiscal year), for at least one of the performance objectives (not just a target award percentage of salary)?	0.170
MR5	Mrindicator5=1, 0 if yes; 0.5 if missing or Null	4.4o	If the company has a change of control or termination provision, does the CEO and/or do key executives receive three or more times annual salary at the time of a change of control or termination?	0.682
MR6	MRindicator6=1, 0 if yes; 0.5 if missing or Null	4.4v	For the last fiscal year, was total CEO compensation more than 2.99 times higher than that of the next highest compensated key executive?	0.549
MR7	MRindicator7=1, 0 if either 4.8s or 4.8t yes; 0.5 if missing	4.8s	Is total potential dilution as a result of stock options outstanding, plus stock options approved for grant but not yet granted, 20% to 24.99%?	0.803
		4.8t	Is total potential dilution as a result of stock options outstanding, plus stock options approved for grant but not yet granted, more than 25%?	
MR8	MRindicator8=1, 0 if yes; 0 if missing	4.8u	Does the company have an evergreen plan covering executives or members of senior management?	0.983
The Market for Corporate Control				
MC1	MCindicator1=1, 0 if 5.1a yes; 0 if missing	5.1a	Has the company adopted a shareholder rights plan (a "poison pill")?	0.841
	0.5 if either 5.1b or 5.1c or 5.1d yes	5.1b	Has the company's shareholder rights plan (a "poison pill") been ratified by a shareholder vote?	
		5.1c	Does the company's shareholder rights plan include a TIDE provision or a three-year sunset provision?	
		5.1d	Does the shareholder rights plan include a provision allowing it to be redeemed by a vote of the majority of shareholders other than the potential acquirer (a "chewable pill")?	
MC2	MCindicator2=1, 0 if yes; 0.5 if missing	5.3b	Is the company involved in a series of cross-shareholdings with other (related or unrelated) companies?	0.961
MC3	MCindicator3=1, 0 if yes	5.3j	Are minority shareholders in the company's home market historically at risk of not receiving "tagalong rights" in a major company transaction?	0.987
MC4	MCindicator4=1, 0 if 5.4b yes; 0 if missing	5.4b	Does the company have a staggered ("classified") board?	0.515
MC5	MCindicator5=0, 1 if 5.4d yes; 0 if missing	5.4d	Can directors be removed without cause?	0.701
Corporate Behavior- Employee Relationship				
CBS1	CBSindicator1=0, 1 if 6.1c yes; 0 if missing	6.1c	Does the company have a policy addressing workplace safety?	0.530
CBS2	CBSindicator2=0, 1 if 6.1d yes; 0 if missing	6.1d	Does the company comply with an external workplace code such as the ILO Fundamental Conventions or SA 8000 or the U.N. Global Compact?	0.142
CBS3	CBSindicator3=0, 1 if 6.1e yes; 0 if missing	6.1e	Does the company disclose its workplace safety record in the annual report or in another form accessible to shareholders?	0.271

CBS4	CBSindicator4=0, 1 if 6.1f yes; 0 if missing	6.1f	Does an independent outside body audit the company's workplace safety practices?	0.095
Corporate Behavior- Environment				
CBE1	CBEindicator1=0, 1 if 6.3e yes; 0 if missing	6.3e	Does the company disclose its environmental performance in its annual report, on its website, or in a special environmental report?	0.393
CBE2	CBEindicator2=0, 1 if 6.3f yes; 0 if missing	6.3f	Does the company follow the Global Reporting Initiative, Accounting for Sustainability, or other internationally recognized environmental reporting framework to disclose its environmental performance?	0.162
CBE3	CBEindicator3=0, 1 if 6.3i yes; 0 if missing	6.3i	Does the company adhere to a nationally or internationally recognized environmental code of conduct such as the International Chamber of Commerce (ICC) Business Charter for Sustainable Development, CERES, or something comparable?	0.167
CBE4	CBEindicator4=0, 1 if 6.3k yes; 0 if missing	6.3k	Does the company report to shareholders on its exposure to and management of climate change risks?	0.299
CBE5	CBEindicator5=0, 1 if 6.3l yes; 0 if missing	6.3l	Does the company specifically disclose its Greenhouse Gas (GHG) emissions?	0.110
CBE6	CBEindicator6=0, 1 if 6.3n yes; 0 if missing	6.3n	Are specific targets for reducing environmental exposures (e.g., GHG emissions, water use, hazardous waste, toxins, landfill, degradation, spills, etc.) disclosed?	0.078
Corporate Behavior- Reputation				
CBP1	CBPindicator1=0, 1 if 6.5f yes; 0 if missing	6.5f	Does the company disclose its policy regarding corporate-level political donations?	0.413
CBP2	CBPindicator2=0, 1 if 6.5h yes; 0 if missing	6.5h	Is there a board committee responsible for environmental, health, and safety concerns?	0.146
CBP3	CBPindicator3=0, 1 if 6.5i yes; 0 if missing	6.5i	Does the company have a policy that prohibits money laundering, corruption, and bribery by company employees and agents of the corporation?	0.824

Appendix II. Variable definitions and data sources

Hofstede country-level cultural dimensions:

Individualism: The index is a weighted sum of the following four statements:

1) Have sufficient time for your personal or family life
2) Have good physical working conditions (good ventilation and lighting, adequate work space, etc.)
3) Have security of employment
4) Have an element of variety and adventure in the job

High individualism is indicated by ratings of "of very little or no importance" to items (2) and (3), and ratings of "of utmost importance" to items (1) and (4). Individualism refers to the strength of the ties people have to others within the community. A high score on individualism indicates a loose connection with people. In countries with a high individualist score there is a lack of interpersonal connection and little sharing of responsibility, beyond family and perhaps a few close friends. A society with a low individualism score would have strong group cohesion, and there would be a large amount of loyalty and respect for members of the group. The group itself is also larger and people take more responsibility for each other's well-being.

Uncertainty avoidance: The index is a weighted sum of the following question and three statements:

1) How often do you feel nervous or tense at work?
2) One can be a good manager without having precise answers to most questions that subordinates may raise about their work
3) Competition between employees usually does more harm than good
4) A company's or organization's rules should not be broken—not even when the employee thinks it is in the company's best interest

High uncertainty avoidance is indicated by answering "always" to the first question, and ratings of "strongly disagree" to item (2), and ratings of "strongly agree" to items (3) and (4). Uncertainty avoidance captures the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. This feeling leads them to beliefs promising certainty and to maintaining institutions protecting conformity. Strong uncertainty avoidance societies maintain rigid codes of belief and behavior and are intolerant towards deviant persons and ideas. Weak uncertainty avoidance societies maintain a more relaxed atmosphere in which practice counts more than principles and deviance is more easily tolerated.

Country-level control variables:

Rule of law: From La Porta et al. (1998). Based on the assessment of the law and order tradition in the country produced by the country risk-rating agency International Country Risk (ICR). An average of the guide months of April and October of the monthly index between 1982 and 1995. The scale runs from zero to six, with lower scores for a lower level of law and order.

Common law: From La Porta et al. (1998). An indicator variable that takes a value of one if a country's legal origin is English Common law, and zero otherwise.

Anti-director rights: Revised anti-director rights index from Spamann (2010). The index is formed by summing across six subindices capturing shareholder rights: (1) vote by mail, (2) obstacles to the actual exercise of the right to vote (i.e., the requirement that shares be deposited before the shareholders' meeting), (3) minority representation on the board of directors through cumulative voting or proportional representation, (4) an oppressed minority mechanism to seek redress in case of expropriation, (5) preemptive rights to subscribe to new securities issued by the company, and (6) the right to call a special shareholder meeting.

Creditor rights: Revised creditor rights index from Djankov, McLiesh, and Shleifer (2007). The index is formed by summing across four measures of secured lenders' power in bankruptcy: (1) whether there are restrictions, such as creditor consent, when a debtor files for reorganization; (2) whether secured creditors are able to seize their collateral after the petition for reorganization is approved, that is, whether there is no automatic stay or asset freeze imposed by the court; (3) whether secured creditors are paid first out of the proceeds of liquidating a bankrupt firm; and (4) whether an administrator, and not management, is responsible for running the business during the reorganization.

GDP per capita: From the World Bank's World Development Indicators Database. Logarithm of GPD per capita.

Financial structure: From Demirguc-Kunt and Levine (2001) updated using the World Bank's Financial Development and Structure Dataset. An index of stock market development based on measures of size, activity, and efficiency of a country's stock market relative to its credit market.

Firm-year level variables:

Tobin's Q: Ratio of the sum of market value of equity and book value of debt to book assets.

Size: Logarithm of U.S. dollars in millions (in 2011 dollars).

Sales growth: Annual growth of net sales (net $sales_t$ / net $sales_{t-1}$) averaged over the past three years.

Leverage: Ratio of total liabilities to total assets.

Cash holdings: Ratio of liquid assets held by firms to total assets.

Dependence on external finance: From Rajan and Zingales (1998). Ratio of capital expenditures minus cash flows from operations to capital expenditures.

Tangibility: Ratio of fixed assets to total assets.

Closely-held shares: Percentage of shares held by insiders (including senior corporate officers and directors and their immediate families), shares held in trusts, shares held by another corporation (except shares held in a fiduciary capacity by financial institutions), shares held by pension/benefit plans, and shares held by individuals who hold 5% or more of shares outstanding. For firms with more than one class of shares, closely-held shares for each class are added together.

U.S. cross-list: From Doidge et al. (2004). An indicator variable that takes a value of one if a firm is listed on a major U.S. exchange either directly or through Level II or III ADRs, and zero otherwise. The data is from Worldscope/datastream, Bloomberg, and Sarkissian and Schill (2014).

Instrumental variables:

Genetic distance: From Spolaore and Wacziarg (2009) based on Cavalli-Sforza et al. (1994). The measure is based on frequencies of blood types, which is the genetic information available for the largest number of countries. The blood types are aggregated over 2,000 groups of population across the globe to

construct country-level data using ethnic shares. The final measure is the Euclidian (benchmark) distance between the frequency of blood types in a given country and the frequency of blood types in the U.S.

Pronoun-drop: From Abdurazokzoda and Davis (2014). Kashima and Kashima (1998) present evidence that pronoun usage in language indicates the degree of psychological distinction between the speaker and the social context. Specifically, the use of "I" or "you" signals that the individual is the center of the context. On the contrary, a grammatical rule licensing pronoun drop (i.e., allowing the "I" or "you" to be optional) suggests a reduced distinction between the individual and the group. The variable equals the share of a country's population that speak a language in which pronoun drop is permitted.

Politeness distinctions: From Abdurazokzoda and Davis (2014). Politeness distinctions refer to the extent that pronoun use in a language distinguishes the status or formality of the audience being addressed. In English, "you" is used to describe all audiences, whereas many languages distinguish between informal or lower-status audiences and formal or higher-status audiences (in French "tu" versus "vous"), and some audiences have additional distinctions beyond the binary. Such formality in language use is consistent with a cultural context that encourages clear guiding rules of conduct. The variable equals the share of a country's population that speaks a language exhibiting multiple politeness distinctions and avoiding pronouns for politeness.

Continent: An indicator variable that takes a value of one if a country resides on a particular continent (i.e., Africa, Asia, Europe, North America, and South America), and zero otherwise.

Appendix III. Comparing firm characteristics between our sample and the Worldscope firms

This table compares firm characteristics between our sample and the benchmark population of Worldscope firms. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. ADR is an indicator variable that takes a value of one if a firm participates in the ADR program (including Rule 144a, OTC, and Levels II and III according to Worldscope), and zero otherwise. Other variable definitions are provided in Appendix II. Panel A compares means and medians of firm characteristics between our sample and the Worldscope firms. Panel B presents the percentiles of our sample means/medians relative to the Worldscope firms.

Panel A: Comparing means and median of firm characteristics

Variable	Our sample		Worldscope firms		P-value	
	Mean	Median	Mean	Median	T test	Wilcoxon test
Tobin's Q	1.729	1.394	1.787	1.382	0.000	0.551
ROA	0.087	0.080	0.083	0.074	0.000	0.000
Size	15.12	15.08	15.08	15.01	0.009	0.000
Sales growth	1.115	1.075	1.168	1.095	0.000	0.000
Leverage	0.528	0.538	0.562	0.564	0.000	0.000
Cash holdings	0.140	0.091	0.149	0.093	0.000	0.129
Dependence on external finance	-2.897	-0.892	-3.833	-1.131	0.000	0.000
Tangibility	0.318	0.252	0.289	0.219	0.000	0.000
Closely-held shares	24.07	17.85	26.26	20.39	0.000	0.000
ADR	0.119	0.000	0.113	0.000	0.040	0.080

Panel B: The percentiles of our sample means/medians in Worldscope firms

	Percentile of our sample mean in Worldscope	Percentile of our sample median in Worldscope
Tobin's Q	63.25	48.02
ROA	54.70	51.12
Size	51.19	50.34
Sales growth	52.06	39.64
Leverage	42.84	44.53
Cash holdings	55.37	43.19
Dependence on external finance	52.70	49.72
Tangibility	59.57	51.97
Closely-held shares	50.26	41.58

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Figure 1. Scatterplot of firm-level corporate governance practices and firm value

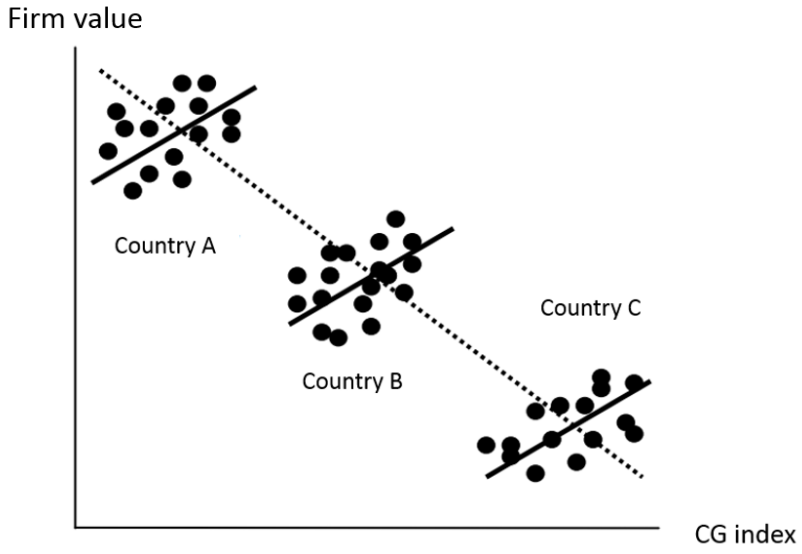

Table 1. Country-level descriptive statistics

This table presents descriptive statistics for key country-level variables based on 38 countries. Variable definitions are provided in Appendix II. Panel A reports country-level pairwise correlations between corporate governance measures, cultural dimensions, and the World Bank's Worldwide Governance Indicators (WGIs). Panel B lists countries sorted in descending order on individualism and uncertainty avoidance. Superscripts a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Correlations between corporate governance indices and country characteristics

	CG index	Board accountability	Minority shareholder protection	Corporate behavior standards
Individualism	0.685[a]	0.660[a]	0.269[a]	0.436[a]
Uncertainty avoidance	-0.473[a]	-0.595[a]	-0.326[a]	0.078
WGI: Control of corruption	0.512[a]	0.443[a]	0.332[a]	0.352[a]
WGI: Government effectiveness	0.480[a]	0.446[a]	0.321[a]	0.258[a]
WGI: Political stability and absence of violence	0.484[a]	0.398[a]	0.261[a]	0.408[a]
WGI: Rule of law	0.545[a]	0.478[a]	0.341[a]	0.368[a]
WGI: Regulatory quality	0.479[a]	0.436[a]	0.331[a]	0.272[a]
WGI: Voice and accountability	0.534[a]	0.414[a]	0.264[a]	0.518[a]

Panel B: List of countries sorted in descending order on individualism and uncertainty avoidance

Individualism	Uncertainty avoidance
United States	Greece
Australia	Portugal
United Kingdom	Belgium
Canada	Japan
Netherlands	Peru
New Zealand	France
Italy	Spain
Belgium	Chile
Denmark	Panama
France	Turkey
Sweden	Korea
Ireland	Mexico
Norway	Israel
Switzerland	Colombia
Germany	Brazil
South Africa	Italy
Finland	Austria
Austria	Germany
Israel	Thailand
Spain	Finland
India	Switzerland
Japan	Netherlands
Brazil	Australia
Turkey	Norway
Greece	New Zealand
Philippines	South Africa
Mexico	Canada
Portugal	Indonesia
Malaysia	United States
Hong Kong	Philippines
Chile	India
Singapore	Malaysia
Thailand	United Kingdom
Korea	Ireland
Peru	Sweden
Indonesia	Hong Kong
Colombia	Denmark
Panama	Singapore

Table 2. Firm-level descriptive statistics

This table presents descriptive statistics for key firm-level variables in our analyses. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A reports summary statistics for the firm-level variables. Panel B reports pairwise correlations between the firm-level variables after removing country-means based on 2011 data. Superscripts a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Firm-level summary statistics

	No. of obs.	Mean	Standard deviation	5th percentile	Median	95th percentile
CG index	17,273	37.502	5.448	28.00	37.50	46.50
Board accountability	17,273	22.910	4.597	13.50	24.50	28.50
Minority shareholder protection	17,273	10.753	1.418	8.000	11.00	13.00
Corporate behavior standards	17,273	3.839	2.890	1.000	3.000	9.000
Tobin's Q	17,273	1.733	1.011	0.867	1.401	3.813
Size	17,273	15.139	1.479	12.72	15.11	17.62
Sales growth	17,273	1.114	0.193	0.903	1.075	1.437
Leverage	17,273	0.534	0.211	0.165	0.543	0.870
Cash holdings	17,273	0.141	0.144	0.007	0.093	0.456
Dependence on external finance	17,273	-3.019	7.668	-16.31	-0.909	2.866
Tangibility	17,273	0.317	0.253	0.019	0.252	0.829
Closely-held shares	17,273	24.235	22.37	0.200	18.04	68.56
U.S. cross-list	17,273	0.072	0.258	0.000	0.000	1.000

Panel B: Correlations between the firm-level variables

	CG index	Board account.	Minority shareholder protection	Corp. behavior standards	Tobin's Q	Size	Sales growth	Leverage	Cash holdings	Depend. on external finance	Tangibility	Closely-held shares	U.S. cross-list
CG index	1.000												
Board accountability	0.714[a]	1.000											
Minority share. protect.	0.359[a]	0.006	1.000										
Corp. behav. standards	0.569[a]	-0.114[a]	0.168[a]	1.000									
Tobin's Q	-0.030[c]	0.096[a]	-0.047[a]	-0.152[a]	1.000								
Size	0.163[a]	-0.220[a]	0.096[a]	0.505[a]	-0.302[a]	1.000							
Sales growth	-0.087[a]	0.011	0.032[c]	-0.169[a]	0.235[a]	-0.071[a]	1.000						
Leverage	0.140[a]	0.013	-0.004	0.212[a]	-0.155[a]	0.390[a]	-0.140[a]	1.000					
Cash holdings	-0.156[a]	-0.039[b]	-0.126[a]	-0.153[a]	0.358[a]	-0.277[a]	0.111[a]	-0.292[a]	1.000				
Depend. on ext. finance	-0.082[a]	-0.013	-0.043[b]	-0.099[a]	-0.047[a]	-0.026	0.274[a]	-0.001	0.034[b]	1.000			
Tangibility	0.091[a]	-0.021	0.100[a]	0.135[a]	-0.135[a]	0.155[a]	0.001	0.087[a]	-0.366[a]	0.016	1.000		
Closely-held shares	-0.260[a]	-0.415[a]	0.220[a]	0.016	0.013	0.083[a]	0.092[a]	-0.031[c]	0.014	-0.003	0.051[a]	1.000	
U.S. cross-list	0.187[a]	0.017	0.132[a]	0.227[a]	0.012	0.228[a]	-0.001	0.026	-0.036[b]	-0.043[b]	0.066[a]	0.030[c]	1.000

Table 3. Explaining firm-level corporate governance practices

This table presents estimation results when the dependent variable is the firm-level CG index. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	CG index	
	within-country	*cross-country*
Firm Characteristics		
Size	0.936***	1.065***
	[0.0226]	[0.278]
Leverage	1.109***	2.244
	[0.149]	[1.764]
Cash holdings	0.0675	-9.981***
	[0.218]	[2.750]
Sales growth	-2.004***	-4.200***
	[0.147]	[1.124]
Dependence on external finance	0.0140***	0.145***
	[0.00385]	[0.0430]
Closely-held shares	-0.0246***	0.0676***
	[0.00142]	[0.00943]
U.S. cross-list	2.188***	-2.807**
	[0.116]	[1.377]
Country Characteristics		
Individualism		1.102***
		[0.259]
Uncertainty avoidance		-0.899***
		[0.235]
Rule of law		-0.917
		[0.861]
Common law		2.421**
		[1.214]
Anti-director rights		0.543
		[0.557]
Creditor rights		-0.212
		[0.469]
Ln(GDP per capita)		1.421***
		[0.413]
Financial structure		-1.774***
		[0.136]

Intercept	36.15*** [1.221]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Table 4. The relation between firm-level corporate governance practices and firm value

This table presents estimation results when the dependent variable is Tobin's Q. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Tobin's Q	
	within-country	*cross-country*
Firm Characteristics		
CG index	1.691***	-1.739**
	[0.198]	[0.852]
Size	-17.73***	1.384
	[0.596]	[6.037]
Leverage	-12.51***	-126.2***
	[3.709]	[38.83]
Tangibility	-22.56***	-55.39
	[3.883]	[39.21]
Sales growth	77.86***	-29.66
	[3.765]	[27.56]
Closely-held shares	0.174***	-0.265
	[0.0365]	[0.222]
U.S. cross-list	15.63***	55.47**
	[2.991]	[25.49]
Country Characteristics		
Individualism		0.928
		[2.972]
Uncertainty avoidance		-5.799**
		[2.578]
Rule of law		0.373
		[10.94]
Common law		-9.97
		[13.03]
Anti-director rights		-0.0835
		[5.885]
Creditor rights		-1.009
		[5.108]
Ln(GDP per capita)		-18.12**
		[7.431]
Financial structure		11.21***
		[3.296]

Cross-Level Interactions	*within-country × cross-country*
CG index × Individualism	-0.089
	[0.100]
CG index × Uncertainty avoidance	-0.466***
	[0.111]
CG index × Financial structure	0.657***
	[0.221]
Intercept	222.5***
	[24.03]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Table 5. Instrumental variables regressions

This table presents estimation results of the instrumental variables regression. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A reports the first-stage regression results, where the cultural dimensions of individualism and uncertainty avoidance are instrumented with the genetic distance to U.S., two linguistic variables (pronoun-drop and politeness distinctions), and five continent indicator variables (Africa, Asia, Europe, North America, and South America). Panel B reports the second-stage regression results where the instrumented cultural dimensions from the first stage are used. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: First-stage regression: Instrumenting cultural dimensions

	Individualism	Uncertainty avoidance
Genetic distance	-0.205	0.114
	[0.121]	[0.159]
Pronoun-drop	-1.137	3.097***
	[0.667]	[0.877]
Politeness distinctions	-0.104	3.991***
	[1.008]	[1.326]
Africa	1.060	-1.038
	[2.467]	[3.247]
Asia	-3.150*	-5.735**
	[1.653]	[2.175]
Europe	-1.676	-0.708
	[1.160]	[1.527]
North America	-0.906	-0.192
	[1.554]	[2.044]
South America	-3.232**	-2.241
	[1.467]	[1.931]
Rule of law	0.717	-0.804
	[0.648]	[0.853]
Common law	0.011	-1.198
	[0.699]	[0.919]
Anti-director rights	0.060	-0.200
	[0.286]	[0.376]
Creditor rights	-0.021	-0.138
	[0.238]	[0.313]
Ln(GDP per capita)	-0.204	0.746
	[0.540]	[0.710]
Financial structure	0.367	-0.381

	[0.287]	[0.377]
Intercept	2.050	-0.395
	[1.235]	[1.625]
F-test of IVs	5.290***	2.890**
p-value of F-test	0.001	0.025
No. of observations	38	38
Adj. R-sq	0.731	0.510

Panel B: Second-stage regression: Explaining firm-level corporate governance practices

	CG index	
	within-country	*cross-country*
Firm Characteristics		
Size	0.936***	1.100***
	[0.0226]	[0.281]
Leverage	1.109***	2.163
	[0.149]	[1.782]
Cash holdings	0.0683	-10.06***
	[0.218]	[2.766]
Sales growth	-2.003***	-4.297***
	[0.147]	[1.127]
Dependence on external finance	0.0140***	0.145***
	[0.00385]	[0.0431]
Closely-held shares	-0.0246***	0.0673***
	[0.00142]	[0.00947]
U.S. cross-list	2.188***	-3.054**
	[0.116]	[1.417]
Country Characteristics		
Individualism		1.419***
		[0.352]
Uncertainty avoidance		-0.860**
		[0.364]
Rule of law		-1.474
		[1.028]
Common law		2.273
		[1.503]
Anti-director rights		0.610
		[0.623]

Creditor rights	-0.120
	[0.527]
Ln(GDP per capita)	1.376***
	[0.425]
Financial structure	-1.789***
	[0.137]
Intercept	36.34***
	[1.296]
Sargan's $\chi 2$ test	6.805
p-value of Sargan's test	0.339
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Table 6. Using the three firm-level corporate governance subindices

This table presents estimation results using the three firm-level corporate governance subindices—board accountability, minority shareholder protection, and corporate behavior standards. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A presents estimation results when the dependent variable is one of the three corporate governance subindices. Panel B presents estimation results when the dependent variable is Tobin's Q. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Explaining the three firm-level corporate governance subindices

	Board accountability		Minority shareholder protection		Corporate behavior standards	
	within-country	*cross-country*	*within-country*	*cross-country*	*within-country*	*cross-country*
Firm Characteristics						
Size	0.0547***	-0.027	0.0519***	0.116	0.830***	0.925***
	[0.0141]	[0.174]	[0.00749]	[0.0897]	[0.0133]	[0.157]
Leverage	1.000***	1.567	-0.121**	0.770	0.231***	-0.152
	[0.0929]	[1.105]	[0.0493]	[0.572]	[0.0877]	[0.999]
Cash holdings	-0.351**	-3.542**	0.144**	-3.067***	0.273**	-3.498**
	[0.136]	[1.720]	[0.0723]	[0.900]	[0.129]	[1.583]
Sales growth	-0.466***	-3.542***	-0.175***	2.127***	-1.364***	-2.747***
	[0.0921]	[0.702]	[0.0488]	[0.370]	[0.0869]	[0.654]
Dependence on external	0.003	0.0948***	-0.001	-0.022	0.012***	0.073***
	[0.00240]	[0.0269]	[0.001]	[0.014]	[0.002]	[0.025]
Closely-held shares	-0.0190***	0.0462***	0.002***	0.009***	-0.007***	0.0104*
	[0.000888]	[0.00590]	[0.000]	[0.003]	[0.000]	[0.00541]
U.S. cross-list	1.431***	-0.466	-0.026	-1.299***	0.782***	-1.040
	[0.0727]	[0.870]	[0.0386]	[0.425]	[0.0687]	[0.716]
Country Characteristics						
Individualism		0.721***		0.015		0.349***
		[0.169]		[0.0687]		[0.106]
Uncertainty avoidance		-0.685***		-0.107*		-0.102
		[0.154]		[0.0622]		[0.0955]
Rule of law		-0.864		-0.148		0.012
		[0.558]		[0.238]		[0.378]
Common law		2.539***		0.185		-0.329
		[0.793]		[0.320]		[0.492]
Anti-director rights		-0.053		0.217		0.379*
		[0.364]		[0.147]		[0.227]

Creditor rights	-0.226	0.014	0.016
	[0.306]	[0.125]	[0.193]
Ln(GDP per capita)	0.971***	0.474***	0.044
	[0.260]	[0.129]	[0.220]
Financial structure	-1.115***	0.018	-0.636***
	[0.0852]	[0.0442]	[0.0775]
Intercept	22.83***	11.65***	1.706***
	[0.779]	[0.368]	[0.622]
Industry FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
No. of countries	38	38	38
No. of observations	17,273	17,273	17,273

Panel B: The relations between the three firm-level corporate governance subindices and Tobin's Q

	Tobin's Q	
	within-country	*cross-country*
Firm Characteristics		
Board accountability	-0.353	-4.390**
	[0.318]	[1.729]
Minority shareholder protection	2.923***	8.700***
	[0.599]	[2.578]
Corporate behavior standards	3.554***	-2.321
	[0.335]	[2.180]
Size	-19.19***	-0.216
	[0.628]	[6.239]
Leverage	-10.51***	-132.9***
	[3.710]	[38.61]
Tangibility	-23.63***	-49.82
	[3.876]	[38.81]
Sales growth	79.55***	-66.56**
	[3.764]	[28.73]
Closely-held shares	0.147***	-0.270
	[0.0367]	[0.223]
U.S. cross-list	17.06***	56.19**
	[2.993]	[25.14]
Country Characteristics		
Individualism		2.999
		[2.939]
Uncertainty avoidance		-6.322**

	[2.605]
Rule of law	0.136
	[10.68]
Common law	-7.629
	[13.46]
Anti-director rights	-2.317
	[5.803]
Creditor rights	-1.702
	[4.952]
Ln(GDP per capita)	-21.24***
	[7.341]
Financial structure	8.256**
	[3.320]
Intercept	222.2***
	[23.92]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Internet Appendix

Table A1. Sample coverage across countries and over time

This table reports sample coverage in terms of the number of firms covered in each country-year.

	Year						
Country Name	2006	2007	2008	2009	2010	2011	All
Australia	54	61	69	134	153	153	624
Austria	11	11	12	14	17	19	84
Belgium	14	14	16	19	19	17	99
Brazil	12	19	29	35	50	57	202
Canada	75	76	85	92	86	99	513
Chile	9	11	11	11	13	13	68
Colombia	1	3	3	3	6	6	22
Denmark	16	16	18	19	19	20	108
Finland	23	23	24	24	25	25	144
France	70	75	80	82	83	85	475
Germany	51	50	55	56	59	63	334
Greece	4	7	9	8	13	14	55
Hong Kong	30	34	38	39	41	43	225
India	19	32	37	37	45	51	221
Indonesia	1	7	10	10	15	16	59
Ireland	11	12	15	15	16	17	86
Israel	4	6	8	9	10	11	48
Italy	19	21	24	29	34	36	163
Japan	304	316	338	346	348	351	2,003
Korea, Republic of	35	41	7	62	72	78	295
Malaysia	9	16	18	19	21	23	106
Mexico	0	1	10	14	7	16	48
Netherlands	21	21	23	25	25	33	148
New Zealand	8	9	10	10	10	10	57
Norway	13	13	14	14	18	18	90
Panama	0	0	1	1	1	1	4
Peru	0	0	1	1	1	1	4
Philippines	1	3	3	5	6	10	28
Portugal	6	7	7	7	8	8	43
Singapore	30	31	33	34	35	36	199
South Africa	23	27	29	30	32	35	176
Spain	25	28	29	32	33	30	177
Sweden	32	36	36	36	36	36	212
Switzerland	29	31	33	37	41	40	211
Thailand	4	5	9	9	10	13	50
Turkey	5	6	9	9	11	11	51
United Kingdom	210	233	253	276	286	283	1,541
United States	1,211	1,246	1,451	1,489	1,452	1,451	8,300
Total	2,390	2,548	2,857	3,092	3,157	3,229	17,273

Table A2. Country-level descriptive statistics

This table presents descriptive statistics for key country-level variables in our analyses. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A reports country-level summary statistics for corporate governance measures, national cultural dimensions, and other country-level variables. Panel B reports pairwise correlations between the country-level variables and country-year means of the firm-level variables based on 38 countries in 2011. Superscripts a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Country-level summary statistics

	CG index	Board account.	Minority share. protect.	Corp. behavior stand.	Ind.	Uncert. avoid.	Rule of law	Comm. law	Anti-director rights	Creditor rights	Ln(GDP per capita)	Financial structure
Australia	40.8	25.0	12.0	3.9	9	5.1	4.7	1	4	3	10.8	1.6
Austria	38.7	21.2	11.5	5.9	5.5	7	4.9	0	4	3	10.7	0.0
Belgium	31.7	19.7	10.0	2.0	7.5	9.4	4.3	0	2	2	10.7	0.7
Brazil	31.5	16.3	11.0	4.3	3.8	7.6	2.7	0	5	1	9.2	1.7
Canada	41.8	24.6	12.3	4.9	8	4.8	4.7	1	4	1	10.7	1.9
Chile	27.0	14.7	10.0	2.3	2.3	8.6	4.2	0	5	2	9.3	0.4
Colombia	27.4	13.4	9.8	4.3	1.3	8	2.2	0	4	0	8.7	0.9
Denmark	37.8	20.6	12.0	5.2	7.4	2.3	4.7	0	4	3	11.0	0.8
Finland	42.1	24.1	12.3	5.8	6.3	5.9	4.8	0	4	1	10.7	1.5
France	33.7	19.6	9.9	4.2	7.1	8.6	4.2	0	5	0	10.6	1.3
Germany	38.2	20.8	11.7	5.7	6.7	6.5	4.6	0	4	3	10.6	1.1
Greece	34.5	17.5	11.7	5.3	3.5	11.2	3.6	0	3	1	10.2	0.3
Hong Kong	32.6	19.2	11.9	1.5	2.5	2.9	3.9	1	4	4	10.4	3.3
India	36.0	21.2	11.6	3.2	4.8	4	3.2	1	4	2	7.1	2.0
Indonesia	34.5	20.6	10.9	3.0	1.4	4.8	2.1	0	4	2	7.9	1.5
Ireland	41.5	25.7	12.1	3.8	7	3.5	4.5	1	4	1	10.9	-0.8
Israel	32.6	19.3	11.7	1.7	5.4	8.1	3.9	1	4	3	10.2	1.5
Italy	37.3	20.6	11.4	5.3	7.6	7.5	3.7	0	4	2	10.5	0.7
Japan	31.4	14.5	10.8	6.1	4.6	9.2	4.6	0	5	2	10.6	1.6
Korea, Republic of	32.8	17.5	11.3	4.0	1.8	8.5	3.8	0	6	3	9.9	2.1
Malaysia	32.8	21.1	9.8	1.9	2.6	3.6	3.3	1	4	3	9.0	1.2
Mexico	28.3	15.3	10.9	2.0	3	8.2	2.6	0	3	0	9.1	1.2
Netherlands	38.2	22.2	10.8	5.2	8	5.3	4.7	0	4	3	10.8	1.2
New Zealand	41.2	24.6	12.0	4.6	7.9	4.9	4.7	1	5	4	10.3	0.0
Norway	39.8	22.3	12.3	5.2	6.9	5	4.7	0	4	2	11.4	1.7
Panama	31.0	19.5	10.0	1.5	1.1	8.6	2.9	0	3	4	8.9	-1.9
Peru	34.9	19.9	12.0	3.0	1.6	8.7	2.5	0	5	0	8.5	0.5
Philippines	32.0	19.3	11.4	1.2	3.2	4.4	2.5	0	5	1	7.6	1.2
Portugal	31.9	17.3	10.6	4.0	2.7	10.4	3.9	0	4	1	10.0	0.2
Singapore	34.5	20.3	12.0	2.1	2	0.8	4.8	1	4	3	10.5	2.0
South Africa	39.1	22.4	10.9	5.8	6.5	4.9	2.9	1	5	3	8.8	2.5
Spain	34.0	17.7	11.6	4.8	5.1	8.6	4.1	0	6	2	10.4	1.4
Sweden	39.6	23.2	11.6	4.8	7.1	2.9	4.7	0	4	1	10.8	1.9
Switzerland	38.4	21.8	11.0	5.6	6.8	5.8	4.9	0	3	1	11.1	2.4
Thailand	34.5	20.6	11.0	2.8	2	6.4	3.4	1	4	2	8.3	1.3
Turkey	32.1	16.6	11.3	4.2	3.7	8.5	2.8	0	4	2	9.2	1.8
United Kingdom	42.4	26.2	12.0	4.1	8.9	3.5	4.6	1	5	4	10.6	1.7
United States	38.4	25.4	10.1	2.9	9.1	4.6	4.6	1	2	1	10.7	3.2

Panel B: Correlations between country-level variables and country-means of firm-level variables

	CG index	Board account.	Minority share. protect.	Corp. behavior stand.	Tobin's Q	Size	Sales growth	Lev.	Cash hold.	Depend. on ext. fin.	Tang.	Closely-held shares	U.S. cross-list	Ind.	Uncert. avoid.	Rule of law	Comm. law	Anti-director rights	Creditor rights	Ln(GDP per capita)
CG index	1.000																			
Board accountability	0.911[a]	1.000																		
Minority share. protect.	0.635[a]	0.453[a]	1.000																	
Corp. behavior stand.	0.541[a]	0.183	0.304[c]	1.000																
Tobin's Q	0.049	0.148	0.131	-0.256	1.000															
Size	-0.421[a]	-0.572[a]	-0.242	0.175	-0.462[a]	1.000														
Sales growth	-0.304[c]	-0.235	0.019	-0.370[b]	0.290[c]	-0.051	1.000													
Leverage	0.164	0.073	0.001	0.312[c]	-0.555[a]	0.280[c]	-0.436[a]	1.000												
Cash holdings	-0.190	-0.085	-0.043	-0.339[b]	0.471[a]	-0.137	0.198	-0.330[b]	1.000											
Depend. on ext. fin.	0.279[c]	0.213	0.160	0.252	0.089	-0.234	-0.279[c]	0.250	0.085	1.000										
Tangibility	-0.190	-0.103	-0.133	-0.250	-0.101	-0.304[c]	0.211	0.103	-0.237	0.256	1.000									
Closely-held shares	-0.666[a]	-0.603[a]	-0.223	-0.474[a]	0.148	0.227	0.421[a]	-0.152	0.025	-0.223	0.286[c]	1.000								
U.S. cross-list	-0.100	-0.029	-0.047	-0.201	-0.079	-0.149	0.006	0.275[c]	-0.008	0.230	0.434[a]	-0.160	1.000							
Individualism	0.752[a]	0.691[a]	0.284[c]	0.496[a]	-0.210	-0.133	-0.446[a]	0.343[b]	-0.411[b]	0.144	-0.323[b]	-0.630[a]	-0.038	1.000						
Uncertainty avoidance	-0.528[a]	-0.631[a]	-0.394[b]	0.076	-0.221	0.377[b]	-0.098	0.134	-0.016	0.167	0.040	0.178	0.171	-0.291[c]	1.000					
Rule of law	0.597[a]	0.509[a]	0.341[b]	0.421[a]	-0.380[b]	-0.048	-0.566[a]	0.369[b]	-0.355[b]	0.211	-0.156	-0.589[a]	-0.086	0.679[a]	-0.288[c]	1.000				
Common law	0.369[b]	0.547[a]	0.245	-0.273[c]	0.120	-0.455[a]	0.161	-0.127	-0.044	-0.179	0.107	-0.149	-0.097	0.224	-0.558[a]	0.176	1.000			
Anti-director rights	-0.021	-0.171	0.228	0.196	0.098	0.148	0.118	-0.017	-0.019	0.114	0.026	0.128	-0.136	-0.181	0.014	-0.117	-0.056	1.000		
Creditor rights	0.216	0.264	0.192	-0.059	-0.172	-0.265	0.058	0.203	-0.070	0.068	0.336[b]	-0.048	0.197	0.109	-0.334[b]	0.275[c]	0.379[b]	0.136	1.000	
Ln(GDP per capita)	0.489[a]	0.359[b]	0.282[c]	0.470[a]	-0.489[a]	0.094	-0.607[a]	0.365[b]	-0.258	0.103	-0.255	-0.611[a]	-0.021	0.653[a]	-0.096	0.868[a]	-0.028	-0.186	0.145	1.000
Financial structure	0.131	0.110	0.127	0.067	0.077	0.219	0.212	-0.166	0.072	-0.427[a]	-0.382[b]	-0.039	-0.396[b]	0.181	-0.370[b]	0.100	0.293[c]	0.054	-0.023	0.065

Table A3. Using all of Hofstede's four cultural dimensions

This table presents estimation results including all of Hofstede's four cultural dimensions. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A presents estimation results when the dependent variable is the CG index. Panel B presents estimation results when the dependent variable is Tobin's Q. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Explaining the firm-level CG index

	CG index	
	within-country	*cross-country*
Firm Characteristics		
Size	0.936***	1.113***
	[0.0226]	[0.278]
Leverage	1.108***	2.260
	[0.149]	[1.758]
Cash holdings	0.0673	-9.614***
	[0.218]	[2.755]
Sales growth	-2.004***	-4.233***
	[0.147]	[1.123]
Dependence on external finance	0.0140***	0.148***
	[0.00385]	[0.0429]
Closely-held shares	-0.0246***	0.0679***
	[0.00142]	[0.00942]
U.S. cross-list	2.188***	-3.152**
	[0.116]	[1.385]
Country Characteristics		
Individualism		0.914***
		[0.281]
Uncertainty avoidance		-0.891***
		[0.238]
Power distance		-0.519*
		[0.309]
Masculinity		-0.110
		[0.249]
Rule of law		-1.452
		[0.888]
Common law		2.663**
		[1.228]

Anti-director rights	0.381
	[0.543]
Creditor rights	-0.235
	[0.453]
Ln(GDP per capita)	1.316***
	[0.414]
Financial structure	-1.759***
	[0.136]
Intercept	35.91***
	[1.213]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Panel B: The relation between the firm-level CG index and Tobin's Q

	Tobin's Q	
	within-country	*cross-country*
Firm Characteristics		
CG index	1.693***	-1.961**
	[0.198]	[0.856]
Size	-17.73***	2.447
	[0.596]	[6.095]
Leverage	-12.54***	-123.3***
	[3.709]	[38.44]
Tangibility	-22.58***	-46.69
	[3.883]	[38.50]
Sales growth	77.86***	-31.38
	[3.765]	[27.49]
Closely-held shares	0.174***	-0.219
	[0.0365]	[0.221]
U.S. cross-list	15.65***	43.86*
	[2.991]	[26.19]
Country Characteristics		
Individualism		-0.318
		[3.047]
Uncertainty avoidance		-5.884**
		[2.617]
Power distance		-5.124

	[3.426]
Masculinity	-0.883 [2.565]
Rule of law	-3.668 [10.92]
Common law	-7.148 [13.23]
Anti-director rights	-1.257 [5.678]
Creditor rights	-2.003 [4.948]
Ln(GDP per capita)	-20.14*** [7.343]
Financial structure	10.79*** [3.250]
Cross-Level Interactions	*within-country × cross-country*
CG index × Individualism	0.116 [0.131]
CG index × Uncertainty avoidance	-0.603*** [0.120]
CG index × Power distance	0.541*** [0.192]
CG index × Masculinity	0.220** [0.108]
CG index × Financial structure	0.396* [0.234]
Intercept	221.5*** [23.92]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Table A4. Using Schwartz's cultural dimension

This table presents estimation results using Schwartz's cultural dimension of affective autonomy. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A presents estimation results when the dependent variable is the CG index. Panel B presents estimation results when the dependent variable is Tobin's Q. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Explaining the firm-level CG index

	CG index	
	within-country	*cross-country*
Firm Characteristics		
Size	0.936***	1.077***
	[0.0226]	[0.283]
Leverage	1.109***	2.045
	[0.149]	[1.797]
Cash holdings	0.0701	-10.56***
	[0.218]	[2.770]
Sales growth	-2.003***	-4.207***
	[0.147]	[1.130]
Dependence on external finance	0.0140***	0.142***
	[0.00385]	[0.0433]
Closely-held shares	-0.0246***	0.0688***
	[0.00142]	[0.00952]
U.S. cross-list	2.188***	-2.854*
	[0.116]	[1.459]
Country Characteristics		
Affective autonomy		4.103**
		[1.722]
Rule of law		0.309
		[1.035]
Common law		5.675***
		[1.395]
Anti-director rights		0.354
		[0.723]
Creditor rights		-0.0997
		[0.600]
Ln(GDP per capita)		1.473***
		[0.429]

Financial structure	-1.777*** [0.138]
Intercept	35.16*** [1.380]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Panel B: The relation between the firm-level CG index and Tobin's Q

	Tobin's Q	
	within-country	*cross-country*
Firm Characteristics		
CG index	1.693*** [0.198]	-1.404* [0.816]
Size	-17.73*** [0.596]	3.088 [6.133]
Leverage	-12.52*** [3.708]	-148.1*** [39.55]
Tangibility	-22.60*** [3.883]	-63.05 [40.58]
Sales growth	77.87*** [3.765]	-26.9 [27.81]
Closely-held shares	0.174*** [0.0365]	-0.297 [0.223]
U.S. cross-list	15.64*** [2.990]	54.65** [26.38]
Country Characteristics		
Affective autonomy		14.33 [15.93]
Rule of law		1.726 [11.70]
Common law		2.325 [13.41]
Anti-director rights		-0.8 [6.420]
Creditor rights		1.761 [5.549]

Ln(GDP per capita)	-19.92*** [7.658]
Financial structure	13.36*** [3.274]
Cross-Level Interactions	*within-country × cross-country*
CG index × Affective autonomy	-0.661 [0.567]
CG index × Financial structure	0.991*** [0.187]
Intercept	224.6*** [24.23]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Table A5. Using a composite index of formal institutions

This table presents estimation results using a composite index of formal institutions. We apply the principal component analysis on the six WGIs from the World Bank, corruption and law and order from the International Country Risk Guide, and property rights and freedom from corruption from the Heritage Foundation Index of Economic Freedom to obtain a composite index for formal institutions. Our sample contains 17,273 firm-year observations from 38 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A presents estimation results when the dependent variable is the CG index. Panel B presents estimation results when the dependent variable is Tobin's Q. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Explaining the firm-level CG index

	CG index	
	within-country	*cross-country*
Firm Characteristics		
Size	0.936***	0.856***
	[0.0226]	[0.282]
Leverage	1.109***	2.059
	[0.149]	[1.772]
Cash holdings	0.0677	-10.33***
	[0.218]	[2.741]
Sales growth	-2.004***	-4.163***
	[0.147]	[1.125]
Dependence on external finance	0.0140***	0.0808*
	[0.00385]	[0.0448]
Closely-held shares	-0.0246***	0.0686***
	[0.00142]	[0.00938]
U.S. cross-list	2.189***	-2.668*
	[0.116]	[1.405]
Country Characteristics		
Individualism		0.831***
		[0.246]
Uncertainty avoidance		-0.646**
		[0.258]
Formal institution index		0.403***
		[0.0821]
Common law		2.366*
		[1.315]
Anti-director rights		0.484
		[0.604]

Creditor rights	-0.454 [0.496]
Ln(GDP per capita)	0.0609 [0.447]
Financial structure	-1.658*** [0.139]
Intercept	36.24*** [1.269]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Panel B: The relation between the firm-level CG index and Tobin's Q

	Tobin's Q	
	within-country	*cross-country*
Firm Characteristics		
CG index	1.691*** [0.198]	-1.686* [0.865]
Size	-17.72*** [0.596]	1.658 [6.002]
Leverage	-12.51*** [3.709]	-127.1*** [38.76]
Tangibility	-22.55*** [3.883]	-53.47 [39.56]
Sales growth	77.86*** [3.765]	-29.63 [27.55]
Closely-held shares	0.174*** [0.0365]	-0.272 [0.219]
U.S. cross-list	15.63*** [2.991]	55.13** [25.51]
Country Characteristics		
Individualism		1.010 [2.895]
Uncertainty avoidance		-6.089** [2.662]
Formal institution index		-0.603 [1.616]
Common law		-9.920

	[13.08]
Anti-director rights	0.0137
	[5.911]
Creditor rights	-0.786
	[5.088]
Ln(GDP per capita)	-15.87**
	[7.834]
Financial structure	11.12***
	[3.298]
Cross-Level Interactions	*within-country × cross-*
CG index × Individualism	-0.089
	[0.100]
CG index × Uncertainty avoidance	-0.466***
	[0.111]
CG index × Financial structure	0.657***
	[0.221]
Intercept	222.4***
	[24.03]
Industry FEs	Yes
Year FEs	Yes
No. of countries	38
No. of observations	17,273

Table A6. Excluding the U.S. firms

This table presents estimation results excluding the U.S. firms. Our sample contains 8,973 firm-year observations from 37 countries (excluding U.S.) for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A presents estimation results when the dependent variable is the CG index. Panel B presents estimation results when the dependent variable is Tobin's Q. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Explaining the firm-level CG index

	CG index	
	within-country	*cross-country*
Firm Characteristics		
Size	1.002***	0.867***
	[0.0376]	[0.311]
Leverage	1.785***	5.933***
	[0.235]	[1.954]
Cash holdings	-0.187	-3.552
	[0.378]	[3.030]
Sales growth	-1.545***	-2.055
	[0.205]	[1.301]
Dependence on external finance	0.005	0.102**
	[0.00552]	[0.0469]
Closely-held shares	-0.0209***	-0.0186
	[0.00198]	[0.0118]
U.S. cross-list	1.943***	-0.922
	[0.131]	[1.361]
Country Characteristics		
Individualism		0.995***
		[0.208]
Uncertainty avoidance		-0.739***
		[0.186]
Rule of law		0.971
		[0.739]
Common law		1.358
		[0.981]
Anti-director rights		0.300
		[0.473]
Creditor rights		-0.077
		[0.379]

Ln(GDP per capita)	-0.676
	[0.440]
Financial structure	-0.971***
	[0.182]
Intercept	35.67***
	[1.046]
Industry FEs	Yes
Year FEs	Yes
No. of countries	37
No. of observations	8,973

Panel B: The relation between the firm-level CG index and Tobin's Q

	Tobin's Q	
	within-country	*cross-country*
Firm Characteristics		
CG index	1.630***	-0.390
	[0.231]	[0.954]
Size	-27.99***	-4.392
	[0.826]	[6.022]
Leverage	-5.253	-83.15**
	[4.946]	[38.20]
Tangibility	-14.92***	-57.55
	[4.539]	[37.51]
Sales growth	43.65***	-32.24
	[4.398]	[27.12]
Closely-held shares	0.389***	-0.268
	[0.0427]	[0.242]
U.S. cross-list	24.14***	42.75*
	[2.821]	[24.43]
Country Characteristics		
Individualism		-1.126
		[2.942]
Uncertainty avoidance		-5.043**
		[2.529]
Rule of law		-0.486
		[10.66]
Common law		-8.706
		[12.98]
Anti-director rights		-3.995

	[6.210]
Creditor rights	-0.987
	[5.059]
Ln(GDP per capita)	-17.78**
	[7.316]
Financial structure	11.43***
	[3.608]
Cross-Level Interactions	*within-country × cross-country*
CG index × Individualism	-0.065
	[0.105]
CG index × Uncertainty avoidance	-0.401***
	[0.104]
CG index × Financial structure	-0.315
	[0.335]
Intercept	203.8***
	[20.77]
Industry FEs	Yes
Year FEs	Yes
No. of countries	37
No. of observations	8,973

Table A7. Excluding firms from the U.S./Japan/the U.K.

This table presents estimation results excluding firms from the U.S./Japan/the U.K. Our sample contains 5,429 firm-year observations from 35 countries (excluding the U.S./Japan/the U.K.) for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A presents estimation results when the dependent variable is the CG index. Panel B presents estimation results when the dependent variable is Tobin's Q. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Explaining the firm-level CG index

	CG index	
	within-country	*cross-country*
Firm Characteristics		
Size	1.079***	1.066***
	[0.0539]	[0.362]
Leverage	1.522***	3.112
	[0.360]	[2.319]
Cash holdings	0.0917	-8.043**
	[0.546]	[3.546]
Sales growth	-1.566***	-0.565
	[0.265]	[1.468]
Dependence on external finance	-0.00732	0.0332
	[0.00800]	[0.0562]
Closely-held shares	-0.0176***	-0.0137
	[0.00261]	[0.0130]
U.S. cross-list	2.152***	0.281
	[0.170]	[1.526]
Country Characteristics		
Individualism		0.987***
		[0.244]
Uncertainty avoidance		-0.703***
		[0.217]
Rule of law		2.417***
		[0.922]
Common law		0.726
		[1.120]
Anti-director rights		0.315
		[0.548]
Creditor rights		-0.148
		[0.435]

Ln(GDP per capita)	-1.635*** [0.578]
Financial structure	-1.210*** [0.211]
Intercept	35.39*** [1.127]
Industry FEs	Yes
Year FEs	Yes
No. of countries	35
No. of observations	5,429

Panel B: The relation between the firm-level CG index and Tobin's Q

	Tobin's Q	
	within-country	*cross-country*
Firm Characteristics		
CG index	1.795*** [0.288]	-0.447 [1.012]
Size	-31.08*** [1.138]	-13.40** [6.341]
Leverage	-15.17** [7.382]	-45.26 [40.67]
Tangibility	-9.160 [6.054]	-43.75 [37.02]
Sales growth	37.97*** [5.480]	-35.47 [29.05]
Closely-held shares	0.481*** [0.0542]	-0.248 [0.248]
U.S. cross-list	18.93*** [3.539]	34.02 [23.74]
Country Characteristics		
Individualism		-2.176 [2.702]
Uncertainty avoidance		-4.744** [2.310]
Rule of law		-0.399 [10.62]
Common law		-9.191 [11.45]
Anti-director rights		-2.283

	[5.545]
Creditor rights	-2.278
	[4.508]
Ln(GDP per capita)	-17.19**
	[7.538]
Financial structure	10.46***
	[3.790]
Cross-Level Interactions	*within-country × cross-country*
CG index × Individualism	-0.095
	[0.119]
CG index × Uncertainty avoidance	-0.414***
	[0.136]
CG index × Financial structure	-0.534
	[0.365]
Intercept	199.5***
	[21.39]
Industry FEs	Yes
Year FEs	Yes
No. of countries	35
No. of observations	5,429

Table A8. Using cross-listed firms

This table presents estimation results using only cross-listed firms. Our sample of cross-listed firms is identified from Worldscope/Datastream, Bloomberg, and Sarkissian and Schill (2014), and contains 2,695 firm-year observations from 36 countries for the period 2006-2011, for which we have corporate governance data from GMI and firm characteristics data from Worldscope/Datastream and Bloomberg. All firm-level variables are winsorized at the 1% level in both tails of the distribution. Variable definitions are provided in Appendix II. Panel A provides sample coverage of cross-listed firms across countries. Panel B presents estimation results when the dependent variable is the CG index. Panel C presents estimation results when the dependent variable is Tobin's Q. Two-digit SIC industry fixed effects and year fixed effects are included but not reported. Standard errors are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Distribution of cross-listed firms across countries

Country name	No. of cross-listed firm-years	No. of firm-years	% cross-listed
Australia	124	624	20%
Austria	20	84	24%
Belgium	17	99	17%
Brazil	44	202	22%
Canada	221	513	43%
Chile	23	68	34%
Colombia	0	22	0%
Denmark	24	108	22%
Finland	36	144	25%
France	128	475	27%
Germany	94	334	28%
Greece	19	55	35%
Hong Kong	54	225	24%
India	101	221	46%
Indonesia	11	59	19%
Ireland	61	86	71%
Israel	34	48	71%
Italy	48	163	29%
Japan	340	2,003	17%
Korea, Republic of	71	295	24%
Malaysia	17	106	16%
Mexico	16	48	33%
Netherlands	83	148	56%
New Zealand	27	57	47%
Norway	30	90	33%
Panama	4	4	100%
Peru	0	4	0%
Philippines	13	28	46%
Portugal	6	43	14%
Singapore	9	199	5%
South Africa	61	176	35%
Spain	24	177	14%

Sweden	54	212	25%
Switzerland	62	211	29%
Thailand	4	50	8%
Turkey	5	51	10%
United Kingdom	249	1,541	16%
United States	561	8,300	7%
All countries	2,695	17,273	15.6%

Panel B: Explaining the firm-level CG index

	CG index	
	within-country	*cross-country*
Firm Characteristics		
Size	1.487***	1.534***
	[0.0622]	[0.494]
Leverage	1.636***	1.419
	[0.424]	[2.528]
Cash holdings	-0.327	-3.486
	[0.753]	[4.104]
Sales growth	-1.226***	-0.358
	[0.451]	[1.725]
Dependence on external finance	0.005	0.042
	[0.0163]	[0.0653]
Closely-held shares	-0.0254***	0.008
	[0.00386]	[0.0143]
U.S. cross-list	0.956***	3.836***
	[0.192]	[1.279]
Country Characteristics		
Individualism		1.171***
		[0.281]
Uncertainty avoidance		-0.604**
		[0.255]
Rule of law		2.144*
		[1.112]
Common law		1.126
		[1.377]
Anti-director rights		0.492
		[0.601]
Creditor rights		-0.112

	[0.513]
Ln(GDP per capita)	-0.554 [0.706]
Financial structure	-1.090*** [0.261]
Intercept	46.14*** [1.878]
Industry FEs	Yes
Year FEs	Yes
No. of countries	36
No. of observations	2,695

Panel C: The relation between the firm-level CG index and Tobin's Q

	Tobin's Q	
	within-country	*cross-country*
Firm Characteristics		
CG index	1.249*** [0.420]	-0.193 [0.906]
Size	-14.41*** [1.426]	-18.73*** [5.263]
Leverage	-54.44*** [8.598]	45.51 [37.64]
Tangibility	-34.02*** [10.28]	-29.17 [24.81]
Sales growth	77.55*** [9.392]	-31.27 [31.61]
Closely-held shares	-0.0271 [0.0814]	0.0064 [0.207]
U.S. cross-list	24.86*** [3.977]	38.16*** [10.90]
Country Characteristics		
Individualism		2.853 [2.146]
Uncertainty avoidance		-2.331 [1.734]
Rule of law		10.63 [8.898]
Common law		4.034 [9.539]

Anti-director rights	-6.295* [3.582]
Creditor rights	-0.947 [2.934]
Ln(GDP per capita)	-24.75*** [5.969]
Financial structure	7.360** [3.628]
Cross-Level Interactions	*within-country × cross-country*
CG index × Individualism	0.072 [0.241]
CG index × Uncertainty avoidance	-0.655*** [0.238]
CG index × Financial structure	-0.00147 [0.423]
Intercept	227.8*** [33.36]
Industry FEs	Yes
Year FEs	Yes
No. of countries	36
No. of observations	2,695