

Does Governance Travel Around the World? Evidence from Institutional Investors*

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Abstract

We examine whether institutional investors affect corporate governance by analyzing institutional holdings in companies from 23 countries during the period 2003-2008. We find that firm-level governance is positively associated with international institutional investment. Changes in institutional ownership over time positively affect subsequent changes in firm-level governance, but the opposite is not true. Foreign institutions and independent institutions drive governance improvements outside of the U.S. The origin of the institution matters, as institutions in countries with strong shareholder protection are more effective in promoting good governance than are institutions from countries with weak shareholder protection. The shareholder protection of the country where the firm is located also matters, with foreign institutions playing a crucial role in countries with weak shareholder protection. Institutional investors affect not only which corporate governance mechanisms are in place, but also outcomes. Firms with higher institutional ownership are more likely to terminate poorly performing CEOs and exhibit improvements in valuation over time. Our results suggest that institutional investors promote good corporate governance practices around the world.

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1. Introduction

There has been a dramatic reduction in barriers to international investment. Financial globalization and liberalization have contributed to a reduction in the firms' cost of capital (Bekaert and Harvey (2000)). Also, financial globalization has led many firms, particularly those that need access to global capital markets, to adopt better corporate governance practices. However, there is also evidence on the limits of financial globalization, since corporate insiders and controlling shareholders are likely to pursue their own interests and ownership structures (Stulz (2005)).

In this paper, we study the role of institutional investment as a channel for promoting better governance and convergence in governance practices across countries. Institutional holdings have been increasing globally, but we know little about their influence on corporations worldwide. Gillan and Starks (2003) highlight the special role that institutional investors, in particular foreign institutional investors, play in prompting change in corporate governance practices in other countries. Ferreira and Matos (2008) find that foreign institutional ownership is positively associated with firm value and performance outside of the U.S., but there is no direct evidence that foreign investors are able to change corporate governance mechanisms and outcomes in other countries.

We examine whether international institutional investors export good governance to other countries. Thus, we investigate the role of both domestic and foreign institutional investors. We also analyze whether the legal system of the institution's home country matters. We ask if institutional money managers from countries with stronger investor protection export good governance practices through their overseas investment decisions. We also examine the effect of a firm's origin country's legal regime. Firms located in countries with weaker investor protection

are likely to benefit more from institutional investment, particularly from investments by foreign institutions that are located in countries with stronger investor protection. For example, a large proportion of U.S. corporate boards had voluntarily elected a majority of “independent” directors even before the Sarbanes-Oxley Act of 2003 made this governance attribute a requirement. U.S. institutional investors might influence firms overseas to move in this direction, either directly, by influencing the management and using voting rights (“voice”), or indirectly, by their decisions to buy or threaten to sell their shares (“voting with their feet”).

To illustrate how the origin country of the institutional money manager can matter, consider a company based in a civil-law country, say Germany. This firm is owned by two institutional investors, one from France and the other from the U.K. France scores lower than the U.K. according to most indicators that measure investor protection and the quality of institutions, so the French institutional investor might be less willing to change the governance of the German firm than would the U.K.-based investor.

Anecdotal evidence supports the notion that foreign shareholders, in particular those based in U.K., lead the changes in governance of German firms. An example is that of a U.K.-based hedge fund, The Children Investment Fund (TCIF). In 2005 the TCIF forced the management of Deutsche Börse to abandon a takeover bid for the London Stock Exchange, which led to the resignation of both chief executives and the chair of the supervisory board (Economist (2008)). TCIF also had a leading role in the 2007 takeover of ABN AMRO, a Dutch bank. The takeover was initiated by an open letter to ABN AMRO that proposed five resolutions aimed at forcing the bank to spin off its different lines of business, which would then lead to bids by foreign banks (Economist (2007)). Furthermore, activist funds with even small stakes can affect governance. When Atticus, an activist hedge fund with just 1% of Barclays Bank's shares, stated

publicly that Barclays should abandon its bid for ABN AMRO, there was a significant stock price reaction (Financial Times (2007)). A study by Becht, Franks, and Grant (2008) provides related evidence on (foreign) hedge-fund investor activism in continental Europe.

Foreign and independent institutions are often credited with taking a more active stance, while other institutions that have business relations with local corporations may feel compelled to be loyal to management. For example, Business Week (2006) reported that Fidelity Investments was more aggressive on governance issues in Europe, but relatively acquiescent in the U.S. where it manages several corporate pension accounts (Davis and Kim (2006)). Further, empirical studies by Chen, Harford, and Li (2007) and Ferreira and Matos (2008) suggest that independent investment advisers and mutual funds are active monitors.

We examine the relation between stock-level institutional holdings and corporate governance in 23 countries during the period 2003-2008. Although we focus on non-U.S. companies, we also repeat our analysis for U.S. companies. Our sample comprises more than 2,000 non-U.S. firms (5,000 U.S. firms). We use a composite index of 41 governance attributes, which we obtain from RiskMetrics (formerly Institutional Shareholder Services). In their study, Alexander, Chen, Seppi, and Spatt (2008) find that RiskMetrics is the leading proxy advisory firm in the world, and that its recommendations wield considerable influence in determining corporate voting outcomes. Following recent literature (e.g., Gompers, Ishii, and Metrick (2003) and Aggarwal, Erel, Stulz, and Williamson (2009)), we create a governance index. This index provides a firm-level governance measure that is comparable across countries. The 41 firm-level governance attributes in the index are those most studied in the related literature, and incorporates measures of board structure, anti-takeover provisions, auditor selection, and compensation and ownership structure.

We find a positive relation between firm-level governance and institutional ownership. Moreover, we find that changes in institutional ownership over time drive changes in firm-level governance, but that the opposite does not hold true. Thus, the direction of the effect is from institutional ownership to subsequent changes in governance, and not from governance to institutional ownership. We also find that foreign investors play a predominant role in helping to improve firm-level governance of non-U.S. corporations over time. U.S. institutions, and more generally those institutions based in countries with strong protection for minority shareholder rights, are the main drivers of improvement in governance outside of the U.S., while institutions from countries with weak shareholder rights are not. Our analysis shows that independent institutions that are unlikely to have business ties with the invested firm are the main drivers of governance improvements, rather than non-independent (grey) institutions.

The extent of shareholder protection in the country where the firm is located also matters. We find that domestic institutions play a crucial role in improving the governance of firms located in countries with strong shareholder protection but in countries with weak shareholder protection, the main role in improving governance is played by foreign institutions, particularly those that come from countries with strong shareholder protection. Further, we find that domestic institutions play a predominant role in U.S. firms. Our analysis shows that the legal environment of both the institution and the firm, shape the effectiveness of monitoring by institutional shareholders. These results are robust to using different proxies for country-level shareholder protection. Our findings indicate that international portfolio investment contributes to the convergence of good corporate governance across countries.

We also examine the impact of institutional investors on some specific governance provisions that have received more attention in the literature and among policy makers. We focus

on board structure, the choice of firm auditors, and the existence of multiple share classes. We find that foreign, but not domestic, institutional ownership enhances the presence of independent directors, and makes it less likely that a firm has a large board and adopts a staggered board provision. This evidence is important, because governance indexes have been criticized for not capturing what really matters in corporate governance. Bebchuk, Cohen, and Ferrell (2009), and Daines, Gow, and Larcker (2008) suggest adopting alternative metrics and identifying the most important governance attributes. Bebchuk and Hamdani (2009) highlight the importance of accounting for ownership structure, which we do in this study by examining institutional ownership and controlling for closely held ownership. In short, we can disagree with the governance attributes included and the index calculation. However, if our index were to convey no information, we would simply find that the index is not related to institutional ownership.

We ask if institutional ownership has real effects on corporate decision making, rather than just on adopted governance mechanisms. We specifically examine whether the presence of institutional investors improves institutional investors' ability to identify and terminate poorly performing CEOs. Institutional investors can force CEO turnover through activism, for example, by voicing their dissatisfaction over bad firm performance, and by influencing the decision by the board of directors to oust the CEO (Gillan and Starks (2003)). Or institutions can have an indirect influence by trading their shares. For instance, institutional investors may act as a group by “voting with their feet” if the CEO is not terminated when firm performance is poor (Parrino, Sias, and Starks (2003)). We find that CEO turnover is more sensitive to low abnormal stock returns when institutional ownership is high.

We also test whether changes in institutional ownership lead to changes in company valuations as measured by Tobin's Q ratios. We find that changes in institutional ownership are

positively associated with future changes in firm value. However, the opposite is not true. These findings on corporate outcomes also contribute to relieving concerns with the use of a governance index.

We perform a variety of robustness checks on our primary findings. In particular we address omitted-variable and endogeneity concerns. We use firm fixed effects to address the concern that institutional ownership might be related to some unobserved firm characteristics that explain governance. We use an instrumental variables method to address the concern that institutions might be attracted to firms that have higher governance (Giannetti and Simonov (2006)). For example, investors domiciled in countries with strong legal environments could systematically avoid weakly governed firms in countries with weak legal environments (Kim, Sung, and Wei (2008), Leuz, Lins, and Warnock (2008)). Our results are robust with a casual relation from institutional ownership to corporate governance.

Our paper connects two strands of the literature. The first focuses on the value relevance of firm-level corporate governance. Becht, Bolton, and Roell (2003) and Dennis and McConnell (2003) provide reviews of these studies. For the U.S., authors show that firm value is related to indexes of firm-level governance (e.g., Gompers, Ishii, and Metrick (2003), Bebchuk and Cohen (2005), Bebchuk, Cohen, and Ferrell (2009)). Outside of the U.S., there is also evidence of a positive relation between governance and firm value, and that minority shareholders benefit from better governance (e.g., Doidge, Karolyi and Stulz (2004), Durnev and Kim (2005), Dahya, Dimitrov, and McConnell (2008), Aggarwal et al. (2009)).

The second strand of the literature focuses on the governance role played by institutional investors. Gillan and Starks (2007) survey the evolution of institutional shareholder activism in the U.S. from the value effect of shareholder proposals to the influence on corporate events.

Studies find that institutional investors affect CEO turnover (Parrino, Sias and Starks (2003), antitakeover amendments (Brickley, Lease, and Smith (1988), executive compensation (Hartzell and Starks (2003), and M&As (Gaspar, Massa, and Matos (2005) and Chen, Harford and Li (2007). Bushee, Carter, and Gerakos (2008) find evidence that ownership by government-sensitive institutions in the U.S. is associated with future improvements in shareholder rights. Recent papers study activism by individual funds, such as pension funds or hedge funds (Brav, Jiang, Partnoy, and Thomas (2008) and Klein and Zur (2008)).

Outside of the U.S., there is little evidence on the governance role played by institutional investors. In a survey of institutional investors, McCahery, Sautner, and Starks (2008) find that corporate governance is of importance to institutional investors, and that many institutions are willing to engage in shareholder activism. There are several studies that examine the revealed preference of institutional investors (but not their governance role) in a single destination country (Japan in Kang and Stulz (1997), and Sweden in Dahlquist and Robertsson (2001) and Giannetti and Simonov (2006)); from a single origin country (the U.S. in Aggarwal, Klapper and Wysocki (2005) and Leuz, Lins and Warnock (2008)); and using country-level institutional holdings or blockholdings (Chan, Covrig, and Ng (2005), Li, Moshirian, Pham, and Zein (2006)). We complement evidence that cross-border M&A transactions frequently target companies in countries with low shareholder protection (Rossi and Volpin (2004), Bris and Cabolis (2008)), and that international investors facilitate cross-border M&A (Ferreira, Massa, and Matos (2009)). In summary, we find that institutional ownership, in particular by foreign institutions, affects the corporate governance mechanism and outcomes and promote good governance worldwide.

The paper proceeds as follows. In Section 2 we describe the firm-level corporate governance attributes, the institutional holdings data, and other firm-specific variables. In Section 3, we

examine the relation between institutional investment and firm-level corporate governance. In Section 4, we investigate whether institutional ownership affects corporate governance outcomes. In Section 5, we conduct robustness checks. Section 6 concludes.

2. Data

In this section, we describe the sample of firms and variables used in this study. We obtain firm-level institutional ownership and corporate governance for 23 countries for the period 2003-2008. In our main tests we focus on non-U.S. firms. Table 1 shows that the total number of non-U.S. firms with both governance and institutional ownership data varies from a minimum of 1,556 in 2004 to a maximum of 2,218 in 2006. In 2008, the non-U.S. firms in our sample account for 71% of the world market capitalization, excluding the U.S. In the U.S., the number of firms with both governance and institutional ownership data varies from a minimum of 4,624 in 2008 to a maximum of 5,202 in 2005, thus accounting for approximately 96% of the U.S. market capitalization in 2008.

2.1. Firm-Level Governance

The data source for firm-level corporate governance attributes is RiskMetrics and our sample of governance attributes covers the five-year period from 2004 to 2008. The information for non-U.S. companies is available starting in 2003 but our sample period starts in 2004 because coverage is better. Also, beginning in 2004, there are fewer missing observations. RiskMetrics covers U.S. firms if they are included in any of the following indexes: the Standard and Poor's 500, the Standard and Poor's Small Cap 600, and the Russell 3000. RiskMetrics also covers non-U.S. firms that are included in the major stock indexes, such as the MSCI EAFE, which covers

1,000 stocks in 21 developed countries outside North America; the FTSE All Share Index, which consists of the FTSE 100, FTSE 250, and FTSE SmallCap indexes; the FTSE All World Developed index, which includes the largest firms in the developed markets; and the S&P/TSX index of the Toronto Stock Exchange. RiskMetrics compiles governance attributes for each firm by examining the firm's regulatory filings, annual reports, and the companies' websites. For each attribute, RiskMetrics has set a minimally acceptable level of governance for evaluating whether a firm meets the minimum level. Aggarwal et al. (2009) describe the data in more detail.

We examine 41 firm-level governance attributes that are common to both U.S. and non-U.S. firms. These attributes cover four broad sub-categories: (1) *Board* (24 attributes), (2) *Audit* (three attributes), (3) *Anti-takeover provisions* (six attributes), and (4) *Compensation and Ownership* (eight attributes). *Board* attributes capture the aspects of the board of directors such as board independence, composition of committees, size, transparency, and how the board conducts its work. *Audit* includes questions on the independence of the audit committee and the role of auditors. *Anti-takeover Provisions* are drawn from the firm's charter and by-laws and refer to dual-class structure, role of shareholders, poison pills, and blank check preferred. *Compensation and Ownership* deals with executive and director compensation on issues related to options, stock ownership and loans, and how compensation is set and monitored.

In Appendix A we provide a list of the 41 governance attributes we use in our study. We use the 41 individual attributes to create a composite governance index, GOV_{41} , for each company. GOV_{41} assigns a value of one to each of the 41 governance attributes if the company meets minimally acceptable guidelines on that attribute, and zero otherwise. It is common in the literature to use additive indexes (see, for instance, Gompers, Ishii, and Metrick (2003); Bebchuk, Cohen, and Ferrell (2009)). We choose to express our index as a percentage. If a firm

satisfies all 41 governance attributes, then its GOV_{41} index will be equal to 100%.¹ Figure 1 and Table 2 show that on average, the countries with the highest GOV_{41} in 2008 are Canada (72.8%), the U.K. (59.3%), and Switzerland (56.6%). A GOV_{41} index of 72.8% for Canada implies that on average, Canadian firms meet the minimum acceptable criteria for 72.8% of the 41 governance attributes studied (i.e., about 30 of the 41 attributes). The countries with the lowest GOV_{41} are Greece (35.9%), Portugal (36.2%), and Belgium (37.8%). The governance level in the U.S. is high at 62.2%. However, we note that the U.S. sample is more extensive than the international sample because it includes both large and small firms. The last column of Table 2 shows the average of the yearly percentage change in GOV_{41} for each country. For every country except New Zealand, on average, the governance index has increased. Thus, over our sample period we see that corporate governance practices improve around the world. We observe the largest positive changes for Sweden (5.1%), The Netherlands (4.5%), and the U.K. (3.5%). In the U.S., some firm-level governance attributes are mandated after the Sarbanes-Oxley Act of 2003, and so we also observe an improvement in GOV_{41} .

2.2. Institutional Ownership

We use institutional ownership for the period 2003 to 2007 because we study the effect of institutional ownership (one-year lagged) on the future level of corporate governance from 2004 to 2008. Institutional holdings data are from the FactSet/LionShares database. The institutions covered in the database are professional money managers such as mutual funds, pension funds,

¹ There are only a few missing observations for some attributes in the data for the time period in our sample. We use the Boardex database to fill in the missing observations for board independence, board size, and chairman-CEO duality. For the observations that are still missing, we use the same value as the previous year. BoardEx is a leading database on board composition and compensation of publicly listed firms, and includes detailed biographic information on individual executives and board members of approximately 10,000 firms in nearly 50 countries (see Fernandes, Ferreira, Murphy, and Matos (2008) for details).

bank trusts, and insurance companies. FactSet/LionShares collects ownership data directly from public sources such as national regulatory agencies, stock exchanges, industry directories, and company proxies, as described in Ferreira and Matos (2008). In calculating institutional ownership, we include ordinary shares, preferred shares, American Depositary Receipts (ADRs), Global Depositary Receipts (GDRs), and dual listings.

We define *IO_TOTAL* as the sum of the holdings of all institutions in a firm's stock divided by the stock's total market capitalization at the end of each calendar year. Following Gompers and Metrick (2001), we set institutional ownership variables to zero if a stock is not held by any institution in FactSet/LionShares.² We separate total institutional ownership in several ways. We first consider the nationality of the institution. Domestic Institutional Ownership (*IO_DOM*) is the sum of the holdings of all institutions domiciled in the same country in which the stock is listed as a percentage of the firm's total market capitalization. Foreign institutional ownership (*IO_FOR*) is the sum of the holdings of all institutions domiciled in a country different from the origin country of the stock, expressed as a percentage of the firm's market capitalization. We split foreign institutional ownership into ownership by U.S.-based institutions (*IO_FOR_US*) and non-U.S. institutions (*IO_FOR_NUS*). And we partition ownership according to the legal origin of the institution's home country: Common Institutional Ownership (*IO_COMMON*) or Civil Institutional Ownership (*IO_CIVIL*).

Figure 2 and Table 3 show that the countries other than the U.S. that have the highest average total institutional ownership in 2007 are Canada (59.1%), Sweden (36.7%), and the U.K. (37.9%). We find the lowest average institutional ownership in New Zealand (9.0%), Portugal (10.3%), and Hong Kong (12.7%). In 2007, the average total institutional ownership of non-US

² When we repeat the empirical analysis using only firms with positive holdings, our main results are not affected.

firms in our sample is 27% in 2007.³ On average, U.S. firms have the highest total institutional ownership, 57.8% as of 2007. The average institutional ownership increases in all 23 countries during 2003-2007. The average yearly change in total institutional ownership is 2.4 percentage points. We observe the largest average yearly increase in institutional ownership in the U.K. (5.7 percentage points), The Netherlands (4.6 percentage points), and Canada (3.9 percentage points). The smallest increases occur in Portugal (0.7 percentage points), Italy (1.1 percentage points), Norway (1.1 percentage points), and Sweden (1.1 percentage points).

Table 3 shows that domestic institutions account for more than half of institutional ownership in several countries, including the U.S. (87%), the U.K. (70%), Canada (60%), Sweden (60%), and Denmark (53%). But in most countries, the holdings of foreign-based investors exceed those of domestic institutions. We find the highest foreign ownership in small countries such as, New Zealand (92%) and Ireland (89%). The correlation between foreign and domestic institutional ownership is 0.42. In ten of the 22 non-U.S. countries, institutions based in common-law countries, account for more than half of total institutional ownership. This ownership pattern is true both for firms located in common-law countries such as the U.K. or Canada, but also for firms located in civil-law countries, such as The Netherlands, which seem to attract investment from institutions whose management companies are based in common-law countries.

2.3. Firm Characteristics

We obtain firm characteristics from Datastream/Worldscope. We use several firm-specific control variables in our regressions: log of total assets in U.S. dollars (*SIZE*), two-year annual

³ Institutional ownership is slightly higher for our sample of firms compared to other studies (e.g., Ferreira and Matos (2008)) because our sample covers larger firms for which governance data is available.

sales growth in U.S. dollars (*SGROWTH*), debt to assets (*LEV*), cash holdings to assets (*CASH*), capital expenditure to assets (*CAPEX*), equity market to book (*MB*), return on assets (*ROA*), R&D expenditures to assets (*R&D*), property, plant, and equipment to assets (*PPE*), foreign sales to total sales (*FXSALE*), number of analysts following a firm (*ANALYST*), percentage of shares closely held (*CLOSE*), and whether a firm is cross-listed on a U.S. exchange (*ADR*). We winsorize the variables, *SGROWTH*, *LEV*, *CAPEX*, *MB*, *ROA*, *R&D*, and *FXSALE*, at the upper and lower 1% levels. We also use two other firm characteristics as instruments for institutional ownership: Morgan Stanley Capital International World index membership (*MSCI*) and dividend dummy (*DIV*). In Appendix B we provide a detailed description of the variables we use in our study.

3. Institutional Ownership and Governance

To examine whether institutional investors push for better governance, we use panel regressions with firm-level governance as the dependent variable. We further investigate the relation by looking into the sample of firms from civil-law versus common-law countries. We next check whether the causality runs from institutional ownership to governance using regressions on changes. In a final subsection, we use individual governance attributes.

3.1. Panel Regression Tests

In these tests we use the firm-level governance index, GOV_{4t} , as the dependent variable. The explanatory variable of interest is institutional ownership. All independent variables are lagged by one year so that we can examine the relation between the explanatory variables and future governance. Therefore, if GOV_{4t} is for period t , each of the independent variables is for period $t-$

1. Consistent with the literature, we include several firm-level control variables that are related to governance.⁴ For example, we include *SIZE* because other studies show that due to economies of scale, larger firms have better governance. Industry and country characteristics also affect the investment in firm-level governance (see, e.g., Doidge, Karolyi, and Stulz (2007)). To account for industry and country sources of heterogeneity, we include industry and country fixed effects in each regression. We also include year fixed effects to account for the positive time trend in governance over the sample period.⁵ We correct standard errors for clustering of observations at the country level.

Table 4 reports the results of the panel regression of the governance index. The sample contains only non-U.S. companies. The regression estimates in column (1) of Table 4 show a positive and significant association between total institutional ownership and governance. The table also shows that firms with ADRs, firms with better performance (*ROA*), growth firms (*MB*), firms with higher leverage (*LEV*), and firms followed by more analysts have better governance. The percentage of closely held shares is negatively related to governance. The explanatory power of the models is high, with an R-square of 0.73.

Next, we analyze whether the positive relation between governance and institutional ownership is driven by the nationality of the institutional investor. In Table 4, column (2) uses institutional ownership by domestic investors (*IO_DOM*); column (3) uses foreign ownership (*IO_FOR*); and column (4) uses both domestic and foreign ownership in the same regression. The relation between domestic institutional ownership and governance is positive and significant, as is the relation between foreign institutional ownership and governance. However,

⁴ We obtain consistent results if we run the governance regressions without including any control variables. The results of these tests are available from the authors on request.

⁵ In unreported results, we find that our results are not affected if we also add the interactions of the country and year dummies to capture country-specific time trends.

when we use both domestic and foreign institutional ownership in the same regression, we find that foreign institutional ownership is positive and significant but domestic institutional ownership is no longer significant.

Our results show a strong positive relation between foreign institutional ownership and governance. Outside of the U.S., foreign institutions seem to be particularly important in improving governance. This result complements other studies' findings of an asymmetric effect of domestic compared to foreign-based institutions (see, e.g., Ferreira and Matos (2008)). The effect of foreign institutional ownership is economically significant. A ten percentage point increase in foreign institutional ownership is associated with a subsequent increase in the governance index of 0.35%, which represents nearly 20% of the average yearly governance change.

As a more general test, we condition institutional ownership on the legal regime of the country of origin of the institutional money manager. LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1998) argue that investor protection and corporate governance is stronger in common-law countries as opposed to civil-law countries. We classify institutional investors based on whether they are domiciled in common- (*IO_COMMON*) or civil- (*IO_CIVIL*) law countries. Columns (5)-(7) use ownership by institutions domiciled in common-law and civil-law countries. The coefficients for ownership by institutions from both common- and civil-law countries are positive and significant. However, when we use both *IO_COMMON* and *IO_CIVIL* in the same regression, column (7) shows that only the coefficient on *IO_COMMON* is positive and significant. We conclude that there is a positive association between firm-level governance and “governance at home” of investors holding a firm’s stock. This finding indicates that institutions “export” good governance across countries. Foreign institutions, in particular those that come

from countries with strong shareholder protection, seem to facilitate the convergence of corporate governance regimes around the world.

3.2. The Role of the Country's Legal Regime and Shareholder Rights

Shareholder rights in the country where the firm is located can also influence the role that institutional investors can play. We expect to find that the role of institutions, especially foreign ones, in prompting governance changes is more important in countries with weak shareholder protection. Therefore, to distinguish between firms located in countries with strong or weak shareholder protection, we estimate our panel regressions with governance as the dependent variable for subsamples based on shareholder protection. We use three proxies for shareholder protection: the legal regime of the country, anti-self dealing index from Djankov, LaPorta, Lopez-de-Silanes, and Shleifer (2008), and anti-directors index from La Porta et al. (1998) (as revised in Djankov et al. (2008)). Panel A of Table 5 shows that there are 4,133 observations for civil-law countries. Panel B of Table 5 shows 3,443 observations for common-law countries, excluding the U.S.

In Table 5, we find that the coefficient for total institutional ownership is positive for governance in firms based in both civil- and common-law countries (column (1) of Panel A and column (5) of Panel B, respectively). The most interesting finding is that domestic institutional ownership is the main driver of better governance in common-law countries (column (8) Panel B), but in civil-law countries (column (4), Panel A) the main driver is foreign institutional ownership. In fact, the foreign institutional ownership coefficient is positive and significant in civil-law countries, while the domestic institutional ownership coefficient is negative.

There are other differences between firms based in civil-law or common-law countries. For example, in civil-law countries, smaller firms have better governance, but in common-law countries, the opposite is true. In common-law countries, there is a statistically significant negative relation between closely held shares and governance, but for civil-law countries this relation is not significant.

We repeat the analysis above, but this time we use two other proxies for shareholder rights. Instead of splitting the sample based on legal regime, we now split the sample based on the median anti-director index or median anti-self dealing index. We do not report these results in a table, since the results are similar to those based on the civil- and common-law classification. The coefficients are positive and significant for domestic and foreign institutional ownership. However, when we use both domestic and foreign ownership in the same regression, for countries with weak shareholder protection the coefficient of domestic institutional ownership is negative and significant, while the coefficient for foreign institutional ownership is positive and significant. For countries with strong shareholder protection, the coefficient of domestic institutional ownership is positive and significant at the 5% level, while the coefficient for foreign institutional ownership is insignificant at the 5% level.

Our findings provide evidence that domestic institutions are associated with better corporate governance only if there is a strong legal environment in place. In countries with a weaker legal environment, domestic institutional money managers are more likely to have business ties to local corporations, to share the benefits of control, and to be more sympathetic to incumbent management (Gillan and Starks (2003), Stulz (2005), and Ferreira, Massa and Matos (2009)). In contrast, foreign institutions can exert pressure over local management. The positive relation between governance and foreign institutional ownership in civil-law countries suggests that

international investors promote the convergence of good corporate governance around the world.⁶

3.3. Does Institutional Ownership Drive Changes in Governance?

An important concern is whether causality runs from institutional ownership to governance or the reverse, since firms with expected governance improvements have the potential to attract institutional investors. This problem is accentuated by Leuz, Lins, and Warnock (2008) recent findings showing that U.S. investors avoid firms with governance problems when investing overseas. To address the direction of the causality, we study the relation between changes in institutional ownership and changes in governance.

Table 6 reports the results for regressions of changes in the governance index as the dependent variable and (lagged) changes in institutional ownership as the main explanatory variable. The dependent variable ΔGOV_{4I} is the change in the governance index from period t to $t-1$. The explanatory variable ΔIO_TOTAL is the change in total institutional ownership from period $t-2$ to $t-1$. We express all other independent variables in terms of changes; they are lagged one period relative to the governance index.⁷

In Table 6, column (1), the results show that the coefficient on ΔIO_TOTAL is positive and significant at the 10% level, implying that an increase in total institutional ownership leads to an increase in firm-level governance. Column (2) indicates that the coefficient on change in domestic ownership (ΔIO_DOM) is not significant. In contrast, the coefficient on the change in

⁶ For example, mutual fund families may be reluctant to engage in activism at firms that they may take as future clients for corporate-sponsored pension plans (Davis and Kim (2007)). Also, recent evidence from Sweden suggests that domestic pension funds affiliated with controlling shareholders limit a firm's openness to the market for corporate control (Giannetti and Laeven (2007)).

⁷ In unreported results, we obtain similar findings if we use the control variables in levels, rather than in changes.

foreign institutional ownership (ΔIO_FOR in column (3)) is positive and significant at the 5% level. Institutional holdings from common-law-based money managers (ΔIO_COMMON in column (4)) also carry a positive and significant coefficient. Although the coefficient on the change in civil-law ownership (ΔIO_CIVIL) is also positive and significant, the coefficient of ΔIO_COMMON is almost three times larger. These findings are indicative of the special role played by institutions that originate in countries with good governance, such as common-law countries. We note that these countries not only have strong country-level governance, but also strong firm-level governance (see Table 2).

Table 6 also reports that the coefficient of change in closely held shares ($\Delta CLOSELY$) is negative and statistically significant, but the coefficient of ΔADR is positive and significant. Therefore, these results suggest that governance improves in firms in which the percentage of closely held shares declines and in firms that cross-list on a U.S. exchange.

To examine the direction of the causality, we conduct the analysis in the reverse direction, using change in governance as the explanatory variable and change in institutional ownership as the dependent variable. We wish to determine whether institutional investors drive improvements in governance, or whether improvements in governance attract institutional investment. We estimate five different models, each of which uses a different dependent variable representing the changes in institutional investment from $t-1$ to t : ΔIO_TOTAL , ΔIO_DOM , ΔIO_FOR , ΔIO_COMMON , and ΔIO_CIVIL . The independent variables in each specification are the change in governance during $t-2$ to $t-1$ (ΔGOV_{4t}), and the firm-specific control variables (coefficients not shown) used in Table 6.

Table 7 reports the results of the reverse changes regression. We find that the coefficient on the change in governance is statistically insignificant or even negative in some cases.⁸ Thus, the direction of the effect is from institutional ownership to governance and not from governance to institutional ownership.⁹

Our results are consistent with the survey findings of McCahery, Sautner, and Starks (2008), that institutions play an active role in pushing firms to improve their governance. Overall, the findings indicate that an increase in institutional ownership leads to improved governance, and not vice versa.

3.4. Individual Governance Attributes

The composite governance index (GOV_{41}) captures overall firm-level governance and is comparable across countries. However, we are also interested in examining the impact of institutional investors on particular governance mechanisms. Governance indexes have been criticized, and some studies have tried to identify the most important individual attributes (e.g., Bebchuk, Cohen, and Ferrell (2009); and Daines, Gow, and Larcker (2008)). Following Aggarwal et al. (2009), we examine the seven individual governance attributes that have been most closely studied in the literature and among policy makers. We focus on main board characteristics of board independence, board size, CEO/chairman separation, and no staggered

⁸ Further, in unreported regressions, as an alternative to yearly changes, we split our sample period in two and regress changes in governance over 2006-2008, on changes in institutional ownership over the initial period, 2003-2005. We find similar results that lagged changes in institutional ownership drive changes in governance and not in the opposite direction.

⁹ The number of observation is lower in Table 7, where the dependent variable is institutional ownership change, compared to Table 6, where the dependent variable is governance change, because we do not have institutional ownership data for 2008 and governance data for 2003. However, the results are consistent when we run the regression in Table 6 with the smaller sample used in Table 7.

boards; the independence of firm auditors, and ratification of auditors; and the existence of multiple share classes.

We estimate probit regressions for the seven individual corporate governance attributes on institutional ownership. The dependent variables are dummy variables that take the value of one if the board has more than 50% of independent outside directors (*BOARD_INDEP*, item 3 in *Gov41*); the board size is greater than five but less than 16 (*BOARD_SIZE*, item 4 in *Gov41*); the chairman and CEO are separated or there is a lead director (*CHAIRMAN_CEO*, item 7 in *Gov41*); the board is elected annually (*NO_STAGGERED_BOARD*, item 12 in *Gov41*); the audit committee comprises only independent outsiders (*AUDIT_COMMIT_INDEP*, item 26 in *Gov41*); the auditors are ratified annually (*AUDITORS_RATIFIED*, item 27 in *Gov41*); there is a single class of common shares (*SINGLE_CLASS*, item 28 in *Gov41*). The main independent variables are ownership by domestic institutions (*IO_DOM*) and foreign institutions (*IO_FOR*). Our regressions also include the lagged firm-specific control variables (coefficients not shown) used in Table 4.

Each row in Table 8 corresponds to a different probit regression for each governance attribute. We present the marginal effects evaluated at the mean for both domestic and foreign institutional ownership. We find that the marginal effects of foreign institutional ownership are positive and statistically significant at the 5% level for some of the individual attributes. We find that foreign institutional ownership is positively associated with board structure. Foreign institutional ownership increases the likelihood that the board has a majority of independent directors, that its size is appropriate, and that it does not adopt a staggered board provision. However, for domestic ownership, our results for all three of these characteristics are different.

The marginal effects of domestic institutional ownership are negative but only significant at the 10% level.

We do not find evidence on the relation between institutional investors and firms' choices of auditors and multiple class structures. Overall, foreign institutional investors are associated with more shareholder-friendly board structures.

4. Does Institutional Ownership Affect Corporate Governance Outcomes?

In this section, we provide an example of direct evidence of a corporate action associated with higher institutional ownership. We explore whether institutional ownership is correlated with good governance in terms of identifying and terminating poorly performing CEOs. This complements our evidence in the previous section on governance mechanisms. We then also analyze whether changes in institutional ownership drive changes in firm valuation.

4.1. CEO Turnover–Performance Sensitivity

We examine whether a higher presence of institutions as shareholders improves the ability of a firm's board of directors to identify and terminate poorly performing CEOs. DeFond and Hung (2004) show that in countries with strong investor protection, there is a stronger association between CEO turnover and bad firm performance than there is in countries with weak investor protection. Institutions can be particularly influential in exporting good governance practices in this area through direct activism or through indirect discipline by selling shares.

We collect data from BoardEx to identify the top executive of each firm in each year. The BoardEx database contains detailed biographic information on top executives in many countries. We use the term “CEO” to describe this executive, regardless of whether the firm uses “chief

executive officer” or some other designation (such as “managing director” or “executive chairman”). We start with our main sample of firms from Table 1, but because coverage in BoardEx is not as extensive for some countries, we drop Hong Kong, Japan, New Zealand, Singapore and Switzerland from the analysis. For each firm we identify the CEO at each year-end for 2004-2008. We focus on the sample of non-U.S. firms that contains 3,955 firm-years observations. At the end of 2008, the sample comprises 909 non-U.S. firms and represents more than 75% of the market capitalization of the non-U.S. firms in our main sample.

We classify a firm as having experienced a CEO turnover when the top executive at the end of the year is different from the CEO at the end of the previous year. There are a total of 723 turnover events. These events imply a turnover rate of 18% in 2004-2008, which is in line with Lel and Miller (2008), who find that the average CEO turnover worldwide is 16% during the period from 1992 to 2003. As in DeFond and Hung (2004) and Lel and Miller (2008), we cannot distinguish between voluntary and forced turnovers, but this distinction just leads to additional noise in the dependent variable, since voluntary turnovers are unlikely to be related to performance (Hermalin and Weisbach (2003)).

To test the effect of institutional ownership on CEO turnover-performance sensitivity, we use a probit model of CEO turnover on abnormal stock returns (*ABNORMAL_RET*), institutional ownership (*IO*), and an interaction term of abnormal stock returns and institutional ownership (*ABNORMAL_RET* × *IO*). Following Weisbach (1988) and Lel and Miller (2008), we run a probit regression:

$$\begin{aligned}
 TURNOVER_{it} = & \alpha + b_1 ABNORMAL_RET_{it} \\
 & + b_2 IO + b_3 (ABNORMAL_RET_{it} \times IO_{it}) + b_4 SIZE_{it} + \varepsilon_{it} \quad (1)
 \end{aligned}$$

where $TURNOVER_{it}$ is a dummy variable that equals one if the CEO left firm i during year t , and zero otherwise. We measure the abnormal return $ABNORMAL_RET$ as the firm's annual stock return in U.S. dollars minus the country's stock market index return (as given by country-level Datastream indexes in U.S. dollars) in year $t-1$. IO is alternatively total (IO_TOTAL), domestic (IO_DOM), and foreign institutional ownership (IO_FOR) in the previous year. The regression also includes a lagged log of total assets ($SIZE$), as well as year, country, and industry dummies. Our coefficient of interest is the one on the interaction between stock returns and institutional ownership (b_3). Ai and Norton (2003) show that researchers cannot draw conclusions about the sign and the significance of the interaction term in nonlinear models (such as probit models) by examining the coefficient on the interaction term. To ensure that we draw valid inferences on the interactive effect, we estimate the interactive marginal effect and its significance using the delta method described by Ai and Norton (2003).

Table 9 presents the results of our analysis. The interaction terms show that CEO turnover is more sensitive to low abnormal stock returns in firms with higher institutional ownership. The estimated mean interaction effects are negative and statistically significant. We interpret this result to mean that firms with higher institutional ownership have a greater propensity to shed poorly performing CEOs. This finding is consistent with institutional investor monitoring having a direct effect on this corporate governance outcome.

4.2. Changes in Tobin's Q

Changes in governance attributes or increased CEO turnover performance sensitivity brought by foreign institutional investment are important if these are conducive to shareholder value creation. We test whether this is indeed the case.

Previous studies (e.g., Gompers, Ishii, and Metrick (2003); and Doidge, Karolyi, and Stulz (2004)) examine the real effects of good governance and monitoring by measuring the impact of governance on firm valuation, as measured by Tobin's Q. Ferreira and Matos (2008) find that foreign institutions have a significantly positive impact on Tobin's Q. Tobin's Q is calculated as the book value of total assets plus the market value of equity minus the book value of equity divided by total assets.

We replicate the result in Ferreira and Matos (2008) using our sample of firms. We estimate regressions of Tobin's Q ratios on foreign and domestic institutional ownership and other firm controls, and also on country, industry and year dummies. In unreported regressions, we find that unlike ownership by domestic institutions, ownership by foreign institutions is positively associated with Tobin's Q ratios.

We also test whether changes in institutional ownership lead to increases in firm valuation, which might be due to improvements in corporate governance. Thus, we regress changes in Tobin's Q (ΔQ) from t-1 to t on changes in institutional ownership (ΔIO_TOTAL , ΔIO_DOM , ΔIO_FOR) from t-2 to t-1 and also on changes in other control variables from t-2 to t-1. The sample contains non-U.S. firms for the period 2003-2008.

Table 10 presents our results. ΔIO_TOTAL has a positive and significant coefficient. In column (2), the change in domestic ownership, ΔIO_DOM , has a positive and significant coefficient. In column (3), the coefficient on changes in foreign institutional ownership, ΔIO_FOR , is also positive and significant. Thus, increases in institutional ownership drive increases in firm valuation.

We are concerned that the causal relation runs in the opposite direction if firms with better governance (and higher valuations) attract more foreign capital in the first place. We conduct the

analysis in the reverse direction, with changes in institutional ownership as the dependent variable and changes in Tobin's Q as the explanatory variable. In unreported regressions, we find that the coefficient on changes in Tobin's Q is statistically insignificant. This result suggests that the direction of the effect is from institutional ownership to firm valuation.

5. Robustness and Additional Tests

We address the potential omitted-variables problems associated with omitted-variables and endogeneity by using firm fixed effects that control for unobserved sources of firm heterogeneity. Including firm fixed effects is equivalent to looking at only the within-firm changes in governance and institutional ownership. Therefore, it solves a "joint determination" problem in which an unobserved firm-level, time-invariant variable simultaneously determines both governance and institutional ownership.

Table 11 presents the firm fixed-effects estimates (with t-statistics adjusted for country-level clustering) we obtain by using our different measures of institutional ownership. There is still evidence of a positive relation between governance and institutional ownership. Moreover, only foreign institutional ownership is significant at the 5% level, which confirms our prior findings that foreign institutions are central to governance improvements outside of the U.S. Because we take into account only the effects of within-firm changes in governance, firm-specific omitted variables cannot explain the relation we observe between governance and institutional ownership. At issue here is whether there is enough variation in institutional ownership and governance over our study's short sample period to estimate this relation with precision. The short answer is yes. Although the t-statistics are usually lower, suggesting a lower precision in the estimates, they are still quite high by traditional standards.

To address issues related to the endogeneity of the institutional ownership, we use lagged values as explanatory variables and use regressions in changes in Section 3. To alleviate any remaining concerns, we utilize an instrumental variables approach. Under standard identification assumptions, we apply two-stage least squares (2SLS) tests to isolate the effect of institutional ownership on governance. Hence, we need an instrument for institutional ownership, a variable that is correlated with institutional ownership, but uncorrelated with governance except indirectly through other independent variables.

We use membership in the Morgan Stanley Capital International World index (*MSCI*) as an instrumental variable for total (*IO_TOTAL*) and foreign institutional ownership (*IO_FOR*). This is a commonly used benchmark index for foreign portfolio investors. Indeed, Ferreira and Matos (2008) find that MSCI membership increases the probability that the firm attracts foreign capital. Following Ferreira and Matos (2008), who find that domestic institutions prefer dividend-paying stocks, we use a dividend dummy (*DIV*) as an instrumental variable for total (*IO_TOTAL*) and domestic (*IO_DOM*) institutional ownership. These variables should not drive firm governance practices directly, but only through the effect they have on institutional ownership.

Columns (1)-(3) of Table 12 present the results of the first-stage regressions that use total, domestic, and foreign institutional ownership as the dependent variables. The first-stage test results support our conclusion that foreign ownership is positively associated with MSCI membership, and that domestic fund managers are attracted by dividend-paying stocks. F-tests indicating that the instruments can be excluded from the first stage regressions are strongly rejected.

Columns (4)-(6) of Table 12 present the coefficients of the second-stage regression that uses the governance index GOV_{4t} as the dependent variable. After we take into account the possibility

that institutional ownership is endogenous, we find evidence of a positive relation between governance and foreign institutional ownership. However, we note that we do not find a similar relation between governance and domestic institutional ownership. This evidence supports our previous findings that there is a causal link from institutional ownership to governance, and that foreign institutions are the main force of governance improvement outside of the U.S. Thus, we conclude that omitted variables are unlikely to explain the relation between institutional ownership and corporate governance, particularly for investment by foreign institutions.

We also examine whether U.S.-based institutions (*IO_FOR_US*) play a special role in the governance of the foreign firms in which they invest, because the U.S. is a country that is considered to have a high level of investor protection. In Table 13, Panel A, columns (1)-(3) show that there is a positive relation between governance and both U.S.-based institutions (*IO_FOR_US*) and non-U.S. foreign institutions (*IO_FOR_NUS*).¹⁰

To study the relation between governance and type of institution, we follow Chen, Harford, and Li (2007) and Ferreira and Matos (2008). Thus, we classify institutions according to the potential for business ties to a corporation as independent compared to grey institutions. Independent institutional ownership (*IO_IND*) is the percentage of shares held by mutual fund managers and investment advisers. These institutions are more likely to collect information, and are subject to fewer regulatory restrictions or have fewer potential business relationships with the corporations in which they invest. We anticipate that this group will be more involved in monitoring corporate management. Brickley, Lease, and Smith (1988) refer to these institutions as “pressure-resistant,” and Almazan, Hartzell, and Starks (2005) call them “active.” Grey

¹⁰ In unreported results, we find that the coefficients on U.S. and non-U.S. foreign institutional ownership are both significant in the sample of civil-law countries, but in the sample of common-law countries only the U.S. foreign institutional ownership coefficient is significant.

institutional ownership (*IO_GREY*) is the percentage of shares held by bank trusts, insurance companies, and other institutions (e.g., pension funds, endowments). The current or prospective business relationships of these types of institutions with corporations tend to make this group more “pressure-sensitive” with respect to corporate management. Alternatively, we think of these groups of institutions as having higher monitoring costs. We anticipate that this group will be more loyal to corporate management and thus more likely to hold shares without reacting to management actions that do not align with the interests of shareholders. Brickley, Lease, and Smith (1988) refer to these institutions “pressure-sensitive” and Almazan, Hartzell, and Starks (2005) call them “passive.”

Table 13, columns (4)-(6), presents our results based on classifying institutions as independent (*IO_IND*) compared to grey (*IO_GREY*) institutions. When we include both *IO_IND* and *IO_GREY* in the same regression, the coefficient of *IO_IND* is positive and significant, while the coefficient of *IO_GREY* is insignificant.

The change analysis in Panel B of Table 13 shows that changes in U.S. institutional ownership (column (1)) and changes in independent institutional ownership (column (3)) drive changes in governance, unlike changes in non-U.S. foreign and grey institutional ownership. We conclude that foreign institutions, especially institutions located in countries with strong shareholder protection such as the U.S., and independent institutions are less likely to have potential conflicts of interest that impede their monitoring ability and therefore are more likely to drive improvements in governance.

In unreported results, similar to Table 7 we also conduct the analysis in the reverse direction, using change in governance as the explanatory variable and change in institutional ownership

(ΔIO_FOR_US , ΔIO_FOR_NUS , ΔIO_IND , and ΔIO_GREY) as the dependent variables. We find that the coefficient on the change in governance is not significant.

Table 14 reports our base results for the sample of U.S. firms. Panel A of Table 14 presents the results of the governance panel regressions. We note that the specifications are similar to those in Table 4 for non-U.S. firms, but now we estimate them for our sample of U.S. firms. The results in column (4) show the coefficient of domestic institutional ownership to be significant but foreign institutional ownership is not significant for U.S. firms when both variables are included in the same regression. This finding accords with our earlier results for common-law countries in Table 5. Panel B of Table 14 reports the results of the regression of changes in governance for the sample of U.S. firms. We find that U.S.-based institutions are among the most active promoters of good governance practices, particularly in their home market, but also around the world.

We also perform a variety of other robustness checks (not tabulated here). We rerun our tests, now excluding firms from regulated industries (Utilities, Transportation, Telecommunication Service, Insurance, Energy, and Banking). The results are similar and lead to the same conclusions. Further, we use GDP per capita, market capitalization to GDP, and country-level governance attributes as country-level control variables as an alternative to country fixed effects. Country-level governance attributes include legal origin, rule of law, anti-director rights, and anti-self dealing index. We still find a positive relation between governance and institutional ownership. The relation is particularly strong and positive if the institution is domiciled in a common-law country, but negative if the institution is domiciled in civil-law countries. When we also include stock returns as a firm-level control variable, the coefficient is not significant, and our primary results do not change.

6. Conclusion

We find that institutional investors promote good governance practices in firms around the world. In particular, foreign institutional investors and institutions from countries with strong shareholder protection are the main promoters of good governance outside of the U.S. Our results are stronger for firms located in civil-law countries. Thus, international institutional investment is especially effective in improving governance when the investor protection in the institution's home country is stronger than the one in the portfolio firm's country.

Our results suggest that it is changes in institutional ownership over time that drive changes in firm-level governance, but the opposite is not true. We also provide evidence that institutional ownership has a direct effect on corporate governance outcomes, functioning as a disciplinary mechanism in terminating poorly performing CEOs. Furthermore, increases in institutional ownership lead to increases in firm valuation, suggesting that institutional investment not only affects governance mechanisms, but also has real effects on firm value and board decisions.

To our knowledge, our paper is the first to establish a direct link between international portfolio investment and the adoption of better corporate governance standards that promote corporate accountability and empower shareholders worldwide. We also shed light on the issue of whether institutions are simply attracted to firms with stronger governance or whether they also play a direct role in improving governance. We conclude that the causality runs from institutional ownership to corporate governance. Our findings suggest that foreign institutions take a lead role in shareholders activism that local investors seem unable to take. A particular aspect of foreign institutions that seems to be important is their independence with respect to the local corporate management. Monitoring and activism by institutions travels beyond country borders and leads to better firm performance.

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Figure 1
Governance Index by Country and Year

This figure shows the average of the firm level governance index (GOV_{41}) by country and year for the period 2004 to 2008. GOV_{41} is the percentage of 41 governance attributes that a firm meets, as described in Appendix A. An index of 100% means a firm has adopted all 41 governance provisions.

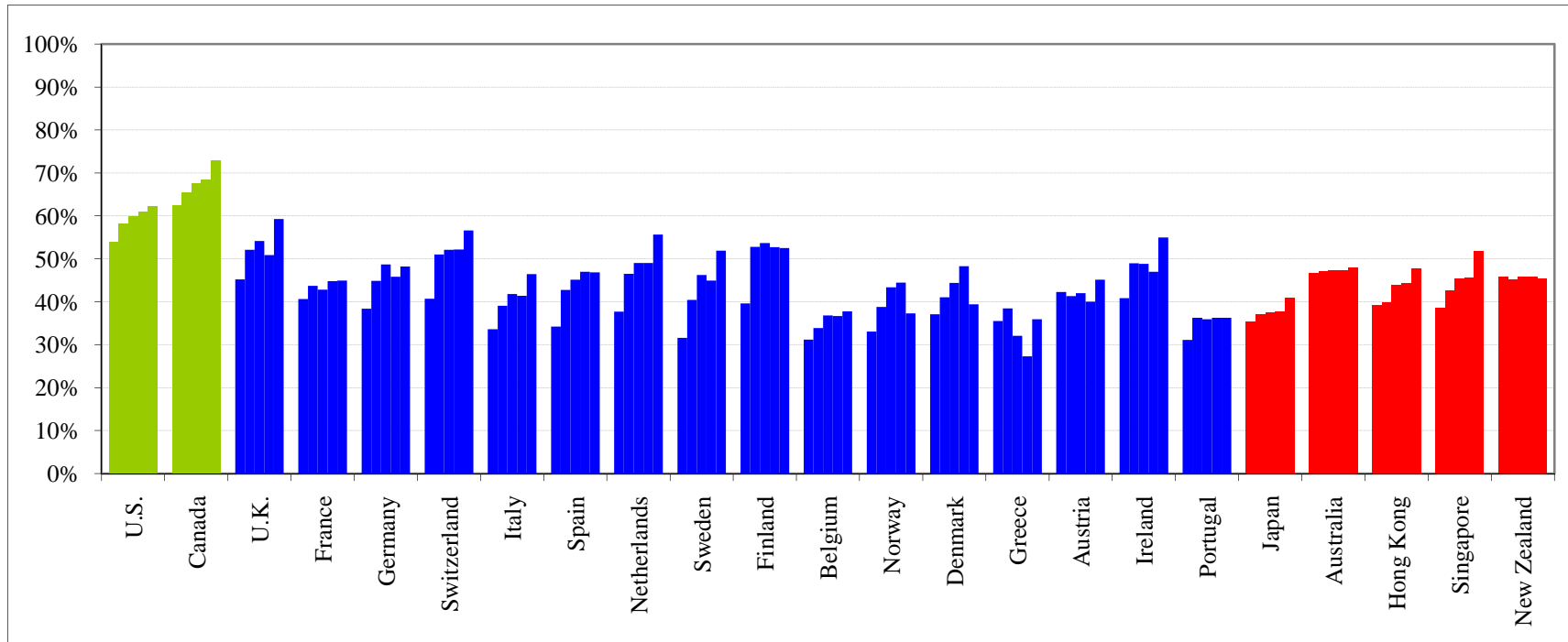


Figure 2
Total Institutional Ownership by Country and Year

This figure shows the average total institutional ownership by country and year for the period 2003 to 2007. We define institutional ownership as the sum of the holdings of all institutions in a firm's stock divided by its market capitalization at the end of each calendar year.

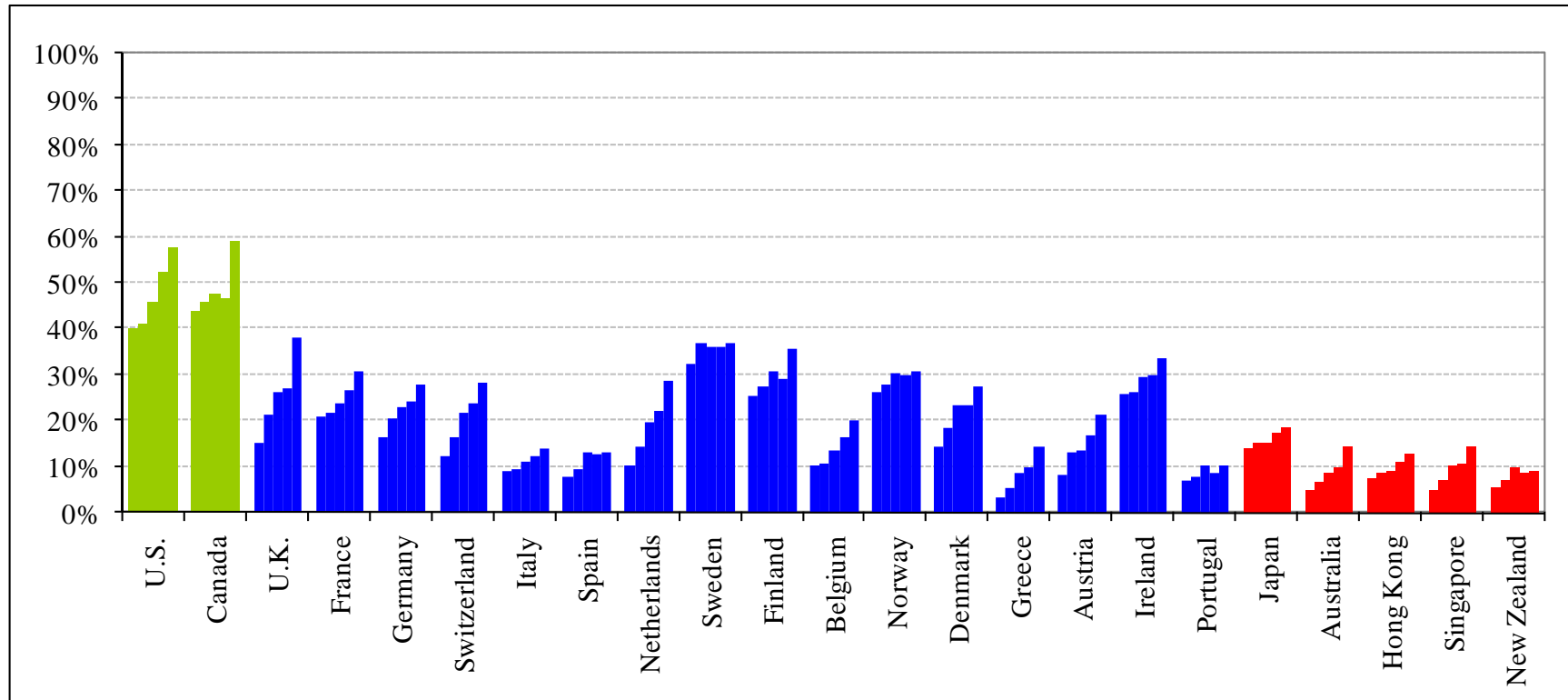


Figure 3
Institutional Ownership by Location and Legal Origin

In this figure, Panel A shows the average institutional ownership by domestic and foreign institutions as of December 2007. Domestic (foreign) institutional ownership is the sum of the holdings of all institutions domiciled in the same country (in a different country) in which the stock is issued, expressed as a percentage of the firm's market capitalization. Panel B shows the average institutional ownership by the institutions' country of legal origin. Common (civil) is the sum of the holdings of all institutions domiciled in countries that have common (civil) law, expressed as a percentage of total market capitalization of the firm.

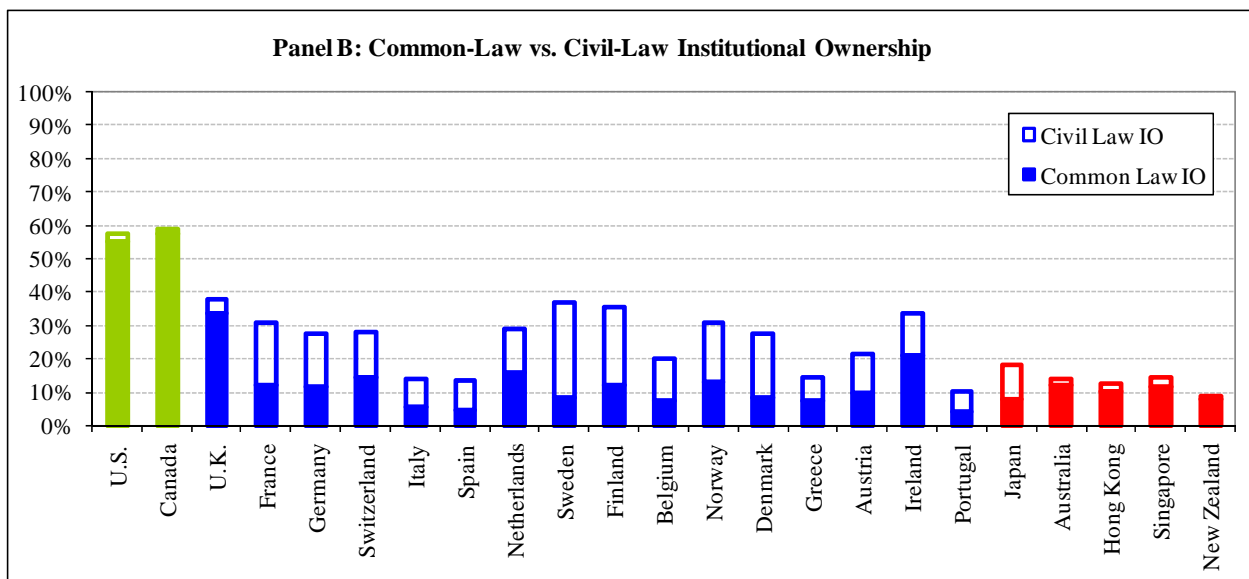
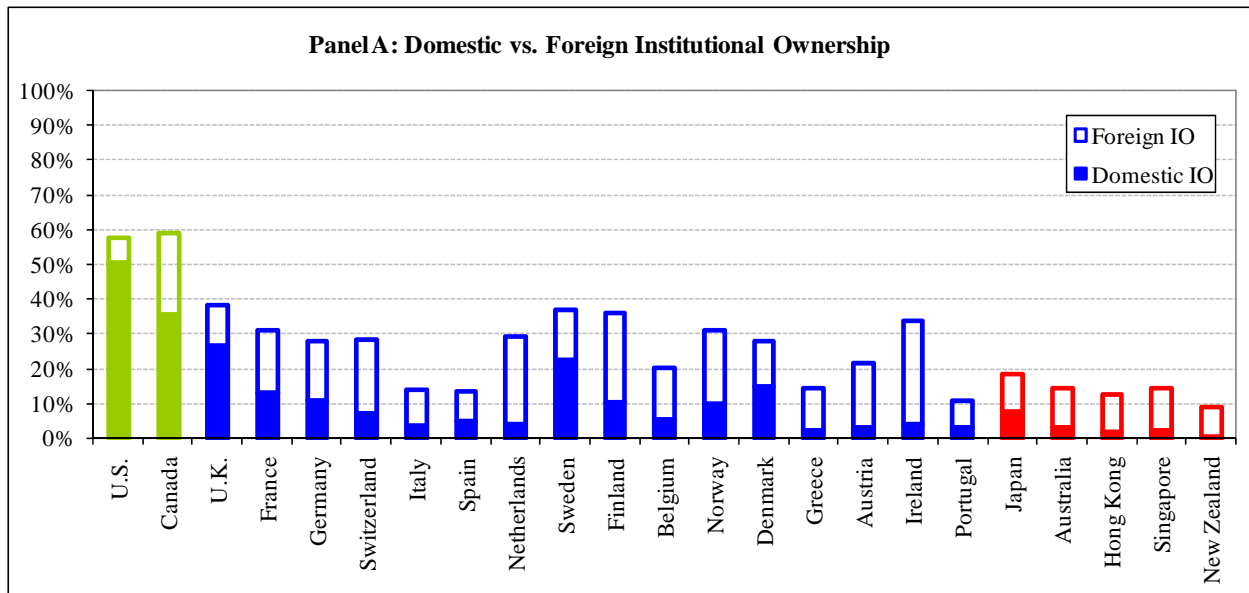


Table 1
Number of Firms by Country and Year

This table shows, for each of the 23 countries in the sample during 2004-2008, the number of firms that have both firm-level governance and institutional ownership data. The row titled “Total ex U.S.” refers to the number of non-U.S. firms, which constitute our sample in the main regressions. We measure coverage as the total market capitalization of the companies in our sample, expressed as a fraction of the Worldscope total market capitalization at the end of the sample period.

<i>Country</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>Coverage</i> <i>% market cap.</i>
Australia	72	117	118	117	83	75%
Austria	16	17	18	18	18	56%
Belgium	19	24	27	27	27	79%
Canada	161	164	188	188	127	75%
Denmark	21	21	22	22	21	78%
Finland	27	28	30	30	27	85%
France	72	83	87	87	80	71%
Germany	80	83	90	90	86	82%
Greece	42	43	43	43	31	70%
Hong Kong	32	65	65	65	56	93%
Ireland	15	15	16	16	15	81%
Italy	41	69	73	72	70	86%
Japan	491	584	598	598	581	39%
Netherlands	44	43	44	44	33	66%
New Zealand	14	17	18	18	18	72%
Norway	20	21	23	23	22	81%
Portugal	13	14	14	14	14	88%
Singapore	53	59	60	60	54	70%
Spain	35	53	57	56	55	83%
Sweden	40	40	47	46	46	78%
Switzerland	54	56	61	61	59	81%
U.K.	194	514	519	518	460	84%
U.S.	4,776	5,202	5,152	4,853	4,624	96%
Total ex U.S.	1,556	2,130	2,218	2,213	1,983	71%

Table 2
Firm-Level Governance Index

This table presents average governance index (GOV_{41}) for each country in the sample during the 2004-2008 period. GOV_{41} is the percentage of 41 governance attributes that a firm meets, as described in Appendix A. A score of 100% means a firm has adopted all 41 governance provisions. The column titled *Average Yearly Change* shows the average annual change in GOV_{41} during 2004-2008.

<i>Country</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>Average Yearly Change</i>
Australia	46.6%	47.0%	47.2%	47.3%	48.0%	0.3%
Austria	42.2%	41.3%	42.0%	40.0%	45.1%	0.7%
Belgium	31.2%	33.8%	36.8%	36.7%	37.8%	1.6%
Canada	62.4%	65.4%	67.4%	68.5%	72.8%	2.6%
Denmark	37.0%	41.0%	44.3%	48.2%	39.4%	0.6%
Finland	39.6%	52.8%	53.7%	52.7%	52.5%	3.2%
France	40.6%	43.7%	42.8%	44.8%	44.9%	1.1%
Germany	38.4%	44.9%	48.7%	45.8%	48.2%	2.5%
Greece	35.5%	38.4%	32.1%	27.3%	35.9%	0.1%
Hong Kong	39.3%	39.8%	43.9%	44.2%	47.7%	2.1%
Ireland	40.8%	48.9%	48.8%	47.0%	55.0%	3.5%
Italy	33.6%	39.1%	41.8%	41.4%	46.4%	3.2%
Japan	35.2%	37.0%	37.4%	37.7%	40.9%	1.4%
Netherlands	37.7%	46.5%	49.0%	49.0%	55.7%	4.5%
New Zealand	45.6%	45.2%	45.7%	45.7%	45.4%	-0.1%
Norway	33.0%	38.8%	43.4%	44.4%	37.3%	1.1%
Portugal	31.1%	36.2%	35.9%	36.2%	36.2%	1.3%
Singapore	38.5%	42.5%	45.2%	45.4%	51.8%	3.3%
Spain	34.2%	42.8%	45.1%	47.0%	46.8%	3.2%
Sweden	31.6%	40.4%	46.2%	44.9%	51.9%	5.1%
Switzerland	40.7%	51.0%	52.1%	52.2%	56.6%	4.0%
U.K.	45.2%	52.1%	54.1%	50.8%	59.3%	3.5%
U.S.	53.8%	58.1%	59.9%	60.9%	62.2%	2.1%

Table 3
Institutional Ownership by Country and Year

The table shows the average firm-level total institutional ownership in each country during 2003-2007. We define institutional ownership as the sum of the holdings of all institutions in a firm's stock divided by its market capitalization at the end of each calendar year. Domestic (foreign) institutional ownership is the percentage of total institutional holdings of all institutions domiciled in the same country (in a different country) in which the stock is issued, expressed as a percentage of total institutional ownership at the end of the sample period. Common (civil) law is the percentage of total institutional holding of all institutions domiciled in countries that have common (civil) law, expressed as a percentage of total institutional ownership at the end of the sample period.

<i>Country</i>	<i>Total Institutional Ownership</i>					<i>Domestic vs. Foreign</i>		<i>Common vs. Civil</i>	
	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>Domestic</i>	<i>Foreign</i>	<i>Common</i>	<i>Civil</i>
Australia	4.8%	6.5%	8.7%	9.9%	14.3%	22%	78%	85%	15%
Austria	8.3%	13.0%	13.7%	16.8%	21.3%	13%	87%	45%	55%
Belgium	10.2%	10.7%	13.4%	16.2%	20.0%	26%	74%	37%	63%
Canada	43.7%	45.8%	47.4%	46.7%	59.1%	60%	40%	97%	3%
Denmark	14.1%	18.3%	23.5%	23.2%	27.6%	53%	47%	30%	70%
Finland	25.3%	27.6%	30.7%	29.2%	35.7%	28%	72%	35%	65%
France	20.7%	21.6%	23.7%	26.5%	30.9%	41%	59%	39%	61%
Germany	16.6%	20.6%	22.8%	24.3%	27.7%	37%	63%	42%	58%
Greece	3.4%	5.5%	8.4%	9.9%	14.3%	12%	88%	51%	49%
Hong Kong	7.6%	8.5%	9.1%	10.9%	12.7%	16%	84%	83%	17%
Ireland	25.9%	26.1%	29.6%	30.0%	33.5%	11%	89%	63%	37%
Italy	9.2%	9.2%	11.0%	12.4%	13.8%	23%	77%	39%	61%
Japan	13.9%	15.2%	15.1%	17.4%	18.3%	41%	59%	44%	56%
Netherlands	10.4%	14.4%	19.7%	22.3%	28.9%	13%	87%	55%	45%
New Zealand	5.4%	7.0%	9.9%	8.6%	9.0%	8%	92%	87%	13%
Norway	26.3%	27.8%	30.3%	29.9%	30.7%	32%	68%	43%	57%
Portugal	6.9%	7.8%	10.1%	8.6%	10.3%	26%	74%	41%	59%
Singapore	4.8%	7.0%	10.2%	10.6%	14.5%	17%	83%	79%	21%
Spain	7.8%	9.3%	13.0%	12.5%	13.3%	35%	65%	34%	66%
Sweden	32.3%	37.0%	36.0%	36.1%	36.7%	60%	40%	23%	77%
Switzerland	12.2%	16.6%	21.6%	23.9%	28.1%	25%	75%	51%	49%
U.K.	15.3%	21.4%	26.2%	26.9%	37.9%	70%	30%	89%	11%
U.S.	40.1%	41.1%	46.1%	52.6%	57.8%	87%	13%	96%	4%

Table 4
Corporate Governance and Institutional Ownership

This table shows estimates of regressions of corporate governance on institutional ownership. The sample comprises non-U.S. firms for the period 2003 to 2008. The dependent variable in each regression is the governance index (GOV_{4t}). The main independent variables are total institutional ownership (IO_TOTAL), ownership by domestic institutions (IO_DOM) and foreign institutions (IO_FOR), and ownership by institutions domiciled in common-law countries (IO_COMMON) and civil-law countries (IO_CIVIL). We describe the firm-level control variables in Appendix B. All explanatory variables are lagged by one period. Robust p-values adjusted for country-level clustering are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
IO_TOTAL	0.026 (0.000)***						
IO_DOM		0.025 (0.005)***		0.012 (0.426)			
IO_FOR			0.035 (0.000)***	0.030 (0.000)***			
IO_COMMON					0.036 (0.000)***		0.034 (0.000)***
IO_CIVIL						0.023 (0.005)***	0.006 (0.464)
SIZE	-0.000 (0.970)	-0.000 (0.960)	-0.000 (0.801)	-0.000 (0.905)	-0.000 (0.970)	-0.000 (0.831)	-0.000 (0.979)
SGROWTH	-0.002 (0.524)	-0.002 (0.593)	-0.003 (0.493)	-0.003 (0.500)	-0.002 (0.526)	-0.002 (0.566)	-0.002 (0.524)
LEV	0.012 (0.002)***	0.012 (0.002)***	0.013 (0.002)***	0.013 (0.002)***	0.012 (0.003)***	0.013 (0.002)***	0.012 (0.003)***
CASH	-0.007 (0.228)	-0.006 (0.269)	-0.009 (0.206)	-0.008 (0.170)	-0.007 (0.262)	-0.008 (0.237)	-0.007 (0.259)
CAPEX	-0.039 (0.191)	-0.038 (0.204)	-0.039 (0.202)	-0.039 (0.196)	-0.038 (0.198)	-0.038 (0.206)	-0.039 (0.194)
MB	0.000 (0.013)**	0.000 (0.012)**	0.000 (0.021)**	0.000 (0.017)**	0.000 (0.014)**	0.000 (0.017)**	0.000 (0.014)**
ROA	0.019 (0.092)*	0.020 (0.074)*	0.020 (0.084)*	0.020 (0.082)*	0.019 (0.094)*	0.020 (0.073)*	0.019 (0.093)*
R&D	-0.032 (0.400)	-0.034 (0.375)	-0.029 (0.461)	-0.030 (0.438)	-0.032 (0.427)	-0.032 (0.387)	-0.032 (0.423)
PPE	0.001 (0.787)	0.002 (0.739)	0.000 (0.940)	0.001 (0.869)	0.002 (0.744)	0.001 (0.872)	0.001 (0.758)
FXSALE	0.002 (0.499)	0.003 (0.355)	0.002 (0.595)	0.002 (0.564)	0.003 (0.436)	0.003 (0.432)	0.002 (0.461)
ANALYST	0.001 (0.000)***	0.001 (0.000)***	0.001 (0.000)***	0.001 (0.000)***	0.001 (0.000)***	0.001 (0.000)***	0.001 (0.000)***
CLOSELY	-0.032 (0.023)**	-0.034 (0.024)**	-0.033 (0.024)**	-0.033 (0.022)**	-0.033 (0.026)**	-0.034 (0.023)**	-0.033 (0.024)**
ADR	0.022 (0.000)***	0.024 (0.000)***	0.021 (0.000)***	0.021 (0.000)***	0.021 (0.000)***	0.024 (0.000)***	0.021 (0.000)***
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	7,576	7,576	7,576	7,576	7,576	7,576	7,576
R-squared	0.73	0.73	0.73	0.73	0.73	0.73	0.73

Table 5
Corporate Governance, Institutional Ownership: The Role of Legal Origin

This tables shows estimates of regressions of corporate governance on institutional ownership separately for non-U.S. firms located in civil-law (Panel A) and common-law countries (Panel B) for the period 2003 to 2008. The dependent variable in each regression is the governance index GOV_{it} . The main independent variables are total institutional ownership (IO_TOTAL), and ownership by domestic institutions (IO_DOM) and foreign institutions (IO_FOR). We describe the firm-level control variables in Appendix B. All explanatory variables are lagged by one period. Robust p-values adjusted for country-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

	Panel A: Civil-law Countries				Panel B: Common-law Countries			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IO_TOTAL	0.018 (0.016)**				0.044 (0.001)***			
IO_DOM		0.010 (0.062)*		-0.023 (0.030)**		0.047 (0.002)***		0.043 (0.003)***
IO_FOR			0.031 (0.014)**	0.044 (0.005)***			0.039 (0.028)**	0.031 (0.088)*
SIZE	-0.002 (0.052)*	-0.002 (0.035)**	-0.002 (0.044)**	-0.002 (0.030)**	0.008 (0.003)***	0.008 (0.002)***	0.007 (0.007)***	0.008 (0.003)***
SGROWTH	0.000 (0.874)	0.001 (0.714)	-0.000 (0.998)	-0.000 (0.912)	-0.010 (0.121)	-0.010 (0.113)	-0.010 (0.126)	-0.010 (0.119)
LEV	0.014 (0.081)*	0.014 (0.086)*	0.014 (0.080)*	0.014 (0.077)*	0.011 (0.030)**	0.010 (0.036)**	0.013 (0.017)**	0.011 (0.039)**
CASH	-0.003 (0.574)	-0.003 (0.617)	-0.003 (0.592)	-0.003 (0.597)	-0.006 (0.528)	-0.003 (0.723)	-0.012 (0.208)	-0.006 (0.514)
CAPEX	-0.033 (0.180)	-0.032 (0.204)	-0.034 (0.176)	-0.032 (0.195)	-0.014 (0.805)	-0.011 (0.841)	-0.017 (0.791)	-0.013 (0.820)
MB	0.000 (0.727)	0.000 (0.753)	0.000 (0.778)	0.000 (0.880)	0.000 (0.051)*	0.001 (0.042)**	0.000 (0.051)*	0.000 (0.036)**
ROA	0.007 (0.352)	0.008 (0.302)	0.007 (0.353)	0.007 (0.357)	0.041 (0.010)***	0.040 (0.009)***	0.041 (0.015)**	0.041 (0.010)***
R&D	0.020 (0.574)	0.020 (0.594)	0.022 (0.548)	0.024 (0.527)	0.028 (0.433)	0.027 (0.399)	0.029 (0.449)	0.030 (0.422)
PPE	-0.004 (0.514)	-0.004 (0.485)	-0.003 (0.527)	-0.003 (0.539)	-0.005 (0.620)	-0.004 (0.729)	-0.006 (0.554)	-0.005 (0.623)
FXSALE	0.002 (0.565)	0.003 (0.458)	0.002 (0.615)	0.002 (0.582)	-0.003 (0.446)	-0.002 (0.631)	-0.004 (0.377)	-0.003 (0.470)
ANALYST	0.001 (0.001)***	0.001 (0.001)***	0.001 (0.001)***	0.001 (0.001)***	0.001 (0.121)	0.001 (0.070)*	0.001 (0.118)	0.001 (0.127)
CLOSELY	-0.015 (0.163)	-0.016 (0.179)	-0.015 (0.148)	-0.015 (0.154)	-0.057 (0.000)***	-0.060 (0.000)***	-0.060 (0.000)***	-0.058 (0.000)***
ADR	0.029 (0.000)***	0.029 (0.000)***	0.028 (0.000)***	0.027 (0.001)***	0.005 (0.118)	0.010 (0.017)**	0.007 (0.072)*	0.006 (0.104)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	4,133	4,133	4,133	4,133	3,443	3,443	3,443	3,443
R-squared	0.523	0.521	0.524	0.525	0.68	0.67	0.67	0.68

Table 6
Changes in Corporate Governance and Changes in Institutional Ownership

This table shows estimates of regressions of changes in corporate governance (ΔGOV_{4t}) from t-1 to t on changes in institutional ownership from t-2 to t-1. The sample comprises non-U.S. firms for the period 2003 to 2008. The main independent variables are (lagged) changes in total institutional ownership (ΔIO_TOTAL), domestic ownership (ΔIO_DOM), foreign ownership (ΔIO_FOR), and ownership by institutions domiciled in common-law (ΔIO_COMMON) and civil-law (ΔIO_CIVIL) countries. The firm-level control variables are changes from t-2 to t-1. Robust p-values adjusted for country-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

	(1)	(2)	(3)	(4)	(5)
ΔIO_TOTAL	0.016 (0.070)*				
ΔIO_DOM		0.020 (0.108)			
ΔIO_FOR			0.011 (0.013)**		
ΔIO_COMMON				0.025 (0.015)**	
ΔIO_CIVIL					0.009 (0.046)**
$\Delta SIZE$	-0.007 (0.016)**	-0.007 (0.017)**	-0.007 (0.015)**	-0.007 (0.016)**	-0.007 (0.015)**
$\Delta S G R O W T H$	-0.004 (0.262)	-0.004 (0.263)	-0.004 (0.245)	-0.004 (0.251)	-0.004 (0.247)
$\Delta L E V$	0.007 (0.467)	0.007 (0.488)	0.007 (0.477)	0.007 (0.486)	0.007 (0.484)
$\Delta C A S H$	-0.014 (0.165)	-0.014 (0.169)	-0.014 (0.167)	-0.014 (0.168)	-0.014 (0.167)
$\Delta C A P E X$	-0.020 (0.328)	-0.020 (0.332)	-0.021 (0.306)	-0.021 (0.314)	-0.021 (0.311)
$\Delta M B$	-0.000 (0.618)	-0.000 (0.652)	-0.000 (0.583)	-0.000 (0.581)	-0.000 (0.610)
$\Delta R O A$	-0.004 (0.762)	-0.005 (0.746)	-0.004 (0.803)	-0.004 (0.807)	-0.004 (0.793)
$\Delta R \& D$	-0.006 (0.913)	-0.004 (0.937)	-0.005 (0.931)	-0.005 (0.932)	-0.004 (0.939)
$\Delta P P E$	-0.011 (0.373)	-0.011 (0.377)	-0.010 (0.422)	-0.011 (0.374)	-0.010 (0.428)
$\Delta F X S A L E$	-0.003 (0.700)	-0.002 (0.727)	-0.002 (0.742)	-0.003 (0.675)	-0.002 (0.758)
$\Delta A N A L Y S T$	-0.000 (0.781)	-0.000 (0.802)	-0.000 (0.795)	-0.000 (0.766)	-0.000 (0.809)
$\Delta C L O S E L Y$	-0.013 (0.008)***	-0.014 (0.007)***	-0.014 (0.008)***	-0.014 (0.007)***	-0.014 (0.007)***
$\Delta A D R$	0.021 (0.012)**	0.021 (0.011)**	0.021 (0.011)**	0.021 (0.012)**	0.022 (0.011)**
Industry FEs	Yes	Yes	Yes	Yes	Yes
Country Fes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	5,677	5,677	5,677	5,677	5,677
R-squared	0.21	0.20	0.20	0.21	0.20

Table 7
Changes in Institutional Ownership and Changes in Corporate Governance

This table shows estimates of regressions of changes in institutional ownership from t-1 to t on changes in corporate governance (ΔGOV_{4t}) from t-2 to t-1. The sample comprises non-U.S. firms for the period 2003 to 2008. We estimate five models in which the dependent variables are changes in total institutional ownership (ΔIO_TOTAL), domestic ownership (ΔIO_DOM), foreign ownership (ΔIO_FOR), and ownership by institutions domiciled in common-law (ΔIO_COMMON) and civil-law (ΔIO_CIVIL) countries. The firm-level control variables are changes from t-2 to t-1 and are the same variables as used in Table 6 (coefficients are not shown). Regressions include industry, country, and year fixed effects. Robust p-values adjusted for country-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

Dependent Variable	Coefficient of ΔGOV_{4t}	Obs.	R-squared
ΔIO_TOTAL	-0.054 (0.098)*	2,669	0.05
ΔIO_DOM	-0.050 (0.198)	2,669	0.06
ΔIO_FOR	0.001 (0.959)	2,669	0.03
ΔIO_COMMON	-0.054 (0.025)**	2,669	0.07
ΔIO_CIVIL	0.004 (0.839)	2,669	0.03

Table 8
Individual Corporate Governance Attributes and Institutional Ownership

This table shows estimates of probit regressions of individual corporate governance attributes on institutional ownership. We evaluate marginal effects at the sample mean. The sample comprises non-U.S. firms for the period 2003 to 2008. The dependent variables are dummy variables that take the value of one if board has more than 50% of independent directors (*BOARD_INDEP*, item 3 in *Gov₄₁*); board size is at greater than five but less than 16 (*BOARD_SIZE*, item 4 in *Gov₄₁*); chairman and CEO are separated or there is a lead director (*CHAIRMAN_CEO*, item 7 in *Gov₄₁*); annually elected board (*NO_STAGGERED_BOARD*, item 12 in *Gov₄₁*); audit committee composed solely of independent outsiders (*AUDIT_COMMIT_INDEP*, item 26 in *Gov₄₁*); auditors ratified at most recent annual meeting (*AUDITORS_RATIFIED*, item 27 in *Gov₄₁*); single class, common (*SINGLE_CLASS*, item 28 in *Gov₄₁*). The main independent variables are ownership by domestic institutions (*IO_DOM*) and foreign institutions (*IO_FOR*). Regressions include the same firm-level controls variables as in Table 4 (coefficients are not shown). Robust p-value adjusted for country-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

Dependent Variable	Marginal Effect of <i>IO_DOM</i>	Marginal Effect of <i>IO_FOR</i>	Obs.	Pseudo R-squared
BOARD_INDEP	-0.121 (0.074)*	0.278 (0.016)**	7,576	0.40
BOARD_SIZE	-0.113 (0.097)*	0.195 (0.004)***	7,394	0.10
CHAIRMAN_CEO	0.211 (0.083)*	-0.143 (0.073)*	7,325	0.73
NO_STAGGERED_BOARD	-0.148 (0.000)***	0.156 (0.038)**	6,828	0.43
AUDIT_COMMIT_INDEP	0.107 (0.161)	0.056 (0.403)	7,576	0.44
AUDITORS_RATIFIED	-0.040 (0.641)	0.017 (0.774)	7,538	0.67
SINGLE_CLASS	-0.041 (0.207)	0.005 (0.828)	4,991	0.38

Table 9
Probit Regression of CEO Turnover and Institutional Ownership

This table presents estimates of probit regressions of CEO turnover on abnormal stock returns and institutional ownership. The sample comprises non-U.S. firms for the period 2003 to 2008. The dependent variable is CEO turnover, which equals one if the CEO at the end of the year is different from the CEO at the end of the previous year, and zero otherwise. The main independent variables are total institutional ownership in the company (*IO_TOTAL*), ownership by domestic institutions (*IO_DOM*), ownership by foreign institutions (*IO_FOR*), and one-year abnormal stock return (adjusted by the local stock market return) in U.S. dollars (*ABNORMAL_RET*). All explanatory variables are lagged by one period. The interaction effect is defined as the change in the predicted probability of CEO turnover for a change in both the firm performance and the institutional ownership using the method described in Ai and Norton (2003). Robust p-values adjusted for country-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

	(1)	(2)	(3)
ABNORMAL_RET	-0.041 (0.395)	-0.090 (0.081)*	-0.137 (0.004)***
IO_TOTAL	-0.436 (0.044)**		
IO_TOTAL × ABNORMAL_RET	-0.866 (0.000)***		
IO_DOM		-0.718 (0.000)***	
IO_DOM × ABNORMAL_RET		-1.220 (0.000)***	
IO_FOR			-0.195 (0.446)
IO_FOR × ABNORMAL_RET			-0.897 (0.011)**
SIZE	0.037 (0.000)***	0.025 (0.001)***	0.036 (0.007)***
Industry FEs	Yes	Yes	Yes
Country FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
Obs.	3,955	3955	3,955
Pseudo R-squared	0.067	0.067	0.065
Mean interaction effect: IO_TOTAL × ABNORMAL_RET	-0.189 (0.000)***		
Mean interaction effect: IO_DOM × ABNORMAL_RET		-0.261 (0.000)***	
Mean interaction effect: IO_FOR × ABNORMAL_RET			-0.211 (0.000)***

Table 10
Changes in Firm Value and Changes in Institutional Ownership

This table presents estimates of regressions of changes in Tobin's Q from t-1 to t on changes in institutional ownership from t-2 to t-1. The sample comprises non-U.S. firms for the period 2003 to 2008. The main independent variables are (lagged) changes in total institutional ownership (ΔIO_TOTAL), domestic ownership (ΔIO_DOM), and foreign ownership (ΔIO_FOR). The firm-level control variables are changes from t-2 to t-1. Robust p-values adjusted for country-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

	(1)	(2)	(3)
ΔIO_TOTAL	0.792 (0.006)***		
ΔIO_DOM		0.957 (0.024)**	
ΔIO_FOR			0.874 (0.000)***
$\Delta SIZE$	-0.143 (0.420)	-0.139 (0.422)	-0.148 (0.401)
$\Delta SGROWTH$	0.333 (0.108)	0.334 (0.108)	0.326 (0.105)
ΔLEV	-0.770 (0.000)***	-0.785 (0.000)***	-0.764 (0.000)***
$\Delta CASH$	1.093 (0.000)***	1.105 (0.000)***	1.083 (0.000)***
$\Delta CAPEX$	-1.644 (0.140)	-1.627 (0.136)	-1.729 (0.134)
ΔROA	-1.040 (0.004)***	-1.054 (0.005)***	-1.021 (0.002)***
$\Delta R\&D$	-1.027 (0.385)	-0.933 (0.436)	-1.041 (0.394)
ΔPPE	-0.201 (0.520)	-0.203 (0.516)	-0.162 (0.572)
$\Delta FXSALE$	-0.025 (0.831)	-0.013 (0.914)	-0.012 (0.915)
$\Delta ANALYST$	-0.007 (0.014)**	-0.007 (0.017)**	-0.007 (0.012)**
$\Delta CLOSELY$	-0.106 (0.239)	-0.134 (0.117)	-0.110 (0.213)
ΔADR	-0.057 (0.312)	-0.032 (0.554)	-0.039 (0.492)
Industry FEs	Yes	Yes	Yes
Country Fes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
Obs.	5,408	5,408	5,408
R-squared	0.08	0.07	0.07

Table 11
Corporate Governance and Institutional Ownership: Firm Fixed Effects

The table shows estimates of regressions of corporate governance on institutional ownership including firm fixed effects. The sample comprises non-U.S. firms for the period 2003 to 2008. The dependent variable in each regression is the governance index (GOV_{4i}). The main independent variables are total institutional ownership in the company (IO_TOTAL), ownership by domestic institutions (IO_DOM) and foreign institutions (IO_FOR). We describe the firm-level control variables in Appendix B. All explanatory variables are lagged by one period. Robust p-values adjusted for country-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

	(1)	(2)	(3)
IO_TOTAL	0.025 (0.026)**		
IO_DOM		0.031 (0.066)*	
IO_FOR			0.021 (0.001)***
SIZE	-0.005 (0.109)	-0.005 (0.111)	-0.005 (0.099)*
SGROWTH	-0.001 (0.603)	-0.001 (0.607)	-0.001 (0.582)
LEV	0.007 (0.410)	0.006 (0.468)	0.007 (0.389)
CASH	-0.015 (0.188)	-0.014 (0.198)	-0.015 (0.195)
CAPEX	-0.031 (0.095)*	-0.031 (0.091)*	-0.032 (0.095)*
MB	0.000 (0.562)	0.000 (0.495)	0.000 (0.652)
ROA	0.019 (0.005)***	0.019 (0.006)***	0.019 (0.003)***
R&D	0.035 (0.552)	0.038 (0.509)	0.036 (0.550)
PPE	-0.003 (0.765)	-0.004 (0.731)	-0.003 (0.795)
FXSALE	0.000 (0.950)	0.001 (0.902)	0.001 (0.899)
ANALYST	0.000 (0.385)	0.001 (0.353)	0.001 (0.364)
CLOSELY	-0.012 (0.033)**	-0.013 (0.019)**	-0.013 (0.026)**
ADR	0.020 (0.334)	0.022 (0.309)	0.021 (0.331)
Firm FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
Obs.	7,576	7,576	7,576
R-squared	0.88	0.88	0.87

Table 12
Corporate Governance and Institutional Ownership: 2SLS

The table shows estimates of 2SLS regressions of corporate governance on institutional investment. The sample comprises non-U.S. firms for the period 2003 to 2008. The dependent variable in the second stage regressions is the governance index (GOV_{it}). The first-stage regressions dependent variables are total institutional ownership (IO_TOTAL), ownership by domestic institutions (IO_DOM) and foreign institutions (IO_FOR). We describe the firm-level control variables in Appendix B. All explanatory variables are lagged by one period. Robust p-values adjusted for firm-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

	First Stage			Second Stage		
	(1) IO_TOTAL	(2) IO_DOM	(3) IO_FOR	(4) GOV41	(5) GOV41	(6) GOV41
IO_TOTAL				0.086 (0.199)		
IO_DOM					0.108 (0.222)	
IO_FOR						0.314 (0.000)***
SIZE	-0.023 (0.000)***	-0.022 (0.000)***	-0.005 (0.009)***	0.001 (0.484)	0.001 (0.426)	0.001 (0.583)
SGROWTH	0.018 (0.104)	0.003 (0.738)	0.017 (0.029)**	-0.003 (0.228)	-0.002 (0.399)	-0.007 (0.041)**
LEV	0.025 (0.222)	0.034 (0.022)**	-0.013 (0.296)	0.012 (0.053)*	0.010 (0.117)	0.016 (0.016)**
CASH	-0.026 (0.420)	-0.060 (0.017)**	0.029 (0.117)	-0.005 (0.509)	-0.001 (0.914)	-0.018 (0.061)*
CAPEX	0.081 (0.298)	0.033 (0.549)	0.071 (0.183)	-0.044 (0.029)**	-0.041 (0.041)**	-0.058 (0.019)**
MB	-0.001 (0.183)	-0.002 (0.000)***	0.000 (0.496)	0.001 (0.056)*	0.001 (0.044)**	0.000 (0.549)
ROA	0.026 (0.528)	0.004 (0.918)	0.020 (0.355)	0.016 (0.043)**	0.018 (0.021)**	0.015 (0.083)*
R&D	0.022 (0.836)	0.063 (0.470)	-0.078 (0.201)	-0.032 (0.265)	-0.037 (0.194)	-0.003 (0.927)
PPE	-0.012 (0.550)	-0.026 (0.063)*	0.019 (0.145)	0.002 (0.722)	0.004 (0.517)	-0.005 (0.485)
FXSALE	3.905 (0.003)***	0.735 (0.423)	3.918 (0.000)***	-0.002 (0.997)	0.253 (0.437)	-1.017 (0.059)*
ANALYST	0.004 (0.000)***	0.000 (0.230)	0.003 (0.000)***	0.001 (0.001)***	0.001 (0.000)***	0.000 (0.511)
CLOSELY	-11.127 (0.000)***	-3.810 (0.001)***	-5.397 (0.000)***	-2.587 (0.003)***	-3.128 (0.000)***	-1.662 (0.039)**
ADR	0.084 (0.000)***	0.007 (0.381)	0.080 (0.000)***	0.017 (0.008)***	0.024 (0.000)***	-0.003 (0.737)
MSCI	0.001 (0.949)		0.031 (0.000)***			
DIV	0.043 (0.000)***	0.032 (0.000)***				
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes
Country Fes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	7,576	7,576	7,576	7,576	7,576	7,576
R-squared	0.33	0.35	0.26			

Table 13
Corporate Governance and Alternative Measures of Institutional Ownership

In this table, Panel A shows estimates of regressions of corporate governance on institutional ownership. The dependent variable in each regression is the governance index (GOV_{it}). Panel B shows estimates of regressions of changes in corporate governance (ΔGOV_{it}) from t-1 to t on changes in institutional ownership from t-2 to t-1. The main independent variables are foreign ownership by U.S. institutions (IO_FOR_US) and non-U.S. institutions (IO_FOR_NUS), ownership by independent institutions (IO_IND) and non-independent/grey institutions (IO_GREY). Regressions include the same firm-level control variables as in Table 4 for non-U.S. firms (coefficients are not shown here). All explanatory variables are lagged by one period. Robust p-values adjusted for country-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

Panel A: Level Regressions

	(1)	(2)	(3)	(4)	(5)	(6)
IO_FOR_US	0.045 (0.000)***		0.033 (0.005)***			
IO_FOR_NUS		0.051 (0.000)***	0.037 (0.001)***			
IO_IND				0.069 (0.000)***		0.052 (0.005)***
IO_GREY					0.027 (0.002)**	0.011 (0.326)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes
Country FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	7,576	7,576	7,576	7,576	7,576	7,576
R-squared	0.73	0.73	0.73	0.728	0.728	0.728

Panel B: Change Regressions

	(1)	(2)	(3)	(4)
ΔIO_FOR_US	0.020 (0.016)**			
ΔIO_FOR_NUS		0.011 (0.290)		
ΔIO_IND			0.037 (0.048)**	
ΔIO_GREY				0.015 (0.080)*
Industry FEs		Yes	Yes	Yes
Country FEs		Yes	Yes	Yes
Year FEs		Yes	Yes	Yes
Obs.		5,677	5,677	5,677
R-squared		0.20	0.20	0.20

Table 14
Corporate Governance and Institutional Ownership: U.S. Firms

In this table, Panel A shows estimates of regressions of corporate governance on institutional ownership. The dependent variable in each regression is the governance index (GOV_{it}). Panel B shows estimates of regressions of changes in corporate governance (ΔGOV_{it}) from t-1 to t on changes in institutional ownership from t-2 to t-1. The sample comprises U.S. firms during the period 2003 to 2008. The main independent variables are total institutional ownership in the company (IO_TOTAL), and ownership by domestic institutions (IO_DOM) and foreign institutions (IO_FOR). Regressions include the same firm-level control variables as in Table 4 for non-U.S. firms (coefficients are not shown here). All explanatory variables are lagged by one period. Robust p-values adjusted for industry-level clustering are reported in parentheses. *, **, *** reflects significance at the 10%, 5% and 1% levels.

Panel A: Level Regressions

	(1)	(2)	(3)	(4)
IO_TOTAL	0.033 (0.000)***			
IO_DOM		0.033 (0.000)***		0.032 (0.000)***
IO_FOR			0.051 (0.030)**	0.028 (0.132)
Industry FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Obs.	17,522	17,522	17,522	17,522
R-squared	0.43	0.43	0.42	0.43

Panel B: Change Regressions

	(1)	(2)	(3)	(4)
ΔIO_TOTAL	0.007 (0.024)**			
ΔIO_DOM		0.008 (0.016)**		0.008 (0.017)**
ΔIO_FOR			0.008 (0.420)	0.006 (0.510)
Industry FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Obs.	13,289	13,289	13,289	13,289
R-squared	0.09	0.09	0.09	0.09

Appendix A: Firm-Level Governance Attributes

We separate the 41 governance attributes in the GOV_{41} index into four subcategories: *Board*, *Audit*, *Anti-takeover Provisions*, and *Compensation & Ownership*. The data source is RiskMetrics.

BOARD

- 1 All directors attended 75% of board meetings or had a valid excuse
- 2 CEO serves on the boards of two or fewer public companies
- 3 Board is controlled by more than 50% independent outside directors
- 4 Board size is at greater than five but less than 16
- 5 CEO is not listed as having a related-party transaction
- 6 Compensation committee composed solely of independent outsiders
- 7 Chairman and CEO positions are separated, or there is a lead director
- 8 Nominating committee composed solely of independent outsiders
- 9 Governance committee exists and met in the past year
- 10 Shareholders vote on directors selected to fill vacancies
- 11 Governance guidelines are publicly disclosed
- 12 Annually elected board (no staggered board)
- 13 Policy exists on outside directorships (four or fewer boards is the limit)
- 14 Shareholders have cumulative voting rights
- 15 Shareholder approval is required to increase/decrease board size
- 16 Majority vote requirement to amend charter/bylaws (not supermajority)
- 17 Board has the express authority to hire its own advisers
- 18 Performance of the board is reviewed regularly
- 19 Board-approved succession plan in place for the CEO
- 20 Outside directors meet without CEO and disclose number of times met
- 21 Directors are required to submit resignation upon a change in job
- 22 Board cannot amend bylaws without shareholder approval or can do so only under limited circumstances
- 23 Does not ignore shareholder proposal
- 24 Qualifies for proxy contest defenses combination points

AUDIT

- 25 Consulting fees paid to auditors are less than audit fees paid to auditors
- 26 Audit committee composed solely of independent outsiders
- 27 Auditors ratified at most recent annual meeting

ANTI-TAKEOVER PROVISIONS

- 28 Single class, common
- 29 Majority vote requirement to approve mergers (not supermajority)
- 30 Shareholders may call special meetings
- 31 Shareholders may act by written consent
- 32 Company either has no poison pill or a pill that is shareholder approved.
- 33 Company is not authorized to issue blank check preferred

COMPENSATION & OWNERSHIP

- 34 Directors are subject to stock ownership requirements
 - 35 Executives are subject to stock ownership guidelines
 - 36 No interlocks among compensation committee members
 - 37 Directors receive all or a portion of their fees in stock
 - 38 All stock-incentive plans adopted with shareholder approval
 - 39 Options grants align with company performance and reasonable burn rate
 - 40 Officers' and directors' stock ownership is at least 1% but not over 30% of total shares outstanding
 - 41 Repricing prohibited
-

Appendix B: Variables Definitions

Variable		Definition
Total institutional ownership	<i>IO_TOTAL</i>	Holdings (end-of-year) by all institutions, expressed as a percentage of market capitalization (FactSet/LionShares)
Domestic institutional ownership	<i>IO_DOM</i>	Holdings (end-of-year) by institutions located in the same country in which the stock is issued, expressed as a percentage of market capitalization (FactSet/LionShares)
Foreign institutional ownership	<i>IO_FOR</i>	Holdings (end-of-year) by institutions located in a different country from the where the stock is issued, expressed as a percentage of market capitalization (FactSet/LionShares)
Common-law institutional ownership	<i>IO_COMMON</i>	Holdings (end-of-year) by institutions located in common-law countries, expressed as a percentage of market capitalization (FactSet/LionShares)
Civil-law institutional ownership	<i>IO_CIVIL</i>	Holdings (end-of-year) by institutions located in civil-law countries, expressed as a percentage of market capitalization (FactSet/LionShares)
U.S. foreign institutional ownership	<i>IO_FOR_US</i>	Holdings (end-of-year) by U.S. institutions, expressed as a percentage of market capitalization (FactSet/LionShares)
Non-U.S. foreign institutional ownership	<i>IO_FOR_NUS</i>	Holdings (end-of-year) by non-U.S. institutions, expressed as a percentage of market capitalization (FactSet/LionShares)
Independent institutional ownership	<i>IO_IND</i>	Institutional ownership by independent institutions (mutual funds and independent investment advisers) , expressed as a percentage of market capitalization (FactSet/LionShares)
Grey institutional ownership	<i>IO_GREY</i>	Institutional ownership by grey institutions (bank trusts, insurance companies, and other institutions), expressed as a percentage of market capitalization (FactSet/LionShares)
Firm size	<i>SIZE</i>	Log of total assets in thousands of U.S. dollars (WS 02999)
Sales growth	<i>SGROWTH</i>	Two-year geometric average of annual growth rate in net sales in U.S. dollars (WS 01001)
Leverage	<i>LEV</i>	Total debt (WS 03255) divided by total assets (WS 02999)
Cash	<i>CASH</i>	Cash and short term investments (WS 02001) divided by total assets (WS 02999)
Capital expenditures	<i>CAPEX</i>	Capital expenditures (WS 04601) divided by total assets (WS 02999)
Market-to-book	<i>MB</i>	Market value of equity (WS 08001) divided by book value of equity (WS 03501)
Return on assets	<i>ROA</i>	Ratio of net income before extraordinary items (WS 01551) plus interest expenses (WS 01151) to total assets (WS 02999)
Research & development expenditures	<i>R&D</i>	Research and development expenditures (WS 01201) divided by total assets (WS 02999)
Property, plant and equipment	<i>PPE</i>	Property, plant and equipment (WS 02501) divided by total assets (WS 02999)
Foreign sales	<i>FXSALE</i>	International annual net sales (WS 07101) as a proportion of net sales (WS 01001)

Variable		Definition
Insider ownership	<i>CLOSELY</i>	Number of shares held by insiders (shareholders who hold 5% or more of the outstanding shares, such as officers and directors and immediate families, other corporations or individuals), expressed as a proportion of the number of shares outstanding (WS 08021)
Cross-listing dummy	<i>ADR</i>	U.S. cross-listing dummy, equal to one if a firm is cross-listed on a U.S. exchange through a level 2-3 ADR (source: major depository institutions) or direct listing of ordinary shares (U.S. stock exchanges), and zero otherwise.
Analyst coverage	<i>ANALYST</i>	Number of analysts following a firm (IBES)
Tobin's Q	<i>Q</i>	Total assets (WS 02999) plus market value of equity (WS 08001) minus book value of equity (WS 03501) divided by total assets (WS 02999)
Dividend payment Dummy	<i>DIV</i>	Dummy that equals one if total cash dividends (WS item 04551) are positive, zero otherwise
MSCI member dummy	<i>MSCI</i>	MSCI member dummy, equal to one if a firm is a member of the MSCI All-country World Index, and zero otherwise.
Abnormal stock return	<i>ABNORMAL_RET</i>	Annual stock return minus the stock market index return of the country where the firm is located (DS)