Corporate Governance Norms and Practices

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1. Introduction

Recent corporate scandals and business failures have spurred a lively debate on how public corporations should be governed.[1] Countries around the world have responded to these debacles by enacting new laws and regulations aimed at improving corporate disclosure and governance practices.[2] Many firms, in turn, have changed their corporate charters and altered their board structures. The implementation of these new rules and procedures, however, does not come without cost to firms. These responses by countries and firms thus raise the question whether or not such changes in corporate governance are reflected in improvements in corporate valuation.

In this paper, we evaluate the impact of firm-level corporate governance provisions on the valuation of firms in a large cross-section of countries. Unlike previous work, we differentiate between governance attributes that are adopted at the firm level and minimally accepted governance attributes that are satisfied by all firms in a given country. In contrast, past work examines generally either country-level regulations and laws or firm-level attributes, including governance provisions. Using a new database that includes the governance provisions adopted by over 2,300 firms in 23 countries, we construct a proxy for the minimally accepted criteria with respect to corporate governance that are satisfied by all firms in the country, as required by laws and common corporate practices in the home country. Using this approach we assess the degree to which firms elect to adopt governance provisions that go beyond the "corporate norms" accepted by all firms in the country. By taking out the part that represent common corporate practices in the country, we can focus on the independent effect of governance attributes that firms chose to adopt on firm valuation.

[1] Well-known examples of such corporate scandals are WorldCom, Enron, and Parmalat.
[2] The Sarbanes-Oxley Act of 2002 in the United States, also known as the Public Company Accounting Reform and Investor Protection Act, is one example.

Theory offers at least two reasons why firms could elect to adopt governance provisions, despite the costs associated with adoption. Adoption of such provisions could act as a signaling device to ensure prospective investors that the firm is well-governed. Such signals could enable the firm to access external funds on better terms, which is beneficial for firm valuation. Governance provisions could also act as a bonding device, where firms commit to investors to adhere to better governance standards. They could, for example, do so by subjecting themselves to a better regulatory regime through cross-listing (Licht, 2003; Doidge et al., 2004).

This paper contributes to a large literature that examines the relation between corporate governance and firm value (e.g., Yermack, 1996; Gompers, Ishii, and Metrick, 2003; Bebchuk, Cohen, and Ferrel, 2004; Cremers and Nair, 2005; Dittmar and Mahrt-Smith, 2007; Core et al., 2006; Chhaochharia and Grinstein, 2007).[3] These studies generally find that certain governance provisions structures are associated with higher firm value. Much of this literature investigates specific aspects of corporate governance structures, such as board or ownership structures. Some of the more recent studies – notably Gompers et al. (2003), Bebchuk et al. (2004), and Cremers and Nair (2005) – use information from the bylaws of the firms' corporate charter, as we do, but all of these studies use data only on US firms and therefore cannot assess whether the results generalize to countries with different governance regimes. We contribute to this literature by investigating a similar set of governance provisions for firms in a large set of countries.

A few papers, such as La Porta et al. (2002), Klapper and Love (2004), Dittmar et al. (2003), and Durnev and Kim (2005) assess the relationship between corporate governance and firm performance in an international context, but none of these papers uses information from the company's bylaws and charter provisions, as we do. Instead, these studies either use data

[3] For reviews of this literature, see Shleifer and Vishny (1997), Zingales (1998), and Becht, Bolton, and Roell (2003).

assembled by La Porta et al. (1998) on the country laws regarding the protection of minority shareholder rights and/or a firm-level corporate governance scores from Credit Lyonnais Securities Asia (CLSA).[4] Khanna et al. (2006) show that the usefulness of the CLSA scores is limited because they are based on subjective opinions. Scores are in part based on information provided by the firm, and it is to be expected that firms with poor governance are more likely to misreport. Doidge et al. (2007) show that the CLSA scores are mostly driven by country characteristics.

It is important to study the relationship between corporate governance and firm valuation in an international context because governance practices and rules differ markedly across countries, and this relationship is likely to depend on the level of economic and financial development of the country. For example, Klapper and Love (2004), and Durnev and Kim (2005) find that governance and disclosure matter more for firm value in countries with poor legal environments. However, Doidge et al. (2007) find that the incentives for firms to adopt better governance mechanisms increase with the country's level of development, because this enhances the ability to obtain external finance.

The aim of our study is not to assess which factors determine corporate governance norms and practices,[5] nor to study the optimal design of a corporate governance system,[6] but rather to investigate the relationship between firm-level governance provisions and firm valuation by taking governance provisions as given. Because of firm-level differences in the costs and benefits of implementing good governance mechanisms, we expect firms to adopt different provisions.

[4] See Dennis and McConnell (2003) for an overview of this literature.
[5] Coffee (2006) shows that both legal origin and social norms are important determinants of private benefits of control.
[6] For a model on the design of corporate governance, see John and Kedia (2006).

Our work is closely related to Doidge et al. (2007) who show that governance ratings can mostly be explained by country characteristics because it is costly for firms to adopt governance provisions. We extend the work by Doidge et al. (2007) by using time-series data on actual governance provisions to assess the link between firm-level governance attributes and firm valuation. In independent, contemporaneous work, Bruno and Claessens (2007) and Aggarwal et al. (2007) use the same data on corporate governance attributes as we do. Bruno and Claessens (2007) find that corporate valuation is driven both by country-level shareholder protection laws and by firm-level corporate governance provisions, and that these effects are more pronounced for firms that depend on external financing. Aggarwal et al. (2007) compare governance provisions of foreign firms to those of comparable U.S. firms. They find that only a small fraction of foreign firms has better governance than matching U.S. firms, and that the valuation of these foreign firms is disproportionately positively affected. However, none of these papers differentiate between minimally accepted governance attributes that are satisfied by all firms in a given country and governance attributes that are adopted at the firm level. Nevertheless, their work is complementary to ours.

We find that governance provisions adopted by firms beyond those imposed by the "corporate norms" in the country have a positive effect on firm valuation. A one standard deviation increase in our "norms" adjusted firm-level governance score is associated with a 0.08 increase in Tobin's Q, which amounts to about one-tenth of the sample standard deviation in Tobin's Q.

We also find that governance scores display much within country variation. For example, governance scores in the U.S. vary from a low of 4 to a high of 16, and in Switzerland from a low of 3 to a high of 12. Country scores based on minimally accepted criteria also vary much

across countries, from a low of zero for Canada and France to a high of 6 for New Zealand. The minimum country score for the U.S. increases from 1 in 2003 to 3 in 2005, possibly as a result of the Sarbanes-Oxley Act that was passed in July 2002 and imposed stricter corporate governance standards on firms (Chhaochharia and Grinstein, 2007; Hochberg et al., 2007).

Our results indicate that, despite the costs associated with improving corporate governance at the firm level, many firms choose to adopt governance provisions beyond what can be considered the norm in the country, and these improvements in corporate governance have a positive effect on firm valuation. Our results are robust to a large number of robustness tests, including a series of tests aimed at mitigating concerns about endogeneity between corporate governance and firm valuation. These include regressions that employ panel data techniques, instrumental variables, and industry-specific shocks. These findings contribute to the current policy debate on the cost and benefits of corporate governance.

Our paper proceeds as follows. Section 2 introduces the data and defines our main variables. Section 3 describes our empirical model and discusses the main results. Section 4 presents extensions and robustness tests. Section 5 concludes.

2. Data and Variables

A. Firm-level data on corporate governance provisions

Our data source for corporate governance characteristics for firms is the Institutional Shareholder Service (ISS) Global Corporate Governance Database which publishes the Corporate Governance Quotient (CGQ). The ISS collects firm level governance characteristics for a sample of firms in 30 countries. The non-US sample are firms in the MSCI EAFE index which covers about 1,000 stocks in 21 countries and approximately captures 85% of the market

capitalization in these countries. The UK sample of firms represents 98% of the UK market and cover the FTSE All Share Index. The database covers 71% of the Canadian market with firms from the S&P/TSX index. The sample from the US is the largest. For our main analysis we only include US firms included in the S&P index to keep the US sample of firms comparable to the rest of our sample.[7] We drop offshore financial centers (Bermuda, Cayman Islands, and Luxembourg) and countries with less than three firms (China, Israel, South Africa and Thailand) from the sample.[8] The countries with the largest number of firms are Japan, UK and Canada, while Ireland and Portugal have the smallest number of firms.

ISS started collecting data for non-US firms in 2003. Our sample is a panel that includes data on over 2,300 firms for the period 2003 through 2005 with a total of 6,134 firm-year observations. The panel is unbalanced with the sample substantially increasing in 2005. We will show that our main results are robust to using a balanced panel instead. The governance data covers up to 55 attributes for foreign firms and 64 attributes for US firms.

We have three years of data on corporate governance provisions for the period 2003 through 2005, so unlike many earlier studies we can create a panel dataset of firm-level corporate governance scores that vary over time. This allows us to employ panel data techniques and better address endogeneity issues. In robustness tests, we also report results of annual cross-sectional regressions for each year in our sample period.

ISS publishes a corporate governance score that encompasses information on all firm attributes it collects[9], including information not included in the bylaws of the company. Since there is no theory to guide us on the relevance of some of these firm attributes for firm corporate

[7] For the matched sample analysis and the GMM estimations we use the full sample of US and non-US firms from 2001 to 2005 (over 7000 firms in total).
[8] Including these countries does not alter any of our findings.
[9] The weighting of the variables that make up the aggregate ISS index is proprietary information.

governance (such as whether or not at least one member of the board has participated in an ISS-accredited director education program), we create our own index that focuses on governance provisions that are included in company bylaws and that are well motivated by economic theory.

B. Firm-level and country-level measures of corporate governance

We use the ISS data to create a governance index in the spirit of Gompers et al. (2003) and Bebchuk et al. (2004). The 17 components of our index include: (i) no dual class structure with unequal voting rights, (ii) cumulative voting, (iii) no supermajority required to approve merger, (iv) no supermajority required to amend bylaws and charter, (v) no classified board, (vi) shareholders can call special meetings, (vii) shareholders can act by written consent, (viii) no blank check or poison pill, (ix) CEO not on more than 2 boards, (x) CEO and Chairman are separated, (xi) majority of board is independent, (xii) audit committee is independent, (xiii) compensating committee is independent, (xiv) nominating committee is independent, (xv) governance committee exists, (xvi) no interlocked directors, and (xvii) policy on outside directorships exists.

Our Corporate Governance Index, henceforth *CG Index*, is an equally weighted sum of these 17 sub indicators. The index ranges from 0 to 17, with higher scores denoting better corporate governance.[10] This approach is common in the literature (see, e.g., Gompers et al., 2003 and Bebchuk et al., 2004).

Our index covers most of the provisions considered previously in the literature. For example, the index created by Bebchuk et al. (2004) includes information on classified boards, limits to shareholder bylaw amendments, supermajority requirements for mergers, supermajority requirements for charter amendments, poison pills and golden parachutes. We also cover most of the firm attributes considered by Gompers et al. (2003), including board independence and

[10] In our sample, the highest score obtained by any firm is 16.

CEO/chairman separation. Their index coves a total of 24 firm attributes, including information on 6 state laws that are specific to the United States. We do not have information on each of these components, some of which are irrelevant for our sample of countries.

Unlike Gompers et al. (2003) who focus on the United States where dual class shares are not common, we also include information on whether or not the firm has a dual class structure with unequal voting rights. A large literature has shown that the incentive structures and valuation of firms with dual class shares differs from that of firms with single class shares (e.g., Nenova, 2003; Dyck and Zingales, 2003), and our sample includes firms from several countries, notably France and Sweden, where dual class share structures are common.

To differentiate between governance attributes that are satisfied by all firms in a given country and those that are adopted at the firm level, we compare each firm's CG score with a country level score of minimally accepted criteria. Specifically, we create a country minimum score *CG Country Index* that is the equally weighted sum of the attributes that are satisfied by all firms in a given country. We apply the minimally accepted criterion to each attribute and include only those attributes that are satisfied by all firms in this country-level governance index. While some of these attributes may not be enforced by law, including these attributes in our country-level index is not problematic because they represent "corporate norms" that are accepted by all firms in a given country.

It is important to note that our approach differs from simply using the average of the corporate index in a given country as a proxy for country-level governance. Let us illustrate this with an example. Let's assume that one of the countries has only 17 firms and each firm satisfies only one attribute that is different from the attribute satisfied by any of the other firms in the country. A simple average across firms in the country would give a country-level governance

index of 1, while our definition would give a country-level governance index of 0. The average score would be misleading because there is no common corporate governance attribute in this country that is accepted or enforced nationwide. It is also important to stress that our approach is not equivalent to including country fixed effects because we allow our country-level corporate governance index to vary over time.

The variable *Adjusted CG Index* is the difference between the firm-level CG Index and the country-level CG Country Index. By abstracting from changes over time in the norm-based CG score in the country, as captured by the CG Country Index, we can focus on changes over time in the CG Index that are firm-specific. Hence, unlike previous literature, this approach allows us to differentiate between improvements in corporate governance at the firm-level and improvements in corporate governance at the country-level.

C. Other variables

As a measure of corporate valuation we use the Tobin's Q ratio, measured as the ratio of market to book value of assets. The market value of assets is calculated as the sum of the book value of assets plus the market value of common stock less the book value of common stock.

We use several control variables in the different tests. First, we control for firm size using the natural logarithm of sales. To measure firm investment opportunities we use past sales growth as it not affected by different accounting rules like earnings. To proxy for constraints to finance investment we use the Demirguc-Kunt and Maksimovic (1998) measure of external financing. This measure is the difference between required capital and available capital. Required capital is measured by the growth rate of total assets and available capital as ROE/(1-ROE), where ROE is the return on equity capital. We also include the ratio of debt to total assets as a measure of financial leverage. Firms with ADR listings are subject to US regulations and

their governance practices and valuations could therefore differ from non-ADR firms. We therefore construct a dummy variable that takes the value 1 if the firm has an American Depository Receipt (ADR), and 0 otherwise. Finally, we classify firms into 24 industry groups using the MSCI industry classification (these industry groupings are using to control for industry fixed effects in the regressions). The accounting data come from Compustat for US firms and World Scope for non US firms. The return data are obtained from CRSP for US firms and Datastream for non US firms. All variables are measured in US dollars. The data on ADR listings come from the Bank of New York database on ADR listings.

D. Summary statistics

Table 1 presents summary statistics of the CG Index at the country level by year. CG scores have increased over the period 2003 through 2005 from an median score of 6.35 in 2003 to a median score of 6.83 (out of a maximum score of 17). We observe a wide variation in CG scores across countries, within countries, and over time. For the year 2003, the median CG score ranges from a low of 4 in France to a high of 10 in Canada and the US. None of the firms obtains the maximum attainable governance score of 17; the highest score in the sample is 16 for a US firm. The US also displays the largest variation in CG scores, with scores ranging from a low of 4 to a high of 16. The lowest score in the sample of 2 can only be found in France, Spain, and the Netherlands. Table 1 also reports for each country the number of firms included in our sample and the number of these firms that have ADRs.

Table 1 also presents summary statistics for the Country CG Index and the Adjusted CG Index. For the US, we find that only one of the corporate governance attributes was adopted by all firms in the sample in 2003. The median value of the CG Index, however, takes on a high score of 10. This indicates that while US firms tend to adopt a large number of governance

attributes, there is much dispersion in the type of attributes they adopt. In 2003, none of the US firms in our sample had interlocked directors; this is the only common corporate governance attribute in the US that is accepted or enforced nationwide. The minimum score for the CG Index in the US of four can be broken down in two parts: a score of one for the Country CG Index and a minimum score across firms in the country of three for the Adjusted CG Index. This indicates that while there is only one attribute that all firms satisfy, no firm satisfies less than three attributes (albeit different attributes). The Country CG Index ranges from a low of zero for Canada and France to a high of 6 for New Zealand in the year 2003.

Table 2 displays for each of the 17 components of our CG index the percentage of firms in each country that has adopted a particular governance provision. The 17 governance dummy variables considered are constructed such that they take on a value of one if the firm has adopted a provision that enhances corporate governance, and a zero if the firm has adopted a provision that deteriorates governance, such as anti-takeover provisions or provisions that limit the rights of shareholders. We observe wide variation in the type of provisions that are frequently adopted across countries. Dual class shares tend to be common in France and Sweden but are rarely used in most other countries. Cumulative voting is common in Hong Kong, Ireland, and France, but is rarely used in other countries. Firms in most of our countries require a supermajority for mergers and amendments of bylaws, the exceptions being Canada, Hong Kong, Ireland, Singapore and the US. Firms in most of our countries also require a supermajority to amend bylaws, the exceptions being Greece and Ireland. Classified boards are common in most countries except Canada and Sweden. Shareholders can call special meetings at firms in most countries, Ireland and the US being notable exceptions. Shareholders cannot act with written consent at firms in many countries except in the UK, Hong Kong, and Japan where shareholders at almost all firms

can do so. Blank checks and poison pills are anti-takeover devices are virtually non-existing in most countries, except Canada, the Netherlands, and the US, where they are frequently used. CEOs at firms in most countries are not allowed to sit on more than 2 board, France and Germany being notable exceptions. CEO and Chairman of the Board tend to be separated at firms in Austria, Germany, the Netherlands, Norway, and Sweden, but tend not to be separated in the UK, Japan, and the US. Independent boards are commonplace in Canada and the US but are virtually non-existing in Japan, Greece and Italy. Independent audit, compensating, nominating, and governance committees exists at most firms in the US but are virtually non-existent in Japan and Germany. Interlocked directors are not allowed at most firms in the US, but are commonplace in Japan and Greece. Finally, few firms have a policy on outside directorships.

Table 2 highlights the important of considering multiple provisions as we do in our composite CG index. Still, in what follows we also present regressions based on each of the individual governance provisions.

Appendix 1 compares governance attributes that are satisfied by all firms in the country with existing country laws regarding these governance attributes. Our analysis focuses on governance practices that represent "corporate norms" that are accepted by all firms in a given country irrespective of the applicable law in the country. Practices may differ from existing laws for a number of reasons. Importantly, laws often permit firms to deviate from default rules. Also, laws may not be enforced. Still, we would like to know how much overlap there exists between common practices (as captured by the Country CG Index) and laws in the country. To this end we collect information on applicable governance laws in our sample of countries from Spamann (2006), who updates the shareholder rights index developed by La Porta et al. (1998). Only two of the attributes we consider – dual class shares (or one-share/one vote) and cumulative voting –

are directly comparable with the laws collected by Spamann. Appendix 1 summarizes the existence of rules and practices on these two governance attributes. Following Spamann, we make a distinction between mandatory rules and default rules that allow companies to deviate from that rule by stipulation in its charter or bylaws.

We find that there exist considerable differences between rules and common practices. While all countries in our sample apply the principle of one share-one vote as default rule, such rules are mandatory only in Germany and Greece. Data on actual practices show that many firms opt to deviate from the default rules in countries where these rules are not mandatory. For example, in France, 60 percent of firms have dual class shares with unequal voting rights and do not apply the principle of one share-one vote. In Germany and Greece, where one share-one vote is a mandatory rule, all firms in our sample comply with this rule. Contrary to the principle of one share-one vote, cumulative voting is infrequently adopted as a default rule. Cumulative voting is the default rule only in Japan and Spain, and a mandatory rule only in Spain. Still, only 64 percent of firms in Spain permit cumulative voting, suggesting that these rules are not well enforced. Also, there exist countries like France and Ireland were cumulative voting is frequently adopted in corporate bylaws but not the default rule. These data highlight that can exist important differences between default rules on governance as stipulated in laws and actual practices by firms, supporting our approach of focusing on actual adoption of governance attributes in the corporate charter or bylaws.

3. Empirical Results

A. Regression model

Our basic regression model looks as follows:

$$Q_{ijt} = \alpha_j + \alpha_k + \alpha_t + \beta(CG_{ijt} - \overline{CG_{jt}}) + \gamma\overline{CG_{jt}} + \delta X_{ijt} + \varepsilon_{ijt}, \quad (1)$$

where Q_{ijt} denotes the Tobin's Q of firm *i* in country *j* at year-end *t*, α_j denotes a country-fixed effect, α_k denotes an industry-fixed effect, α_t denotes a year-fixed effect, CG_{ijt} denotes the corporate governance index of firm *i* at year-end *t*, $\overline{CG_{jt}}$ denotes the minimally accepted governance score for all firms in country *j* at year-end *t*, X_{ijt} denotes a set of firm-level control variables, and ε_{ijt} denotes the error term with the usual distributional assumptions. Table 3 presents the summary statistics of the main regression variables.

B. Main results

Table 4 presents our main regression results. The dependent variable in each regression is the firm's Tobin's Q. All regressions include country, industry, and year fixed-effects but we only report the year effects. The first regression includes our CG Index and a set of firm-level control variables commonly used in the literature. The results are presented in column (1). We find a positive relation between corporate governance scores and firm valuation (as measured by Tobin's Q), consistent with prior evidence on the effect of governance of U.S. firms (e.g., Gompers et al., 2003). Our results suggest that the inference drawn from US firms can be generalized to other countries. A one standard deviation increase in our firm-level governance score is associated with a 0.07 increase in Tobin's Q, a modest though not insignificant effect compared to a sample standard deviation of 0.99 for Tobin's Q.

The year effects indicate that Tobin's Q is on average increasing over time, although the effect is not statistically significant. This could be partly driven by the fact that governance scores have also increased over this period in most countries in our country, from an average of 7.09 in 2003 to an average of 7.74 in 2005. Firms with an ADR listing also tend to be more

highly valued, consistent with the notion that many of these foreign firms are subject to higher governance standards in the US. Finally, we find that firms tend to be valued higher if they are smaller (as measured by sales), have better growth opportunities (as measured by sales growth), depend less on external financing, and are less levered.

Next, we consider the effect on Tobin's Q of deviations in governance scores from the norms-based Country CG Index. Consistent with our priors, we find that governance provisions adopted by firms beyond those imposed by the "norms" in the country (as measured by the Country CG Index) have a strong, positive effect on firm valuation. The coefficient on the Adjusted CG Index variable is statistically significant at the 5% level. A one standard deviation increase in the Adjusted CG score is associated with a 0.08 increase in Tobin's Q, which amounts to an increase that is equivalent to about one-tenth the sample standard deviation of Tobin's Q.

In regression (3), we also include the Country CG Index. This variable enters with a positive but insignificant coefficient. Because the regressions also include country-fixed effects, it may be hard to identify the independent effect of the Country CG Index on firm valuations, particularly given that there is little variation over time in the Country CG Index in some countries. In unreported regressions, we drop country fixed effects from regression (3) and obtain similar results: the Adjusted CG index enters with a positive and significant sign and the Country CG Index does not enter significantly.

Thus far, we have reported regressions with standard errors clustered at the country level. It could be that observations for a given firm are not independent across time. However, as indicated by regression (4), our results do not alter when we cluster standard errors at the firm level.

Next, we investigate whether the effect of the Adjusted CG Index on firm valuation depends on the level of the Country CG Index. In regression (5), we include an interaction between the Adjusted CG Index and the Country CG Index variables. The interaction term does not enter significantly and its inclusion does not alter our main results.

Stock market liquidity could affect firm valuation. In unreported regressions, we have also controlled for stock market liquidity (proxied by stock market turnover), but again our results are not affected.

In regressions (6) and (7) we split the sample between US and non-US firms to study to what extent results for the US can be generalized to other countries. While we find qualitatively similar effects of the Adjusted CG Index on firm valuation for both US and non-US firms, we find that the Country CG Index has a positive effect on firm valuation only for non-US firms. It may be hard to identify the effect of Country CG Index on Tobin's Q for US firms because the U.S. effect is identified based on only three years of data, generating only three distinct country-level observations for the Country CG Index variable. The economic effect of Country CG Index on Tobin's Q for non-US firms is about half that for the Adjusted CG Index variable. A one standard deviation increase in the Country CG Index score is associated with a 0.04 increase in Tobin's Q.

Next, we run our main regression for each year in the sample period 2003-2005, following Gompers et al. (2003). The results of these annual cross-sectional regressions are presented in Table 5. The coefficients and standard errors from each annual cross-sectional regression are reported in each column, and the time-series averages and time-series standard errors are given in the last column. The Country CG Index variable is dropped from these annual regressions that already include country dummies. We find that the effect of within country

variation in governance on firm valuation is present in all years and most pronounced for the year 2005 (although the effects are not statistically different across years). For the year 2005, a one standard deviation increase in the Adjusted CG Index is associated with a 0.10 increase in Tobin's Q. The last column of the table reports the time-series averages of the regression coefficients. The estimated average coefficient of 0.036 indicates that a one standard deviation increase in Adjusted CG Index is associated with a 0.11 increase in Tobin's Q.

4. Robustness Tests and Extensions

In this section, we report several robustness tests and extensions of our main results presented in Table 4.

A. Individual components of the corporate governance index

In Table 6, we repeat our main regression using the individual components of the Adjusted CG Index instead of the composite index. We find that all individual components of this index enter positively, consistent with our main result. However, not all subcomponents of the index enter significantly. The results indicate that the effect can largely be accounted for by differences in six governance attributes: cumulative voting, no blank check or poison pill, majority independent board, independent audit committee, no interlocked directors, and existence of a policy on outside directorships. The presence of dual class shares with unequal voting and the existence of a governance committee also enter with a large coefficient but their effects are not statistically significant. We find similar results when we include individual components of the composite Country CG Index in these regressions, although the statistical significance of the effect drops somewhat in a few cases. For three attributes (Majority independent board, Compensating committee independence, and Policy on outside directorships)

there is insufficient variation in the Country CG Index such that the effect is fully absorbed by the country dummies and we cannot estimate the effect of the individual Country CG Index. We also find similar results when we repeat these regressions using the unadjusted, individual components of the CG Index (nor reported).

B. Sample selection issues

Thus far, we have reported regressions for the full, unbalanced sample. We are concerned that the unbalanced panel may introduce a selection bias that could drive the results. For example, both the number of firms included in our sample and the average governance score increase over the sample period. We therefore re-run our main specification for a balanced sample. The results are reported in column (1) of Table 7. We find that the results based on the balanced panel are very similar to those obtained for the unbalanced panel. We again find a positive and significant association between the Adjusted CG Index and Tobin's Q.

Next, we drop countries with fewer than 10 observations. There is likely to be little within-country variation in countries with few observations, and the sample of firms included may not be representative for these countries. Since our identification on the governance variable stems largely from within-country variation, we need to have a representative and sufficiently large number of firms in each country. When we exclude countries with few observations, we again obtain very similar results (see column (2) of Table 7).

C. Board size

Previous literature has shown that corporate performance may not only be affected by governance provisions but also by board size (e.g., Yermack 1996).[11] We therefore perform a robustness test that includes a proxy for board size.

[11] Ownership structure may also affect corporate valuation; unfortunately, we do not have detailed information on the ownership structure of firms in our sample. When we control for the percentage of shares that are closely held

To construct a measure of board size of the firm we use data from ISS on the number of members on the board of each firm. Unfortunately, ISS does not report the exact size of the board, but rather classifies boards in different size categories. These categories are: (a) board size less than 6; (b) board size between 6 and 8; (c) board size between 9 and 12; (d) board size between 13 and 15; and (e) board size greater than 15. Where possible, we use the midpoints of these size categories to construct our board size variable. Specifically, Board size takes a value of: (a) 5 if board size is less than 6; (b) 7 if board size is between 6 and 8; (c) 10 if board size is between 9 and 12; (d) 14 if board size is between 13 and 15; and (e) 16 if board size is greater than 15.

The regression results with the board size variable are reported in column (3) of Table 7. Board size does not enter significantly. Importantly, our main results on the governance variables are not affected.

D. Endogeneity

We are concerned that endogeneity of the governance index variable could affect the results. For example, it could be that a third factor could drive both higher governance scores and firm valuations (see Demsetz and Lehn (1985) for an early exposition of these endogeneity concerns; see also Black et al. (2006) for endogeneity concerns specific to governance provisions). Given the lack of suitable instruments, the literature thus far has not adequately dealt with these endogeneity concerns. Himmelberg et al. (1999) propose to use panel data techniques but these are rather ineffective given that corporate governance moves slowly over time and given that the time-series dimensions of the datasets used in this literature tend to be short (see

(obtained from Datastream) as a rough proxy for ownership structure of the firm, our main results are unaltered (not reported).

Coles et al. (2006) for a more detailed description of the problems associated with addressing endogeneity concerns in this literature).

Like all other papers in the literature, we do not have a good instrument for firm-level governance, so we cannot perform instrumental variables (IV) regressions of Tobin's Q on corporate governance. Still, we can perform two different tests to mitigate concerns about endogeneity.

Our first test involves using panel data techniques to perform GMM difference estimations of the relationship between corporate governance and firm valuation. In implementing the GMM estimations, we treat corporate governance scores as a predetermined variable and use lagged values of this variable as instruments. We estimate a dynamic model that includes a lag of Tobin's Q as explanatory variable. The model is estimated using the GMM difference estimator developed by Arellano and Bond (1991). All explanatory variables are treated as predetermined variables and we use all available lags of these variables as instruments.

We lag variables at least two periods to arrive at valid instruments for this dynamic model. For non-US firms in our sample we only have 3 years of data (2003-2005) but for US firms we have 5 years of data (2001-2005) on governance scores. Unlike our previous regressions, where we only include US firms included in the S&P 500 index (to make the sample of US firms comparable to firms in other countries), we now use the full sample of US firms (for the period 2001-2005) to take full advantage of the dataset. This does, however, not affect our results. All GMM regressions include year fixed effects. We exclude observations with extreme values for Tobin's Q, corresponding to the top and bottom 1 percentiles, because the dynamic model is quite sensitive to outliers in the dependent variable. The model also includes

unobserved firm-specific effects but these drop out because the regressions are estimated in first differences.

Consistent with our earlier findings, we find that both the unadjusted CG Index and the Adjusted CG Index have a significant, positive effect on Tobin's Q (Table 8). The effect we find is much larger than that obtained in the OLS regressions. We also find that current values of Tobin's Q can in part be explained by lagged values of Tobin's Q. These results alleviate concerns about endogeneity and suggest a causal link between corporate governance and firm valuation.

Our second test is based on the work by Rajan and Zingales (1998). They construct an industry-level measure of financial dependence that they interact with a country-level measure of financial development to explain growth in value added of a particular industry in a given country. Their approach has two advantages. By constructing a variable that is the interaction between a country-level variable and an industry-level variable, they can include country fixed effects in their regression model and by doing so account for omitted country-level variables that plague much of the cross-country growth literature. More important for our purpose, they also use U.S. data to construct a benchmark of financial dependence for other countries. This approach rests on the assumption that financial markets in the U.S. do not face significant financial frictions and that the U.S. frontier is representative for other countries. Using the U.S. as a benchmark for financial dependence of industries elsewhere allows them to deal with some of the endogeneity concerns that plague the finance and growth literature.

We adopt the approach in Rajan and Zingales to our setting where the focus is on firm-level corporate governance, not country-level financial development. Assuming that firms that depend on external finance to finance their investment opportunities find it easier to obtain

outside financing if they are better governed, we expect that firm-level improvements in governance as measured by our Adjusted CG Index are more important for the valuation of firms that depend on outside financing. Because the financial dependence of a particular firm in a given country may depend on a host of firm and country characteristics specific to this firm, such as the development of local financial markets, we resort to the approach in Rajan and Zingales and construct an index of financial dependence for each firm based on U.S. data. Unlike Rajan and Zingales, who deal with industry-level data, we construct a firm-specific measure of financial dependence based on the financial dependence of a matched sample of U.S. firms. Specifically, we compute financial dependence for each firm as the median value of financial dependence of a closely matched sample of the universe of US listed firms. We match firms on the basis of net sales and their 2-digit SIC industry codes. Following Rajan and Zingales, we compute external financial dependence as the difference between capital expenditures and cash flow divided by capital expenditures.

Table 9 reports regression results where we not only include the governance variables but also our measure of financial dependence and the interaction between Adjusted CG Index and financial dependence. We delete financial firms (SIC code 6) from these regressions because financial dependence measures for these firms are not comparable to non-financial firms. The regressions include country and industry fixed effects. We find a positive coefficient on the interaction term between financial dependence and the Adjusted CG Index, consistent with our priors. Financially dependent firms are valued disproportionately more if they have high governance scores, as measured by the Adjusted CG Index. These results not only offer evidence in support of a specific channel through which corporate governance affects firm valuation, namely by improving the ability to raise external financing, but also offer some evidence in

support of a causal link between corporate governance and firm valuation. Still, we acknowledge that these tests only go so far in addressing the issue of endogeneity and the results should be interpreted with that in mind.

E. Reverse causality: industry-specific shocks

Next, we investigate whether there is reverse causality between valuation and governance at the firm level. If we do not find strong reverse causality, then this would lend additional support to a causal interpretation of our results. There are several reasons to believe that Tobin's Q could affect governance scores. For example, it could be that highly valued firms are more likely to invest in better governance. Also, countries with highly valued firms may be more likely to engage in reforms to improve corporate governance.

To test for the presence of reverse causality, we regress corporate governance scores on Tobin's Q. This reverse regression of our main specification can reveal whether reverse causality is likely to be an issue or not. Following Bertrand and Mullainathan (2003), we perform these regressions not only for the whole sample but also for oil price sensitive industries, using the oil price as instrument for Tobin's Q to capture the independent effect of Tobin's Q on governance scores. Bertrand and Mullainathan (2003) focus only on the energy sector, an industry whose performance clearly depends on changes in the oil price. The assumption is that any given firm is too small to affect the world price of oil but changes in the oil prices do affect firm performance. They use the oil price as an industry-specific shock to separate out CEO compensation in the energy sector caused by performance and by luck. We extend their methodology to other industries by computing the historical out-of-sample sensitivity of firm performance (as measured by Tobin's Q) to oil prices[12]. The industry-level estimates of these oil price

[12] The oil price sensitivities are calculated from the US Compustat universe of firms over the period 1985-2002 for each industry. We regress industry level average Q on oil prices and year fixed effects. The oil price is the UK Brent

sensitivities, denoted as β's, are reported in Appendix 2. Obviously, this approach works best for industries most dependent on the oil price, such as the energy sector. We therefore report regression not only for the entire sample, but also for the sample of firms operating in industries with above median oil price β's and for firms operating in the energy sector. For comparison purposes, we report both the OLS and IV regressions.

Columns (1) to (3) of Table 10 present the OLS regressions for the different samples. The whole sample regression results reported in column (1) suggest that reverse causality may be a problem, although this result itself may suffer from endogeneity. Columns (3) to (6) present the IV regressions where Tobin's Q is instrumented using the product of the industry oil price β times the log of the oil price (except in column (6) where for presentation purposes we simply use the log of the oil price as instrument, although not doing so would give exactly the same results). The results of the first stage regressions are summarized in the lower part of the table.

The identification strategy is most effective for industries that are most sensitive to the oil price. The results in column (5) based on the subset of firms operating in industries with oil price β's exceeding their sample median, and the results in column (6) based on the subset of firms operating in the energy sector alone, are therefore most relevant. Both of these regressions indicate that for these subsets of firms there is no significant reverse causality from Tobin's Q to corporate governance scores once adequately controlling for endogeneity. We obtain positive but insignificant coefficients on Tobin's Q. These results alleviate concerns that our main results suffer from reverse causality.

F. Country effects: Comparing governance scores with matched US firms

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oil price, corrected for inflation using the purchasing power parity index for the country. We use annual observations on Q and oil prices.

Thus far, we have shown that the firm-level governance in excess of minimally accepted criteria, as measured by the Adjusted CG Index, are positively associated with firm valuation. Any potential country effect of governance on firm valuation has been largely subsumed in the country fixed effects. While we can therefore conclude that firm-level governance matters for valuation, these results do not shed light on the relative importance of firm-level versus country-level governance for corporate valuation. For the sample as a whole, we do not find a significant association between the time-varying Country CG Index and firm valuation, though we do find a positive and significant effect for the subset of non-US firms. However, the Country CG Index score displays little time-variation over the three year sample period in some countries and is likely correlated with other country attributes, making it hard to identify the causal effect of country-level governance scores on firm valuation. Furthermore, it could be that the country effect varies by type of firm. For example, for firms in certain industries (such as those dependent on external finance), corporate governance may matter more, and the valuation of firms in such industries may be affected to a greater extent by country-level governance.

To further differentiate between firm-level and country-level governance, we compare the governance scores of non-US firms in our sample with those of matched US firms. Aggarwal et al. (2007) use a similar approach to distinguish between governance scores of US firms and foreign firms. If the matching is done perfectly, then the only reason for observing a difference in governance scores would be that the firms are located in different countries. Under this assumption, the difference between the governance scores of the matched firms, denoted as the gap, captures the country-specific effect. Importantly, this approach allows the country-specific component to vary by firm, depending on the matching criteria. In reality, it is impossible to

match on the basis of all relevant firm attributes. Still, on average the gap will capture the country-specific effect of governance.

We match non-US firms with US firms on the basis of size (as measured by net sales) and industry (2-digit SIC codes). We use the universe of US firms included in the ISS database to achieve the closest match possible. Our matching criteria are supported by *t*-tests that indicate that there are no systematic differences in the matching variables between the two samples. We use the matched sample to construct the following two variables: Gap is the difference between the CG Index of the firm and the CG Index of the matched US firm, and Gap Adjusted CG Index is the difference between the CG Index of the firm and the Gap. Note that the Gap Adjusted CG Index is equivalent to the CG index of the matched US firm. The Gap captures the country-specific component of the governance score while the Gap Adjusted CG Index captures the firm-specific component of the governance score.

Column (1) in Table 11 shows the estimates when we regress Tobin's Q on these two matched governance variables and the control variables used previously. Note that these regressions only include non-US firms because we use matching US firms as the benchmark for firm-level governance. We find that only the Gap Adjusted CG Index enters positively and significantly, consistent with our earlier findings that firm-specific governance scores are associated with firm valuations. However, an F-test of equality of coefficients indicates that the coefficients on both governance variables are not statistically different from one another. We obtain similar results when constructing the governance gap variables based on scores for the Adjusted CG Index of firms and their matched US counterparts rather than scores for the unadjusted CG Index (nor reported).

The economic effect of the result is somewhat larger than that estimated on the basis of the regression coefficients presented in Table 5. A one standard deviation increase in the Gap Adjusted CG Index would, ceteris paribus, amount to an increase in Tobin's Q of 0.07, which is small compared to the standard deviation of Tobin's Q of 0.99.

One could argue that ADR firms are not strictly local firms because they access US capital markets and face regulations from US authorities. Our ADR dummy variable does not effectively control for this possibility. We therefore recompute the Gap and Gap Adjusted CG Index based on a matched sample that excludes ADR firms and re-run the regression on the sub-set of non-ADR firms (obviously dropping the ADR dummy variable). The results are presented in column (2). While the effect of the governance variables increases, with only the Gap Adjusted CG Index entering significantly, we again find that the coefficients on the two governance variables do not differ statistically.

Next, we use the country-average of the gap variable to capture the country effect of governance more directly, similar to the main specification in column (3) of Table 5. We compute two new variables: Country Gap is the average of the Gap at the country level, and Country Gap Adjusted CG Index is the difference between the CG Index and the Country Gap. The Country Gap is always negative for firms in our dataset, indicating that on average over our sample period non-US firms tend to have lower governance scores than their matching US firms. The regression results that control for the Country Gap are presented in column (3). We now find that both the firm-specific variable, Country Gap Adjusted CG Index, and the country-specific variable, Country Gap, enter positively and significantly, suggesting that firm valuation is affected by both firm-level and country-level governance scores. These findings are consistent with our earlier findings for non-US firms reported in column (7) of Table 4. The economic

effect of the results in column (3) is significant. A one standard deviation increase in Country Gap implies an increase in Tobin's Q of 0.15 and a one standard deviation increase in Country Gap Adjusted CG Index implies an increase in Tobin's Q of 0.08. These results suggest that the effect on valuation is larger for the country-specific component of governance than for the firm-specific component of governance, and indicate that the overall effect of governance of firm valuation is significant.

5. Conclusions

We have evaluated the impact of firm-level corporate governance attributes on the valuation of firms in a large cross-section of countries. Unlike previous work, we differentiate between minimally accepted governance attributes that are satisfied by all firms in a given country and governance attributes that are adopted at the firm level, thus distinguishing between firm-level and country-level governance.

We find that governance scores display much within country variation. We also find that many firms choose to adopt governance provisions beyond those that are adopted by all firms in the country, and that these improvements in corporate governance are positively associated with firm valuation. A one standard deviation increase in the difference between the firm-level governance score and the minimally accepted country-level governance score is associated with a 0.08 increase in Tobin's Q. This amounts to an increase of about one-tenth the standard deviation of Tobin's Q. These results are consistent with earlier work on U.S. firms that finds a significant relation between governance provisions and firm valuation (e.g., Gompers et al., 2003). We extend this work based on the U.S. to firms in other countries, and abstract from minimally accepted governance attributes that are satisfied by all firms in a given country.

Our results indicate that, despite the costs associated with improving corporate governance at the firm level, many firms choose to adopt governance provisions beyond what can be considered the norm in the country, and such improvements in corporate governance are reflected in higher market valuations. Our results are robust to a large number of robustness tests, including a series of tests aimed at mitigating concerns about endogeneity between corporate governance and firm valuation. Our findings contribute to the current policy debate on the rewards to companies of improving corporate governance and provide new evidence on the link between corporate governance and firm valuation.

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Table 1
Firm Level Governance Scores by Country

The table presents summary statistics for governance characteristics of our sample of US and foreign firms over the period 2003-2005. The sample consists of over 2701 firms in 23 countries. The data is obtained from ISS. The US sample consists of the S&P 500 firms to make it comparable with the rest of the sample. CG index is the equally-weighted sum of 17 provisions including (i) no dual class structure with unequal voting rights, (ii) cumulative voting, (iii) no supermajority required to approve merger, (iv) no supermajority required to amend bylaws and charter, (v) no classified board, (vi) shareholders can call special meetings, (vii) shareholders can act by written consent, (viii) no blank check or poison pill, (ix) CEO not on more than 2 boards, (x) CEO and Chairman are separated, (xi) majority of board is independent, (xii) audit committee is independent, (xiii) compensating committee is independent, (xiv) nominating committee is independent, (xv) governance committee exists, (xvi) no interlocked directors, and (xvii) policy on outside directorships exists. Each attribute assigns a score of 1 if applicable and zero otherwise. The index ranges from 0 to 17. We present the median value, the minimum value, and the maximum value of the country of the firm-level CG index (CG Index). We also present the median value of the country adjusted corporate governance index (Adjusted CG Index) and the country governance score (Country CG Index). The country governance score (Country CG) is the equally weighted sum of the attributes that are accepted by all firms in a given country. If all firms in a country have a specific governance provision in place then the index takes a value 1 for that provision. The country governance index (Country CG Index) is the sum of all the minimum standard provisions. The adjusted firm-level corporate governance index (Adjusted CG Index) is equal to the firm governance index (CG Index) minus the country-level minimally accepted governance score (Country CG Index). N is the total number of firms in our sample for each country. The variable ADRs gives the number of firms that have ADRs. Summary statistics are reported for each of the countries in our sample for the period 2003 to 2005.

	2003							2004							2005						
Country	Median CG Index	Min CG Index	Max CG Index	Median Adjusted CG Index	Country CG Index	N	ADRs	Median CG Index	Min CG Index	Max CG Index	Median Adjusted CG Index	Country CG Index	N	ADRs	Median CG Index	Min CG Index	Max CG Index	Median Adjusted CG Index	Country CG Index	N	ADRs
Australia	8	5	11	6	2	87	41	7	5	12	6	1	83	38	6	4	12	5	1	119	42
Austria	5	4	6	1	4	23	18	5	4	7	1	4	18	17	5	4	7	1	4	19	17
Belgium	5	3	8	4	1	24	3	5	4	8	3	2	20	3	5	3	9	5	0	25	4
Canada	10	6	13	10	0	185	1	11	6	14	11	0	174	1	10	5	13	8	2	164	0
Denmark	5	3	7	3	2	25	6	5	4	6	2	3	23	6	6	4	9	3	3	22	6
Finland	6	3	8	5	1	30	6	5	3	9	4	1	29	7	7	4	10	6	1	31	7
France	4	2	8	4	0	87	42	5	2	9	5	0	73	37	6	3	11	6	0	83	41
Germany	5	3	6	3	2	89	34	5	4	7	3	2	84	36	6	4	10	3	3	85	38
Greece	6	5	8	2	4	47	20	6	4	8	2	4	43	17	6	5	10	3	3	43	17
Hong Kong	9	6	11	6	3	53	38	8	6	12	5	3	56	34	8	7	11	4	4	111	56
Ireland	7	4	8	4	3	14	11	7.5	5	10	2.5	5	16	11	8	6	10	3	5	16	11
Italy	5	3	7	2	3	65	18	4	3	8	2	2	43	10	5	3	9	4	1	68	17
Japan	5	4	7	1	4	498	131	5	4	8	3	2	508	132	5	4	10	3	2	588	135
Netherlands	5	2	8	4	1	53	21	5	3	12	4	1	49	21	9	5	13	8	1	47	20
New Zealand	7	6	9	1	6	12	0	7	6	10	2	5	13	1	6	4	9	3	3	18	2
Norway	5	4	6	1	4	21	9	5	4	6	1	4	22	10	7	5	10	3	4	21	11
Portugal	6	4	7	3	3	15	6	6	4	8	3	3	13	5	6	3	8	4	2	14	5
Singapore	8	6	12	4	4	52	14	9	6	12	7	2	58	19	7	4	11	5	2	63	19
Spain	7	4	10	5	2	56	13	6	2	10	1	2	37	13	6	4	11	5	1	54	12
Sweden	6	4	10	4	2	44	5	5	9	6	6	4	45	5	7	4	10	5	2	41	5
Switzerland	5	3	11	3	2	58	24	5	3	11	3	2	55	23	7	3	12	5	2	58	23
UK	7	4	10	6	1	200	105	8	4	11	5	3	205	106	8	5	12	7	1	532	133
USA	10	4	16	9	1	480	0	10	5	16	8	2	476	0	11	6	15	8	3	479	0
Global Average	**6.35**	**4.00**	**9.00**	**3.96**	**2.39**	**96**	**24.6**	**6.28**	**4.35**	**9.57**	**3.89**	**2.48**	**93**	**24**	**6.83**	**4.30**	**10.52**	**4.65**	**2.17**	**117**	**27**

Table 2
Summary of Individual Components of CG Index (averaged over 2003-2005)

This table displays reports for each of the components included in the CG index the percentage of firms in the country that satisfies the attribute indicated in the first row. The statistics are averages for the period 2003 through 2005.

Country	No Dual class shares with unequal voting rights	Cumulative Voting	No Supermajority required for merger	No Supermajority required to amend bylaws	No Classified board	Shareholders can call special meeting	Shareholders can act with written consent	No Blank check or poison pill
Australia	95%	0%	1%	1%	1%	99%	32%	100%
Austria	100%	0%	0%	0%	2%	100%	0%	100%
Belgium	97%	1%	1%	1%	0%	99%	3%	88%
Canada	72%	4%	67%	0%	98%	100%	4%	32%
Denmark	70%	1%	0%	0%	56%	100%	0%	100%
Finland	69%	2%	0%	0%	83%	97%	0%	100%
France	40%	94%	0%	0%	2%	99%	27%	84%
Germany	100%	0%	1%	5%	0%	97%	1%	100%
Greece	100%	0%	0%	99%	48%	100%	0%	100%
Hong Kong	100%	97%	100%	24%	5%	96%	97%	100%
Ireland	7%	100%	100%	100%	47%	0%	0%	0%
Italy	99%	10%	3%	3%	1%	97%	0%	100%
Japan	100%	0%	0%	0%	36%	100%	100%	100%
Netherlands	77%	1%	30%	23%	4%	100%	3%	54%
New Zealand	100%	2%	0%	0%	0%	100%	35%	100%
Norway	97%	0%	0%	0%	19%	100%	0%	100%
Portugal	88%	40%	7%	0%	17%	100%	69%	100%
Singapore	99%	36%	64%	64%	0%	88%	34%	100%
Spain	95%	64%	0%	0%	16%	100%	54%	99%
Sweden	45%	0%	2%	0%	98%	100%	0%	100%
Switzerland	99%	0%	0%	0%	9%	100%	2%	99%
UK	99%	0%	0%	0%	5%	100%	97%	100%
USA	96%	9%	60%	38%	41%	41%	39%	38%

Country	CEO not on more than 2 boards	CEO Chairman Separated	Majority Independent Board	Audit Committee Independent	Compensating Committee Independent	Nominating Committee Independent	Governance Committee Exists	No Interlocked Directors	Policy on outside directorships
Australia	93%	82%	55%	38%	29%	19%	17%	83%	0%
Austria	92%	100%	7%	0%	0%	0%	3%	7%	0%
Belgium	90%	78%	10%	6%	9%	7%	4%	10%	0%
Canada	94%	61%	87%	83%	65%	55%	92%	100%	1%
Denmark	89%	80%	26%	3%	3%	0%	0%	14%	3%
Finland	77%	71%	37%	19%	17%	12%	7%	29%	0%
France	50%	45%	24%	16%	10%	6%	10%	16%	0%
Germany	59%	90%	20%	1%	1%	0%	10%	25%	0%
Greece	95%	47%	3%	5%	0%	0%	5%	4%	0%
Hong Kong	85%	60%	6%	47%	8%	4%	2%	9%	0%
Ireland	98%	30%	37%	50%	37%	15%	22%	37%	2%
Italy	68%	63%	6%	5%	3%	0%	11%	28%	0%
Japan	99%	0%	1%	1%	0%	0%	0%	1%	0%
Netherlands	87%	91%	38%	25%	26%	21%	17%	37%	3%
New Zealand	98%	74%	37%	26%	9%	0%	19%	93%	0%
Norway	100%	91%	23%	9%	14%	2%	3%	11%	0%
Portugal	81%	38%	12%	7%	2%	0%	12%	14%	0%
Singapore	88%	75%	47%	47%	20%	17%	2%	31%	0%
Spain	94%	43%	7%	7%	10%	10%	39%	7%	2%
Sweden	88%	92%	35%	9%	6%	1%	2%	18%	0%
Switzerland	84%	64%	35%	25%	18%	9%	15%	32%	0%
UK	98%	15%	34%	65%	66%	24%	6%	54%	16%
USA	92%	27%	97%	91%	93%	83%	100%	100%	23%

Table 3
Summary Statistics of Main Regression Variables

This table reports summary statistics for 2003-2005 and each year for the main firm-level regression variables. CG index is the equally-weighted sum of 17 provisions including (i) no dual class structure with unequal voting rights, (ii) cumulative voting, (iii) no supermajority required to approve merger, (iv) no supermajority required to amend bylaws and charter, (v) no classified board, (vi) shareholders can call special meetings, (vii) shareholders can act by written consent, (viii) no blank check or poison pill, (ix) CEO not on more than 2 boards, (x) CEO and Chairman are separated, (xi) majority of board is independent, (xii) audit committee is independent, (xiii) compensating committee is independent, (xiv) nominating committee is independent, (xv) governance committee exists, (xvi) no interlocked directors, and (xvii) policy on outside directorships exists. Each attribute assigns a score of 1 if applicable and zero otherwise. The index ranges from 0 to 17. The Adjusted CG Index is the firm level CG Index minus the country-level minimally accepted governance score Country CG Index. The country governance score Country CG Index is the equally weighted sum of the attributes that are accepted by all firms in a given country. If all firms in a country have a specific governance provision in place then the index takes a value 1 for that provision. Country CG Index is the sum of all the minimum standard provisions. Q is the Tobin's Q ratio measured as the ratio of market to book value of assets. The market value of assets is calculated as the sum of the book value of assets plus the market value of common stock less the book value of common stock. Log of sales is the natural logarithm of sales. Sales growth is lagged net sales growth. Leverage is the ratio of debt to total assets. External financing is the proxy for financing constraints developed by Demirguc-Kunt and Maksimovic (1998). External financing is the difference between required capital and available capital. Required capital is measured by the growth rate of total assets and available capital as ROE/(1-ROE), where ROE is the return on equity capital. Financial dependence is the measure of external financial dependence developed by Rajan and Zingales (1998) but computed at the firm level. For each firm, we compute financial dependence as the median value of financial dependence of a closely matched sample of the universe of US listed firms. We match firms on the basis of sales and 2-digit SIC industry codes. External financial dependence is computed as the difference between capital expenditures and cash flow divided by capital expenditures.

	2003			2004			2005			2003-2005		
	Mean	Median	Sd	Mean	Median	Sd	Mean	Median	Sd	Mean	Median	Sd
CG Index	7.09	6	2.56	7.43	7	2.63	7.74	7	2.49	7.74	7	2.57
Adjusted CG Index	5.03	4	3.47	5.43	4	3	5.74	5	2.44	5.42	5	2.98
Country CG Index	2.07	2	1.48	1.99	2	1.02	1.99	2	1.04	2.02	2	1.19
Q	1.53	1.18	0.97	1.61	1.29	0.99	1.66	1.33	1.02	1.6	1.27	0.99
Log of Sales	13.13	13.88	2.83	13.24	14.05	2.89	13.38	13.92	2.67	13.26	13.94	2.78
Sales Growth	0.04	0.05	0.32	0.14	0.13	0.21	0.16	0.14	0.25	0.12	0.12	0.26
Leverage	0.21	0.18	0.19	0.2	0.17	0.19	0.19	0.16	0.19	0.2	0.16	0.19
External financing	0.84	1.1	7.39	1.03	1.21	4.24	1.07	1.22	2.62	0.98	1.18	5.01
Financial dependence	0.062	-0.062	1.11	0.019	0.18	1.65	0.33	0.054	1.11	0.15	0.035	1.31

Table 4
Corporate Governance and Firm Valuation

The table shows OLS regressions with Tobin's Q as dependent variable for the sample period 2003-2005. The CG index is the firm level corporate governance score. The Adjusted CG Index is the difference between the CG Index and the country-level CG Country Index. Country CG Index is the equally weighted sum of the attributes that are accepted by all firms in a given country. Log Sales is the logarithm of net sales. Sales growth is the growth of sales and proxies for investment opportunities. External financing is the difference between asset growth and ROE/(1-ROE). Leverage is the ratio of the sum of long term and short term debt to assets. The ADR dummy takes value 1 if the firm has a ADR and 0 otherwise. Country, industry, and year fixed effects are included in each regression but we only report coefficients on the year effects. Standard errors are clustered at the country level, except in regression (4) where they are clustered at the firm level. Regression (6) is based on the sample of US firms only and regression (7) is based on the sample of non-US firms only. *,**,*** indicates significance at the 10%, 5%, and 1% levels respectively.

Variable	(1)	(2)	(3)	(4) Firm cluster	(5) Interaction	(6) US firms	(7) Non-US firms
CG Index	0.030 ***						
	(0.004)						
Adjusted CG Index		0.027 **	0.027 ***	0.027 **	0.029 ***	0.027 ***	0.023 ***
		(0.01)	(0.007)	(0.01)	(0.013)	(0.015)	(0.007)
Country CG Index			0.010	0.010	0.008	-0.073 *	0.031 **
			(0.021)	(0.014)	(0.016)	(0.041)	(0.014)
Adjusted CG Index * Country CG Index					0.0004		
					(0.005)		
Log Sales	-0.113 ***	-0.113 ***	-0.113 ***	-0.113 ***	-0.113 ***	-0.262 ***	-0.091 ***
	(0.027)	(0.027)	(0.027)	(0.024)	(0.027)	(0.028)	(0.023)
Sales Growth	0.331 ***	0.327 ***	0.327 ***	0.327 ***	0.328 ***	0.728 ***	0.240 ***
	(0.095)	(0.096)	(0.095)	(0.071)	(0.097)	(0.171)	(0.073)
External Financing	-0.006 **	-0.006 **	-0.007 **	-0.007 **	-0.007 **	-0.008	-0.005 **
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.006)	(0.003)
Leverage	-0.005 *	-0.004 *	-0.005 *	-0.005 *	-0.005 ***	-1.830 ***	-0.006 **
	(0.002)	(0.002)	(0.002)	(0.001)	(0.003)	(0.268)	(0.002)
Dummy for ADRs	0.162 ***	0.166 ***	0.163 ***	0.163 ***	0.162 ***		0.135 ***
	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)		(0.05)
Year=2004	0.057	0.053	0.053	0.053 **	0.052	0.075	0.106 ***
	(0.04)	(0.04)	(0.03)	(0.02)	(0.04)	(0.07)	(0.02)
Year=2005	0.081	0.079 *	0.079 *	0.078 **	0.077	0.061	0.141 ***
	(0.05)	(0.04)	(0.04)	(0.02)	(0.05)	(0.05)	(0.03)
Industry Dummies	+	+	+	+	+	+	+
Country Dummies	+	+	+	+	+	-	+
N	6134	6134	6134	6134	6134	1113	5021
R^2	0.25	0.25	0.25	0.25	0.25	0.35	0.25

Table 5
Corporate Governance and Firm Valuation: Cross-Sectional Regressions

The table shows the results of firm-level OLS regressions with Tobin's Q as dependent variable for each year in the sample period 2003-2005. The coefficients and standard errors from each annual cross-sectional regression are reported in each column, and the time-series averages and time-series standard errors are given in the last column. The Country Adjusted CG Index the difference between the firm-level CG Index and minimally accepted country-level CG score. Log Sales is the logarithm of net sales. Sales growth is the growth of sales and proxies for investment opportunities. External financing is the difference between asset growth and ROE/(1-ROE).). Leverage is the ratio of the sum of long term and short term debt to assets. The ADR dummy takes value 1 if the firm has a ADR and 0 otherwise. Country and industry fixed effects are included in each regression but not reported. *,**,*** indicates significance at the 10%, 5%, and 1% levels respectively. Standard errors are clustered at the country level.

	2003	2004	2005	Average 2003-2005
Country Adjusted CG Index	0.029 **	0.037 **	0.041 ***	0.036 **
	(0.010)	(0.015)	(0.012)	(0.012)
Log Sales	-0.109 ***	-0.125 ***	-0.121 ***	-0.118 ***
	(0.036)	(0.037)	(0.023)	(0.032)
Sales Growth	0.433 ***	0.593 **	0.170	0.399 **
	(0.068)	(0.217)	(0.111)	(0.132)
External Financing	-0.008 ***	-0.008 **	-0.002	-0.006 **
	(0.002)	(0.004)	(0.004)	(0.003)
Leverage	-0.002	-0.004 *	-0.006 **	-0.004 *
	(0.002)	(0.002)	(0.002)	(0.002)
Dummy for ADRs	0.196 ***	0.133 **	0.140 ***	0.156 **
	(0.058)	(0.063)	(0.044)	(0.055)
Industry Dummies	+	+	+	
Country Dummies	+	+	+	
N	1939	1872	2323	
R^2	0.30	0.26	0.22	

Table 6
Corporate Governance and Firm Valuation: Individual CG Index Components

The table shows the results of firm-level OLS regressions for the period 2003-2005 with Tobin's Q as dependent variable and one of the CG Index components as main explanatory variable for each year in the sample period 2003-2005. Log Sales is the logarithm of net sales. Sales growth is the growth of sales and proxies for investment opportunities. External financing is difference between asset growth and ROE/(1-ROE).). Leverage is the ratio of the sum of long term and short term debt to assets. The ADR dummy takes value 1 if the firm has a ADR and 0 otherwise. Country, industry, and year fixed effects are included in each regression but we only report coefficients on the year effects. Standard errors are clustered at the country level. *,**,*** indicates significance at the 10%, 5%, and 1% levels respectively.

Variable	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)	
No dual class shares with unequal voting (Adjusted)	0.095															
	(0.088)															
Cumulative Voting (Adjusted)			0.044	*												
			(0.048)													
No Supermajority for Merger (Adjusted)					0.032											
					(0.041)											
No Supermajority to amend bylaws (Adjusted)							0.035									
							(0.041)									
No Classified Board (Adjusted)									0.036							
									(0.023)							
Shareholder can call special meeting (Adjusted)											0.007					
											(0.032)					
Shareholder can act without written consent (Adjusted)													0.062			
													(0.046)			
No blank check or poison pill (Adjusted)															0.045	*
															(0.04)	
Log Sales	-0.112	***	-0.113	***	-0.113	***	-0.114	***	-0.113	***	-0.113	***	-0.114	***	-0.113	***
	(0.027)		(0.027)		(0.027)		(0.028)		(0.027)		(0.027)		(0.027)		(0.027)	
Sales Growth	0.329	**	0.330	***	0.330	***	0.330	***	0.327	***	0.329	***	0.331	***	0.330	***
	(0.096)		(0.096)		(0.094)		(0.096)		(0.095)		(0.096)		(0.096)		(0.097)	
External Financing	-0.006	**	-0.007	**	-0.007	**	-0.007	**	-0.007	**	-0.007	**	-0.007	**	-0.007	**
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)	
Leverage	-0.004	**	-0.005	**	-0.005	**	-0.005	**	-0.005	**	-0.005	**	-0.005	**	-0.005	**
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)	
Dummy for ADRs	0.171	***	0.171	***	0.171	***	0.171	***	0.168	***	0.171	***	0.172	***	0.171	***
	(0.05)		(0.05)		(0.05)		(0.05)		(0.05)		(0.05)		(0.05)		(0.05)	
Year=2004	0.065		0.061		0.072	**	0.070	*	0.065		0.065		0.065		0.065	
	(0.039)		(0.037)		(0.036)		(0.039)		(0.039)		(0.039)		(0.039)		(0.039)	
Year=2005	0.101	**	0.104	**	0.106	**	0.103	**	0.096	*	0.102	**	0.097	**	-0.109	**
	(0.047)		(0.048)		(0.042)		(0.046)		(0.049)		(0.047)		(0.046)		(0.035)	
Industry Dummies	+		+		+		+		+		+		+		+	
Country*Year Dummies	+		+		+		+		+		+		+		+	
N	6134		6134		6134		6134		6134		6134		6134		6134	
R^2	0.25		0.25		0.25		0.25		0.25		0.25		0.25		0.25	

Variable	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
CEO not on more than 2 boards (Adjusted)	0.005							
	(0.041)							
Ceo and Chairman Separated (Adjusted)		0.037						
		(0.062)						
Majority Independent Board (Adjusted)			0.086 ***					
			(0.028)					
Audit Committee Independence (Adjusted)				0.094 **				
				(0.039)				
Compensating Committee Independence (Adjusted)					0.004			
					(0.032)			
Nominating Committee Independence (Adjusted)						0.045		
						(0.047)		
Governance Committee Exists (Adjusted)							0.097	
							(0.071)	
No Interlocked Directors (Adjusted)								0.088
								(0.053)
Policy on outside directorships (Adjusted)								
Log Sales	-0.113 ***	-0.112 ***	-0.116 ***	-0.114 ***	-0.113 ***	-0.113 ***	-0.114 ***	-0.112
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Sales Growth	0.329 **	0.329 ***	0.364 ***	0.334 ***	0.329 ***	0.329 ***	0.333 ***	0.332
	(0.096)	(0.096)	(0.096)	(0.096)	(0.095)	(0.096)	(0.096)	(0.096)
External Financing	-0.006 **	-0.006 **	-0.007 **	-0.007 **	-0.007 **	-0.007 **	-0.007 **	-0.007
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Leverage	-0.004 **	-0.005 **	-0.007 **	-0.005 **	-0.005 **	-0.005 **	-0.005 *	-0.005
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Dummy for ADRs	0.171 ***	0.17 ***	0.162 ***	0.165 ***	0.171 ***	0.17 ***	0.166 ***	0.169
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Year=2004	0.064	0.065 *	-0.007 **	0.064	0.065 **	0.063	0.061	0.085
	(0.045)	(0.039)	(0.002)	(0.04)	(0.038)	(0.043)	(0.04)	(0.025)
Year=2005	0.100 *	0.101 **	-0.007 **	0.093 *	0.101 **	0.098 *	-0.096 **	0.106
	(0.047)	(0.047)	(0.002)	(0.047)	(0.046)	(0.05)	(0.048)	(0.041)
Industry Dummies	+	+	+	+	+	+	+	+
Country Dummies	+	+	+	+	+	+	+	+
N	6134	6134	6134	6134	6134	6134	6134	6134
R^2	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25

Table 7
Corporate Governance and Firm Valuation: Robustness Checks

The table shows robustness checks to regressions in table 4. The CG Index Deviation from Country Average is a firm CG score minus the country-average CG score. Sales growth is the growth of sales and proxies for investment opportunities. External financing is the difference between asset growth and ROE/(1-ROE). Leverage is the ratio of the sum of long term and short term debt to assets The CG minimum score is the minimum score of the CG scores in the country. The CG maximum score is the maximum score of the CG scores in the country. Board size is the board size of the firm based on the classification in the ISS data. The Industry CG score is the average CG score for each industry (averaged across firms in different countries). The CG Index Deviation from Industry Score is the firm CG index above the industry CG score. The ADR dummy takes value 1 if the firm has a ADR and 0 otherwise. Country, industry, and year fixed effects are used in all the regressions. *,**,*** indicates significance at the 10%, 5%, and 1% levels respectively. Standard errors are clustered at the country level.

Variable	Balanced sample	Excluding countries with few observations	Board size
Adjusted CG Index	0.027 ***	0.030 ***	0.029 ***
	(0.008)	(0.007)	(0.007)
CG Country Index	0.006	0.009	0.011
	(0.02)	(0.02)	(0.021)
Log Sales	-0.113 ***	-0.113 ***	-0.110 ***
	(0.036)	(0.027)	(0.026)
Sales Growth	0.413 ***	0.354 ***	0.327 ***
	(0.101)	(0.094)	(0.095)
External Financing	-0.006 **	-0.007 **	-0.007 **
	(0.002)	(0.002)	(0.002)
Leverage	-0.004 *	-0.005 *	-0.005 *
	(0.002)	(0.002)	(0.002)
Board Size			-0.005
			(0.006)
Dummy for ADRs	0.162 ***	0.161 ***	0.162 ***
	(0.05)	(0.05)	(0.05)
Year=2004	0.033	0.048	0.053
	(0.04)	(0.04)	(0.04)
Year=2005	0.059	0.075	0.079
	(0.05)	(0.05)	(0.05)
Industry Dummies	+	+	+
Country Dummies	+	+	+
N	5183	6043	6134
R^2	0.27	0.27	0.25

Table 8
Corporate Governance and Firm Valuation: GMM estimations with lagged dependent variable

The table shows robustness checks to regressions in table 3. We include a lag of Tobin's Q in all regressions. The regression is estimated using the GMM difference estimator developed by Arellano and Bond (1991). All explanatory variables are treated as predetermined variables, and we use all available lags of these variables as instruments. We exclude observations with q>25 or q<0.5 (roughly corresponding with top and bottom 1 percentile). This drops 18 observations. The CG index is the firm CG score. The Country CG index is the country minimum standards CG score. The Country Adjusted CG Index is a firm CG score minus the Country CG score. Log sales is the natural logarithm of total sales. Sales growth is the growth of sales and proxies for investment opportunities. External financing is the difference between asset growth and ROE/(1-ROE). Year fixed effects are used in all the regressions. The unobserved firm effects included in the regression specification drop out because the regression is estimated in first differences. We also report the serial correlation specification tests. *,**,*** indicates significance at the 10%, 5%, and 1% levels respectively.

	CG index	Country adjusted CG index
	(1)	(2)
Lagged Tobin's Q	0.123*	0.121*
	(0.071)	(0.070)
Log sales	-0.831	-0.858
	(0.687)	(0.679)
Sales growth	-1.126**	-1.124**
	(0.469)	(0.499)
External financing	0.047	0.052
	(0.040)	(0.042)
CG index	0.234***	
	(0.091)	
Adjusted CG index		0.212**
		(0.091)
Country CG index		0.020
		(0.555)
p-value of AR(1) test	0.00	0.00
p-value of AR(2) test	0.25	0.25
Year-fixed effects	Yes	Yes
Unobserved firm-specific effects	Yes	Yes
Number of firms	4669	4669
N	7795	7795

Table 9
Corporate Governance and Financial Dependence

The table shows OLS regressions with Tobin's Q as dependent variable for the sample period 2003-2005. The Adjusted CG Index is the difference between the firm level CG Index and the country-level CG Country Index. Country CG Index is the equally weighted sum of the attributes that are accepted by all firms in a given country. Log Sales is the logarithm of net sales. Sales growth is the growth of sales and proxies for investment opportunities. External financing is the difference between asset growth and ROE/(1-ROE), following Demriguc-Kunt and Maksimovic (1998). Leverage is the ratio of the sum of long term and short term debt to assets. The ADR dummy takes value 1 if the firm has a ADR and 0 otherwise. Tobin's Q is measured as the ratio of market to book value of assets. Financial dependence is the measure of external financial dependence developed by Rajan and Zingales(1998) but computed at the firm level. For each firm, we compute financial dependence as the median value of financial dependence of a closely matched sample of the universe of US listed firms. We match firms on the basis of sales and 2-digit SIC industry codes. External financial dependence is computed as the difference between capital expenditures and cash flow divided by capital expenditures. We delete financial firms (SIC code 6) from the regressions as financial dependence measures for these firms are not comparable to non-financial firms. The regressions include country and industry fixed effects. Standard errors are clustered at the country level. *,**,*** indicates significance at the 10%, 5%, and 1% levels respectively.

Adjusted CG Index	0.030 ***
	(0.007)
Country CG Index	0.011
	(0.020)
Financial dependence	-0.016
	(0.021)
Adjusted CG Index * Financial dependence	0.009 **
	(0.004)
Log Sales	-0.113 ***
	(0.026)
Sales Growth	0.327 ***
	(0.099)
External Financing	-0.008 ***
	(0.003)
Leverage	-0.005 **
	(0.002)
Dummy for ADRs	0.160 ***
	(0.049)
Year=2004	0.057
	(0.034)
Year=2005	0.070
	(0.051)
Industry Dummies	+
Country Dummies	+
N	5609
R^2	0.26

Table 10
Corporate Governance and Firm Valuation: Reverse Causality

The results of OLS and IV fixed effect regressions of firm level CG scores. Sales growth is growth of sales over the previous year and proxies for investment opportunities. External financing is defined as the difference between growth of assets and ROE/(1-ROE).). Leverage is the ratio of the sum of long term and short term debt to assets The dummy for ADR takes value 1 if the firm has an ADR. Tobin's Q is measured as the ratio of market to book value of assets. In the IV regressions oil price is used as IV for Q. Oil price data is obtained from the IFS statistics and is defined as ratio of the Brent UK oil price and purchasing power index (PPI) to create an index of global oil prices. The beta's used in the IV regressions are the sensitivity of each industry Tobin's Q to oil prices. The beta's are reported in the Appendix 2. The regressions include country and industry fixed effects. Standard errors are clustered at the country level. *,**,*** indicates significance at the 10%, 5%, and 1% levels respectively.

	Whole Sample	Beta> Median Beta Oil	Energy	Whole Sample	Beta> Median Beta Oil	Energy
	Ordinary Least Squares			Two Stage Least Squares		
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Log Sales	0.024	0.055	0.155	0.698	0.788	0.255
	(0.041)	(0.048)	(0.12)	(0.449)	(0.709)	(0.325)
Sales Growth	0.283	0.763	-0.572	-1.909	-1.413	-0.939
	(0.329)	(0.527)	(0.66)	(1.53)	(2.35)	(1.34)
Investment Opportunities	-0.003	-0.001	0.003	0.040	0.005	0.003
	(0.005)	(0.004)	(0.001)	(0.028)	(0.011)	(0.001)
Leverage	-0.001 *	-0.003 **	0.008	0.028	0.023	0.017
	(0.002)	(0.002)	(0.009)	(0.021)	(0.014)	(0.033)
Dummy for ADRs	0.242 ***	0.232	-0.675	-0.761	-0.821	-0.702
	(0.09)	(0.14)	(0.50)	(0.83)	(1.06)	(0.454)
Q	0.113 ***	0.079	0.012	6.173	4.778	0.633
	(0.024)	(0.052)	(0.37)	(4.13)	(4.260)	(1.95)
Beta*Log Oil Price (first stage)				1.703 ***	1.819 ***	
				(0.424)	(0.407)	
Log Oil Price (first stage)						1.015 ***
						(0.258)
Country Dummies	+	+	+	+	+	+
Industry Dummies	+	+	–	+	+	–
F-test of excluded instruments (p-value)				0.000	0.000	0.000
N	6134	2208	205	6134	2208	205
R^2	0.7	0.74	0.72	0.26	0.25	0.25

Table 11
Corporate Governance and Firm Valuation: Matched Sample

The table shows the results using the difference between the governance scores of a non-US firm and a matched-US firm governance as a firm-specific measure of country level governance. US and non-US firms are matched by year on the basis of size and industry. Gap is the difference between the governance score of the non US firm and the governance score of the matched US firm. The Gap Adjusted CG Index is the deviation of the CG index from the average country level gap. The Country Gap is the average of the Gap at the country level. The Country Gap Adjusted CG index is the difference between the CG Index and the Country Gap. In regression (2), we exclude firms with ADRs. Regressions do not include US firms. The regressions include country and industry fixed effects. Standard errors are clustered at the country level. *,**,*** indicates significance at the 10%, 5%, and 1% levels respectively.

	US Matched	Without ADRs	Country Gap
Variable	(1)	(2)	(3)
Gap Adjusted CG Index	0.021 **	0.037 *	
	(0.008)	(0.019)	
Gap	0.018	0.032	
	(0.012)	(0.024)	
Country Gap Adjusted CG Index			0.027 ***
			(0.007)
Country Gap			0.087 ***
			(0.026)
Log Sales	-0.096 ***	-0.122 ***	-0.096 ***
	(0.023)	(0.032)	(0.023)
Sales Growth	0.230 ***	0.303 ***	0.223 ***
	(0.079)	(0.082)	(0.079)
External Financing	-0.005 **	-0.003 **	-0.005 **
	(0.002)	(0.002)	(0.002)
Leverage	-0.006 **	-0.007 **	-0.006 **
	(0.002)	(0.002)	(0.002)
Dummy for ADRs	0.147 ***		0.139 ***
	(0.05)		(0.05)
Year=2004	0.109 **	0.136 **	0.098 ***
	(0.02)	(0.03)	(0.02)
Year=2005	0.138 ***	0.161 ***	0.143 ***
	(0.03)	(0.03)	(0.02)
Industry Dummies	+	+	+
Country Dummies	+	+	+
N	4830	3496	4830
R^2	0.24	0.24	0.24

Appendix 1
Governance Laws and Practices

This table lists information about default and mandatory rules on governance attributes for countries in our sample and reports the percentage of firms in the country that have included these governance provisions in the charter or bylaws of the company. A 1 indicates that the country has adopted the rule, and a 0 indicates that the rule is not in place in the country. No dual class shares with unequal voting rights implies one share-one vote. Data on default and mandatory rules are from Spamann (2006). Default rules are rules that firms can elect to opt out on. Data on actual practices are from ISS. Data refer to the year 2005 only.

Country	One Share-One Vote Mandatory Rule (Spamann)	One Share-One Vote Default Rule (Spamann)	No Dual class shares with unequal voting rights (ISS)	Cumulative Voting Mandatory Rule (Spamann)	Cumulative Voting Default Rule (Spamann)	Cumulative Voting (ISS)
Australia	0	1	95%	0	0	0%
Austria	0	1	100%	0	0	0%
Belgium	0	1	97%	0	0	1%
Canada	0	1	72%	0	0	4%
Denmark	0	1	70%	0	0	1%
Finland	0	1	69%	0	0	2%
France	0	1	40%	0	0	94%
Germany	1	1	100%	0	0	0%
Greece	1	1	100%	0	0	0%
Hong Kong	0	1	100%	0	0	97%
Ireland	0	1	7%	0	0	100%
Italy	0	1	99%	0	0	10%
Japan	0	1	100%	0	1	0%
Netherlands	0	1	77%	0	0	1%
New Zealand	0	1	100%	0	0	2%
Norway	0	1	97%	0	0	0%
Portugal	0	1	88%	0	0	40%
Singapore	0	1	99%	0	0	36%
Spain	0	1	95%	1	1	64%
Sweden	0	1	45%	0	0	0%
Switzerland	0	1	99%	0	0	0%
UK	0	1	99%	0	0	0%
USA	0	1	96%	0	0	9%

Appendix 2
Sensitivity of Industry Tobin's Q to Oil Price

Industry Group	β
Automobiles & Components	-0.76
Banks	0.24
Capital Goods	1.69
Commercial Services & Suppliers	-0.58
Consumer Durables & Apparatus	-0.37
Diversified Financials	0.22
Energy	0.37
Food & Staples Retailing	1.10
Food, Beverage & Tobacco	0.62
Health Care Equipment	0.42
Hotels & Restaurants	0.06
Household & Personal Products	-0.01
Insurance	0.35
Materials	-0.05
Media	-1.31
Pharmaceuticals & Biotechnology	6.93
Real Estate	-0.69
Retailing	0.00
Semiconductors & Semiconductors	4.34
Software & Services	0.90
Technology Hardware & Equipment	-0.72
Telecommunication Services	0.36
Transportation	0.14
Utilities	0.55