

Country Governance and Foreign Investment in Business Groups

Andriy Bodnaruk*, Massimo Massa** and Stefan Zeume***

Abstract

We investigate how different dimensions of governance affect foreign investment in business groups around the world. Business groups help investors to reduce the risk of expropriation from the State and the financial risk of default, but expose them to higher risk of expropriation by majority shareholders/ entrenched managers. These risks are affected by the quality of governance in the country. Using disaggregated data on portfolio investment of institutional investors in the biggest firms in the world over the period 2000-2009, we show that foreign institutional investors generally avoid investing in business group affiliates and when they do invest, they prefer to invest in firms at the top of the group hierarchies. Higher risk of expropriation from the State increases foreign ownership in business groups, while bad corporate governance increases the incentives to invest in the firm at the top of the business group. During the recent financial crisis foreign investors increased their ownership in business groups, particularly so in countries where state intervention is limited. Also, using unsponsored ADRs, we show that exogenous shocks to the disclosure of the firm reduce foreign investor demand for complex firms as they hamper the ability of such a structure to shield from government expropriation.

JEL Classification: G12, G3, G32

Keywords: business groups, portfolio investment, capital flows, corporate governance

* Finance Department, Mendoza College of Business, University of Notre Dame; 238 Mendoza College of Business, Notre Dame, IN, 46556, USA, abodnaru@nd.edu ** Finance Department, INSEAD, Boulevard de Constance, 77300 Fontainebleau, France, Tel: +33160724481, Fax: +33160724045 Email: massimo.massa@insead.edu. *** Finance Department, INSEAD, Boulevard de Constance, 77300 Fontainebleau, France, Tel: +3316072 4239, Fax: +33160724045 Email: stefan.zeume@insead.edu.

1. Introduction

Over the last decade, there has been a huge surge in international cross-border flows. Foreign portfolio investment by financial institutions – pension funds, mutual funds, hedge funds, insurance companies – has overtaken direct investment. This phenomenon has attracted a significant interest from academic researchers.¹

One key assumption in the literature has always been that each firm is an individual stand-alone entity. While this assumption describes the U.S. relatively well, it is grossly inadequate in the context of international markets.² Indeed, in most countries, the biggest listed firms are affiliates of business groups.³ This raises the question how portfolio investment is affected by the existence of these complex structures. Do international portfolio investors avoid firms affiliated with business groups or, on the opposite, are they drawn to such firms? If the investment is made into a group-affiliated firm does it go to the holding company at the top of the group or to the subordinated firm at the bottom of the hierarchy?

Business groups are distinct from stand-alone firms as they help investors to reduce risk along two key dimensions: the risk of expropriation from the State and the financial risk of default. A complex group structure helps to disguise the assets and performance of the group, dissimulate the wealth of the firms belonging to it, and reduces the probability of group members being expropriated by the government.⁴ Additionally, the separate legal structure of the different subsidiaries lowers the “risk of contamination” from the default of a unit of the group. The possibility of using the cash flows/assets of one unit of the group to help another unit (Gopalan, Nanda, and Seru, 2007) also helps to smooth the cash flows and provides coinsurance against default. Investing in business groups, however, comes with the higher risk of expropriation by majority shareholders/ entrenched managers, particularly when investment is made in the firm at the bottom of the business group hierarchy.

Exogenous factors such as the quality of governance in the country affect these risks. We consider both “horizontal governance”– i.e., the set of rules mediating the relationships between the players in the

¹ The literature has analyzed international portfolio investment decisions in terms of information and distance (Brennan and Cao, 1997, Graham, Harvey, and Huang, 2005, Portes and Rey, 2005, Gianetti and Simonov, 2006), risk hedging/portfolio diversification (Cooper and Kaplanis, 1994, Baxter and Jermann, 1997), liquidity (Kang and Stulz, 1997), and governance (Kho, Stulz and Warnock, 2009, Leuz, Lins, and Warnock, 2009).

² La Porta, Lopez-De-Silanes, and Shleifer (1999) document that in 1995 none of the twenty largest US firms were a part of a pyramidal structure.

³ Based on analysis of 5804 firms, 720 of which are member of a business group, from 46 countries included in our sample we estimate that in 2009, more than 30% of non-US equity market capitalization is made of firms that are parts of business groups.

⁴ Our argument is consistent with findings of Leuz and Oberholze-Gee (2003) and Durnev and Fauver (2011) which demonstrate that firms tend to be less transparent in countries with high state intervention.

market – and “vertical governance” – i.e., the governance mediating the relationship between the players in the market and the government/elite (Acemoglu and Johnson, 2005). Business groups help to reduce the risk of expropriation by the State in the case of bad vertical governance, but may unfairly privilege majority shareholders and entrenched managers in the case of bad horizontal governance.

Despite the advantages and drawbacks of business groups, if the securities are fairly priced, outside investors should be indifferent about investing in business groups. However, we observe a quite sizable cross-sectional variation in the foreign ownership of firms affiliated with business groups around the world. For example, in Japanese business groups, average foreign ownership is 3.6% whereas foreigners on average hold 11.4% stakes in Korean business groups. It therefore becomes important to understand why in some countries foreign institutional investors avoid business groups while in others they find them to be attractive investments.

The literature (Brennan and Cao, 1997, Kang and Stulz, 1997, Choe, Kho, and Stulz, 2005, Leuz, Lins, and Warnock, 2009) has long argued that foreign investors are at an information disadvantage vis-à-vis the domestic investors. Prior research has suggested that such information asymmetry could be about the company expected cash flows, riskiness, or the scope of expropriation by majority shareholders. As a result, foreigners will hold lower positions in firms where they perceive such disadvantages to be larger or, put differently, foreign investors will be drawn to firms that have the ability to mitigate the risks.

We take the idea of information disadvantage of foreigners one step further and posit that they are more uncertain not only about the risk of expropriation at the firm level (Leuz et al., 2009), but also about the possibility of being expropriated by the state and the default risk of their investments. We argue that in general foreigners would avoid investing in business groups because of their higher sensitivity to the risk of expropriation by majority owners. However, in countries with high likelihood of state intervention (bad vertical governance) foreign investors should be more willing to invest in such firms due to their superior ability to mitigate the risk of state expropriation and to help to mitigate distress risk.

In other words, foreign investors trade-off the risk of expropriation by majority shareholders and the benefits of protection against state expropriation and mitigation of default risk. Business group structures should be particularly appreciated by foreign investors when the government is known to interfere more with business environment. One signal for foreign investors about the possibility of political interference is provided by the quality of country governance. Bad country governance – i.e., higher risk of expropriation from the government – increases the importance as well as the feasibility of political connections.

At the same time, however, when the decision to invest in a group-affiliated firm has been made, the choice to invest either in the top or in the subordinate (“bottom”) firm will be only affected by the possibility of being expropriated by the majority shareholders. Indeed, a more risk-sensitive foreign investor would shun away from investing in the subordinated entities of a group as these are more subject to expropriation by the controlling shareholders of the entire group, particularly when bad horizontal governance exacerbates this risk.

Therefore, the fact that both the top and the subordinate (“bottom”) firms in the same business group share a similar exposure to state expropriation and default risks, while bottom firms are more exposed to expropriation risk by the majority shareholders provides a nice set of identifying restrictions.

Finally, we argue that outside investors may protect themselves against expropriation from the majority owners by concentrating their holdings. However, this may expose them to expropriation risk from the government. Therefore, if foreign investors are sensitive to expropriation risks – by state and by majority owners – they should concentrate more in the presence of bad horizontal governance and less in the case of bad vertical governance.

We test these hypotheses using a novel dataset on worldwide institutional investors and block-ownership for the period 2000-2009. We suggest a direct way of testing based on observing the behavior of the investors in the market and using their demand to assess which part of the trade-off between costs and benefits of investing in business groups the market finds more relevant in different cases. We use disaggregated data on portfolio investment of foreign institutional investors in the biggest firms in the world to investigate how their investment decision is affected by the business structure affiliation. We look at the overall sample of firms and relate both foreign institutional ownership and concentration of foreign ownership to hierarchy, governance, and the interaction between them. Then, we break down the analysis in overall, US- and non-US foreign ownership.

We start by documenting a strong negative relation between affiliation with a business group and foreign institutional ownership. Being part of a business group reduces ownership by 1.7 percentage points for all foreign investors (1.1 and 1.2 percentage points for US and non-US investors respectively). This represents 33% (51%, 40%) of the unconditional mean. Also, affiliation with a business group increases concentration for all foreign institutional investors by 5 percentage points as well as by 4.5 percentage points for US investors and 5.1 percentage points for non-US investors. These represent 14% (10%, 13%) of the unconditional mean.

In the presence of bad vertical governance, business group affiliation affects foreign investor demand to a lower degree. Being part of a business group reduces overall foreign ownership by 1.2 percentage

points less (0.2 and 1.3 percentage points for US and non-US investors respectively) for companies in bad governance countries than for companies in good governance countries. Also, in the presence of bad governance, business group affiliation is less related to foreign investor concentration. Being part of a business group increases overall concentration of ownership by foreign investors by 6.6 percentage points less (3.0 and 7.2 percentage points for US and non-US investors respectively) for companies in bad governance countries compared to companies in good governance countries.

Next, we focus on the complex business groups – i.e. on all business groups with a hierarchical structure. We ask whether horizontal governance affects incentives to invest in the top entity or in the bottom one. We find a positive correlation between being the top entity in a complex structure and foreign ownership. Firms at the top of the structure experience a 1.9 percentage points higher ownership for overall investors (0.8 and 1.2 percentage points for US and non-US respectively). This represents 32% (32%, 35%) of the mean for complex firms. Moreover, being at the top reduces the incentive to concentrate. Indeed, firms at the top display a 2.2 percentage points (5.2, 2.7 percentage points) lower concentration of overall foreign (US, non-US) ownership than firms at the bottom.

Also, bad horizontal governance makes even stronger the benefit of investing in the firm at the top. In the presence of bad horizontal governance, the difference between overall foreign (US, non-US) demand for the top and demand for the bottom is 3.6 percentage points (1.6, 2.3). In the presence of good horizontal governance, the difference is 0.9 percentage points (0.3, 0.7), respectively.

Our results are robust to controlling for the endogeneity of the firm structure and for the nested choice process of the investor. We control for the endogeneity of the firm structure by instrumenting the choice of the firm to adopt a complex structure by the natural log of a country's market capitalization. We argue that the bigger the market capitalization of the country, the higher is the amount of market capital available to the firm and therefore the higher the incentive to adopt a structure that maximizes the possibility to raise equity. The results are consistent with the previous ones, showing a strong positive correlation between being the top entity in a complex structure and institutional investor demand. Also, the incentive to invest in the top is larger when horizontal governance is weak.

We then investigate the decision process of investors. We argue that the choice of the layer is effectively conditional on having chosen to invest in complex firms. To address this issue we adopt a nested choice model. Investors first select whether to invest in complex firms and then, conditional on having chosen a complex firm, they select the layer at which to invest. We therefore explicitly model the substitution patterns among choices (e.g., McFadden, 1978, Cardell, 1991, Berry, 1994).

The results confirm the previous ones, displaying a strong positive correlation between being the top entity in a complex structure and institutional investor demand. We also find that foreign investors perceive the choice of investing in the top versus the bottom firm as very different.

Then, we focus on shocks to the two types of risks the complex business group helps to attenuate: default risk and expropriation risk. We consider the 2008-2009 crisis and the listing of unsponsored ADRs. We start with shocks to default risk. The two goals that business groups serve are not necessarily aligned as the need to hide assets from government extortion may distort the cashflows away from what an optimal risk-reducing structure would require. The misalignment between these two agendas should be most pronounced in bad governance countries in which protection against state expropriation is a dominant concern. Therefore, in such countries business groups are less capable of mitigating downside risks.

The risk of distress becomes particularly important during the crisis. Since foreign investors are more sensitive to risks they should particularly appreciate the default risk reduction feature of business groups in this time period. Given that business groups in good governance countries are better positioned to react to default shocks we would expect that in these countries the increase in foreign investor demand for business groups should be larger.

We find that during the crisis the overall negative effect of having a complex structure on foreign investor demand is reduced. Moreover, this effect is most prevalent for complex firms in good vertical governance countries. Quantitatively, in bad vertical governance countries complex firms experience a 0.5 percentage points lower foreign ownership before the crisis, which increases to a 1.0 lower ownership during the crisis. Firms in a good vertical governance environment, however, experience a reduction from 2.5 percentage points lower foreign ownership before the crisis to 0.1 percentage points lower ownership.

Next, we focus on a “shock” to governance. A shock to the ability of the firm to hide the true firm value should reduce the value of using a business group structure to protect against state expropriation. A reduction in the ability of the complex firm to shield expropriation risk will translate in a lower ownership of foreign investors. We look at the effect of the firm being listed in New York via an American Depository Receipts (ADR). We contrast sponsored and unsponsored ADRs. The former are chosen by the company and therefore are completely endogenous. The latter, instead, are chosen by financial intermediaries who decide to create ADRs to allow the stock of the firm to be traded (Iliev et al., 2010). They can be therefore considered as exogenous and unwanted shocks to the transparency of the firm.

As expected, we find a clear difference between sponsored and unsponsored ADRs. Sponsored ADRs increase demand for complex firms, regardless of quality of vertical governance. This is in line with the

notion that firms doing ADRs voluntarily do so to increase international demand for their shares (Reese and Weisbach, 2002, Doidge, 2005). We find foreign institutional ownership to increase by 1.6% for all firms and by 3.5% for complex firms. Unsponsored ADRs, however, increase demand by 2.9 percentage points on average, but complex firms see their demand increase by merely 0.1 percentage points. This result is driven by firms in badly governed countries. These results are consistent with the notion that being listed against one's will makes firms more visible and therefore more exposed to state expropriation.

These findings are important for three orders of reasons. First, they redefine the traditional concept of portfolio choice. Indeed, the standard asset pricing framework does not assume any organizational link between the firms in which it is possible to invest. The only link is the correlation in cash flows. However, it is often the case that firms with totally unrelated cash flows are closely linked because of affiliation to complex business groups. In this case, coordination of strategies, - e.g., propping and tunneling among firms within the group, the existence of within-group cross-guarantees – may induce correlations among firms belonging to the same business groups, as well as influence the performance of the stocks in a way that should affect the choice of the portfolio investor.

Second, this has implications for corporate strategies themselves. Indeed, the creation of a business group is a strategy that has important implications in terms of the ability of the group to finance itself, expand and invest. Until now, the literature has focused on leverage and corporate decisions (Bae, Kang, and Kim, 2002, Almeida and Wolfenzon, 2006, Masulis, Pham, and Zein, 2011), without directly looking at the impact on the equity market.

Third, this analysis has important policy and normative implications. Indeed, financial liberalization has directly put in competition systems based more on business group structures (e.g., Asian and continental European economies) and systems based more on single firm structures (e.g., Anglo-Saxon system). While standard corporate finance has separately extensively analyzed the roles of business groups in terms of either their ability to provide the benefits of internal capital markets or provide protection against government expropriation, to our knowledge, no paper has directly addressed these two positive effects jointly.

The corporate finance literature has extensively investigated how the governance of a country affects corporate decisions. Bad governance has been shown to be related to less efficient investments (Wurgler, 2000), a more levered capital structure, lower long-term debt (Booth et. al. 2001; Demircuc-Kunt and Maksimovic, 1999) as well as lower economic growth (Acemoglu and Johnson, 2005; Acemoglu, Johnson, Robinson, and Thaicharoen, 2003; Acemoglu, Johnson, Robinson, 2002). However, there has been scant analysis of the value that the market assigns to business groups as a function of the quality of

governance of the country. Should we expect the market to assign higher value to business groups in countries characterized by bad governance, effectively privileging the expropriation shield effect, or would they to assign higher value to business groups in countries characterized by good governance, effectively privileging the risk reduction effect?

Fourth, we add to the literature on firm governance. Formal governance by-laws of the firm, institutional ownership, and block ownership have all been identified as different mechanisms of governance (Claessens et al. 2000, La Porta et al., 2002, Lemmon and Lins, 2003, and Lins, 2003, Claessens and Laeven, 2003, Laeven and Levine, 2008). Our contribution is that we show how the interrelation between the organizational structure of the firm and governance affects investor choice. Moreover, while the literature has almost always focused on the quality of horizontal governance, we focus directly on vertical governance. We contribute by documenting the trade-off between vertical and horizontal governance faced by international investors in dealing with complex organizational forms.

Our findings also contribute to the understanding of business groups. We focus on their role to reduce business risk or provide protection against government expropriation. To our knowledge, no paper has directly tackled this issue.

Finally, we contribute to the literature on the role of institutional ownership. Recent evidence has shown that foreign institutional investors play a special governance role in corporations worldwide, as they are associated with higher firm valuation and improved performance and reduced capital expenditures. The results show that foreign institutions help to improve governance (e.g., Gillan and Starks, 2003, Ferreira and Matos, 2008). However, international ownership is endogenously driven by firm-specific characteristics. We provide an identifying restriction – the combination of horizontal and vertical governance of a country – to determine what drives international ownership.

The remainder of the paper is organized as follows. Section 2 outlines our main testable hypotheses. Section 3 describes the sample and the variables we use. Section 4 describes our main results. Sections 5 and 6 provide additional tests controlling for endogeneity of the firm structure and the nested choice. Section 7 focuses on exogenous shocks to the probability of distress and to the ability of the business groups to reduce expropriation by the government. A brief conclusion follows.

2. Hypotheses

Business groups are complex structures with significant separation between ownership and control coupled with the ability for the controlling shareholders to move resources freely between different units of the group. This fact, coupled with a lower general transparency creates a fruitful environment for

expropriation of minority shareholders. As a result, investors which are more sensitive to this risk (e.g., Leuz et al., 2009) – foreign investors – are likely to avoid business groups in their investments.

At the same time, business groups help to protect against expropriation from the State (“expropriation shield”) and to manage business and financial risk (“risk reduction”). Indeed, the complex structure of a business group helps to dissimulate the wealth of the firms belonging to it and reduces the probability of them being expropriated by the government. Additionally, a business group made of different legal units creates a more resilient structure against bankruptcy risk by exploiting the separate legal liability structure of the different units of the group to limit the liability of the other firms belonging to it. This makes it easier to absorb shocks with lower “risk of contamination” from the default of a unit of the group. Also, by using the cash flows/assets of one unit of the group to help another unit (Gopalan et al., 2007) a business group structure helps to smooth the cash flows and provides coinsurance against default.

These considerations suggest that affiliation with a business group provides better protection against two major sources of risk: default and expropriation. Foreign investors, being far away and therefore subject to a higher information disadvantage, perceive the uncertainty related to these risks to be higher and therefore are more willing to invest in companies that have in place a structure devoted to reduce them. This implies that foreign investors by considering investing in a business group trade-off the risk of expropriation by majority shareholders and the benefits of the protection against state expropriation and default risk.

One factor that directly impacts this trade-off is the quality of country governance. We consider two types of country governance: “horizontal” and “vertical” (Acemoglu and Johnson, 2005). “Horizontal governance” refers to a set of rules that regulate transactions between private parties, such as company and shareholders. “Vertical governance” refers to institutions constraining expropriation by government and elites and regulates transactions between the state (elites) and its citizens. Good horizontal governance protects minority shareholders from expropriation by managers or the majority shareholders. Good vertical governance protects all shareholders from expropriation by the government.

Bad horizontal governance, by making it easier for the majority shareholders to expropriate minority investors, reduces the appeal of investing in business groups. Bad vertical governance instead increases the importance of the expropriation shield. Therefore business group structures should be particularly appreciated by foreign investors when the government is known to interfere more with business environment. These considerations allow us to formulate our first hypothesis.

H1: Foreign investors invest more in business groups when the quality of vertical governance is bad.

Next, we consider the level in the hierarchy of the group that investors prefer to invest in. The existence of a group makes it more likely that the rights of the minority shareholders of the firm will be trampled upon. A complex organizational structure is more opaque and makes it easier for majority shareholders/entrenched managers to expropriate minority shareholders. The risk of expropriation by majority shareholders is most acute for the companies at the bottom of group's hierarchy. Moreover, the benefits of the reduction of default risk tend to accrue mostly to the unit at the top of the group and to be smaller for the controlled entities. In fact, the latter may be used to support the former.

Both of these considerations suggest that investment in the bottom firms within the group is riskier. Since foreigners are in disadvantage vis-a-vis local investors in their ability to assess these risks they would prefer to invest in the entity of the group more immune to expropriation by the controlling entity – i.e., the top firm in the structure.

The polarization of the benefits for the firms within the group will be higher when the interest of the minority shareholders in the controlled entities are more poorly protected – i.e., in the presence of bad horizontal governance. Indeed, the risk of expropriation by majority shareholders is higher the worse is the quality of horizontal governance of the country.

This implies that if international investors are sensitive to risk of expropriation by majority shareholders their preference for top firms within the structure will be reinforced in the case of poor horizontal governance. This allows us to formulate our second hypothesis.

H2: Foreign investors invest more in the top firms within the group when the quality of horizontal governance is bad.

A way investors can protect themselves against expropriation from the majority controlling block is to concentrate their holdings. Indeed, Stulz (2005) argue and show that concentrated ownership helps to deal with the agency problem generated by the majority-minority relationship. However, concentrated ownership – especially if it entails a high stake by each investor as opposed to just few investors – exposes the shareholders to expropriation risk from the State. Therefore, if foreign investors are sensitive to expropriation risks, they should concentrate more in the presence of worse horizontal governance and less in the case of worse vertical governance. This leads to our third hypothesis.

H3: The worse the quality of horizontal (vertical) governance, the more (less) foreign investors prefer concentrating their investment in complex structures (in the top rather than in the bottom of the business group structures).

Before proceeding to the testing, we describe the data and how we constructed our main variables.

3. Data

We first describe the data sources and the main variables. Then, we describe how we construct our identifiers of business groups and bottom firms. Last, but not least, we provide a description of vertical and horizontal governance measures.

3.1 Data Sources and Main Variables

The data on ownership come from the Bureau van Dijk's databases.⁵ For the period of 2006-2009, we use the Orbis database, while for the period 2001-2005, we combine Amadeus and Osiris. Orbis contains ownership, financial, and corporate governance data for over 16 million firms across the globe (as of July 2008). Amadeus is a subset of Orbis for both listed and non-listed European firms, while Osiris is a subset of Orbis for all global listed firms.

The data on ownership by institutional investors ("institutions") come from FactSet/LionShares. FactSet/LionShares compiles institutional ownership from public filings by investors (such as 13-F filings in the U.S.), company annual reports, stock exchanges, and regulatory agencies around the world. Institutions are defined as professional money managers, including mutual fund companies, pension funds, bank trusts, and insurance companies. We consider all types of stock holdings: common shares, preferred shares, American Depositary Receipts (ADRs), Global Depositary Receipts (GDRs), and dual listings. FactSet/LionShares provides holdings by over 5,300 institutions, with positions totaling US\$17 trillion as of December 2007. Ferreira and Matos (2008) provide a more detailed description of this database.

A majority (63.33%) of the institutional investors report stock ownership semiannually, 30.04% report on the quarterly basis, 6.08% do it yearly, and 0.55% report monthly. Hence, we execute our cross-sectional analysis on the semiannual basis. We focus on publicly listed corporations worldwide for which we are able to obtain financial and accounting data, stock market information from

⁵ Bureau van Dijk describes its collection of ownership data as follows: "For US listed companies, ownership information is systematically collected from the Free Edgar File which includes all companies filing proxy statements. These links cover all known shareholders (corporations or individuals) with an ownership percentage of 5% or more, as well as the ownership of directors and executive officers (with no lower ownership percentage limitation). Data is gathered tracking lower levels percentages owned by corporations. This is done by querying the NASDAQ web-site under the entry "Beneficial Owner" which is associated to the display of a company. (This covers all companies listed in the US stock exchanges, not only those listed on the NASDAQ)." For non-US firms and US private firms Bureau van Dijk collects data from annual reports, stock exchanges, information providers, company web-sites, press news, and private correspondence (with a 25% response rate). This implies that the data are collected in a similar manner as in other related studies. We confirm this by comparing summary statistics. Our summary statistics are comparable to those in Dlugosz et al. (2006), Villalonga and Amit (2006) and other studies on blockownership in US public firms. We attribute the fact that the mean blockholding in our sample is slightly higher than in other studies to our larger sample and thus higher proportion of small firms.

Datastream/WorldScope, and country level measures of governance. We exclude US-based companies from our analysis. We also exclude firms based in tax havens (Bermuda, Cayman Islands, British Virgins).

The final sample consists of 7,323 firms in 46 countries. The frequency distribution of firms across the countries is presented in Table 1, Panel A. Larger economies lead the way with the number of firms represented; there are 2,139 Japanese firms and 665 UK firms.

Data on accounting variables come from Datastream/Worldscope. The Appendix provides a description of the main variables. We match Bureau van Dijk data and Datastream/Worldscope with data on institutional investor stock holdings from FactSet/LionShares over 2001-2009. The descriptive statistics of the main variables are in Table 1, Panel B. The median market value of our sample firms is \$10.73 million. The median levels of book-to-market, tangibility and dividend yield are given by 0.89, 27.98%, and 1.45%, respectively.

We construct three measures of foreign institutional ownership: total foreign institutional ownership (the fraction of shares outstanding held by all foreign institutions); US foreign institutional ownership (the fraction of shares held by institutions domiciled in the United States); and non-US foreign institutional ownership (the fraction of shares held by institutions domiciled in the foreign country other than the United States). Following Gompers and Metrick (2001), we set foreign institutional ownership to zero if a stock is not held by any foreign domiciled institution according to FactSet/LionShares.

Foreign ownership concentration is the Herfindahl-Hirschman index of foreign institutional ownership, i.e. the sum of the squared *shares of foreign institutional holdings* in each firm. US-based foreign ownership concentration and non-US-based foreign ownership concentration are computed accordingly. All measures of ownership and ownership concentration are computed semi-annually.

The mean (median) foreign institutional ownership is 9.48% (5.17%), which is comparable to findings in Ferreira, Massa, and Matos (2010). The median sample firm has foreign ownership concentration of 0.18. US-based foreign investors tend to be more concentrated than non-US-based foreign investors (0.27 compared to 0.21).

3.2 Definition of Business Group

We use the Bureau van Dijk's databases to determine whether firms are linked to other firms by shareholdings in excess of 25%. All firms linked by such shareholdings constitute a *business group* or *complex firm*⁶. All other firms are defined as *single-layer* firms. *Bottom firms* are defined as business

⁶ We use these terms interchangeably.

group members that are owned by at least one other business group member. *Top firms* are defined as business group members that own at least one business group member without being owned by any business group member.

Summary statistics split by firm structure (complex vs. single-layer) are provided in Table 1C. Complex firms have significantly higher foreign ownership than single-layer firms overall (8.62% compared to 9.61%) and split by US and non-US foreign investors (5.87% compared to 5.01%). Moreover, ownership appears to be more dispersed in firms that belong to business groups. Of course, neither of these group splits controls for characteristics and indeed, firms that are member of a business group tend to be larger, have a lower book-to-market value, and relatively more cash holdings, as well as better investment opportunities. Furthermore, complex firms have higher asset tangibility and are more levered; also, such firms pay more dividends. We will control for all of these variables in our regressions.

Summary statistics for the firms that are part of a business group are reported in Table 1D, split into top firms and bottom firms. Foreign institutional ownership is significantly higher at the top (12.57% compared to 5.74%) and significantly more dispersed at the top. Firms at the top tend to be larger, tend to have lower book-to-market value, and have lower relative cash holdings and tangibility of assets. Top firms are more levered and more liquid.

3.3 Definition of Vertical and Horizontal Governance

In order to test our hypotheses, we apply measures of vertical governance and measures of horizontal governance (Acemoglu and Johnson 2005). Measures of vertical governance are meant to capture the relationship between the state and firms, such as the state's ability to expropriate shareholders. Measures of horizontal governance are meant to capture the relationship between private parties, such as the firm and its major shareholder. With respect to business groups, horizontal governance refers to the top firm's ability to expropriate firms at the bottom.

We employ two measures of vertical governance, the Corruption Perception Index (CPI; a measure provided by Transparency International (TI)), and expropriation risk (Knack and Kefer, 1995). Similarly, we use two measures of horizontal governance: the anti-self-dealing index (Djankov, La Porta, Lopez-Silanes, and Shleifer 2008) and the revised anti-directorship index (La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997). A detailed description of each of these measures is provided in the Appendix.

Our sample covers the period 2001-2009. Panel A shows the number of unique sample firms and the number of observations by country. Panel B provides summary statistics for all sample observations. Panel C splits observations into business groups and single-layer firms. There are roughly 9,000 business group observations and roughly 57,000 single-layer firms. We report mean and median along with p-

values of a t-test for the difference in mean and a χ^2 test for the difference in median. Panel D splits business group observations by bottom and top. There are roughly 4,400 top firms and roughly 4,600 bottom firms. Variable definitions are provided in the Appendix.

4. Preliminary Evidence

In this section, we provide results for foreign investment in hierarchical firms as a function of vertical governance and in top versus bottom as a function of horizontal governance.

4.1 Foreign Ownership in Business Group Affiliates and Vertical Governance

We provide some preliminary evidence about the relation between foreign institutional ownership and governance. We consider both foreign institutional investor demand and its concentration. We focus on both vertical and horizontal governance. We start by looking at the overall sample of firms and we regress both foreign institutional ownership and concentration of ownership on hierarchy, governance, the interaction between them and a set of control variables. We break down the analysis in total, US- and non-US foreign ownership as well as foreign ownership concentration.

We define hierarchy as a dummy equal to one if a firm is complex – i.e. has more than one layer – and zero otherwise. Bad (good) vertical governance is a dummy equal to one if the firm is domiciled in a country with below- (above-) median vertical governance. Vertical governance is measured by expropriation risk and by perceived corruption as reported by Transparency International, respectively. We report the test of the difference in coefficients of complex firms in good and complex firms in bad vertical governance countries (F-test bad = good). All the control variables are measured at the end of the previous year and defined in the Appendix. In the case of institutional ownership we estimate a Tobit specification, while in the case of ownership concentration we estimate OLS regressions. In both cases, we include industry, time, and country fixed effects. Standard errors are clustered at the firm level.

The results are reported in Table 2, Panels A and B. Columns (1)-(3), (4)-(6), and (7)-(9) explain overall, US and non-US foreign institutional ownership and institutional ownership concentration, respectively. They show a strong negative relationship between hierarchy and institutional investor demand. This holds across the different specifications. The effect is there for the overall foreign institutional investors as well as for US and non-US international investors separately. Being a part of a business group reduces demand by 1.7 percentage points for all foreign investors (1.1 and 1.2 percentage points for US and non-US investors respectively). This represents 33% (51%, 40%) of the unconditional mean. Also, hierarchy increases concentration of foreign institutional ownership. Being part of a business

group increases concentration by 5 percentage points for all foreign investors (4.5 and 5.1 percentage points for US and non-US respectively). This represents 14% (10%, 13%) of the unconditional means.

If we focus on the role of governance, we see that bad vertical governance reduces the impact of hierarchy on foreign institutional investor demand. In particular, being part of a business group reduces overall foreign ownership by 1.2 percentage points less (0.2 and 1.3 percentage points for foreign and domestic investors respectively) for companies in bad governance countries compared to companies in good governance countries. The difference is significant for all groups of foreign investors.

Also, in the presence of bad governance, hierarchy is less related to foreign institutional investor concentration. Being part of a business group increases overall foreign investor concentration by 6.6 percentage points less (3.0 and 7.2 percentage points for US and non-US investors respectively) for companies in bad governance countries compared to companies in good governance countries. Again, the difference is significant as indicated by the F-test.

These results provide a first evidence of our main hypothesis linking foreign institutional investor demand to firm structure as a function of the quality of governance of the country. We now move on to look at the choice of the layer in which to invest.

4.2 Foreign Ownership in Top/Bottom firms and Horizontal Governance

Next, we focus on the complex firms – i.e. on all firms with more than one layer – and we ask whether horizontal governance affects the incentive to invest in the top entity or in the bottom one. We therefore relate foreign institutional ownership to a dummy equal to one if a firm is not the firm on top of the complex structure and zero otherwise (Bottom), governance, their interaction and a set of control variables. We include industry, time, and country fixed effects. Standard errors are clustered at the firm level.

The results are reported in Table 2, Panels C and D. We report the test of the difference of the coefficients of complex firms in good and complex firms in bad vertical governance countries (F-test bad = good). The results display a positive correlation between being the top entity in a complex structure and foreign institutional investor demand. This holds across the different specifications. The effect is there for the overall foreign institutional investors as well as for US and non-US international investors separately. Firms at the top of the structure experience a 1.9 percentage points higher demand for overall foreign investors (0.8 and 1.2 percentage points for US and non-US investors respectively). This represents 32% (32%, 35%) of the unconditional means for complex firms. Moreover, being at the top reduces the incentive to concentrate. Indeed, firms at the top display a 2.2 percentage points (5.2, 2.7 percentage points) lower concentration of overall foreign (US, non-US) ownership than firms at the bottom.

Also, bad horizontal governance makes even stronger the benefit of being the firm at the top. In the presence of bad horizontal governance, the difference between overall (foreign, domestic) demand for the top and demand for the bottom is 3.6 percentage points (1.6, 2.3). In the presence of good horizontal governance, the difference is 0.9 percentage points (0.3, 0.7), respectively. The difference is significant for overall and foreign demand, as reported by the F-test.

Horizontal governance does not seem to affect significantly differently the degree of shareholder concentration.

5. Controlling for the Endogeneity of Complexity

One potential issue with the previous estimation is that it does not account for the endogeneity of the firm's organizational structure. We therefore re-estimate the previous specifications using a Two Stage Least Square approach.

We adopt a Heckman Selection model. In the first stage, we use the natural log of a country's market capitalization as the main instrument for the choice of the firm to adopt a complex structure. We argue that the bigger the market capitalization of the country, the higher is the amount of capital available to the firm and therefore the higher the incentive to adopt a structure that maximizes the possibility to raise equity. As additional instruments we also use country average book-to-market and liquidity. Results of the first stage probit regression to explain whether a firm is complex or not are reported in Table III, Panel A. Above all, higher market capitalization of listed firms makes it more likely to choose a complex structure.

The results for the second stage are reported in Table III, Panel B. Columns (1)-(3), (4)-(6), and (7)-(9) explain overall, US-based and non-US based foreign institutional ownership, respectively. We relate institutional ownership and ownership concentration to horizontal governance and controls as before. We also include the inverse Mills ratio (Λ) from our first stage.

The results are consistent with the previous ones, showing a strong positive correlation between being the top entity in a complex structure and foreign institutional investor demand. Firms at the top of the structure experience a 1.9 percentage points higher demand for all foreign investors (0.8 and 1.3 for US and non-US investors respectively). Also, as before, bad horizontal governance makes even larger the difference between top and bottom investment. These results indicate that the difference for overall investment is 2.7 percentage points larger in bad horizontal governance countries (compare 3.6 to 0.9 percentage points for anti-selfdealing). This also holds for US-based investors (compare 1.6 to 0.4 percentage points) and non-US-based investors (compare 2.3 to 0.7 percentage points).

6. A Nested Choice

Another potential issue with the specification of Section 4 is that investors may not only choose either the hierarchy or the layer at which to invest, but both. That is, the choice of the layer is effectively conditional on having chosen to invest in complex firms. To address this issue we adopt a nested choice model. Investors first select whether to invest in complex firms and then, conditional on having chosen a complex firm, they select the layer at which to invest. We addressed this issue in two ways.

First, we estimated a standard Heckman selection model based on two steps: the first is the choice of whether to invest in a complex firm and the second is the choice of the layer. However, this simple approach (as well as any approach based on a simple logit) does not allow to properly model the substitution patterns among choices (e.g., McFadden, 1978; and Cardell, 1991). We therefore follow Berry (1994) and use a nested logit specification that allows investors' preferences "to be correlated (in a restricted fashion) across choices". This allows for "more reasonable substitution patterns". We therefore employ the Berry (1994) model and estimate a fully-fledged nested model. The specification is analogous to equation (28) in Berry (1994) is:

$$\ln(P_{bc,t}) = \alpha X_{bc,t} + \beta \ln(P_{bc,t}) + \gamma \ln(P_{0,t}) + \varepsilon_{bc,t}, \quad (1)$$

where P_{bc} is the probability that investors choose to invest in a bottom firm (b) after having selected the c^{th} complex group. P_{bc} is the *conditional choice* and represents the probability that investors choose a bottom firm conditional on the choice of the complex group. We proxy for it as the natural log of a firm's market share within its home country at each point in time, where market share is the market value of institutionally owned shares of that firm at time t divided by market value of institutional ownership of all complex firms in that country at time t.

The conditional choice is instrumented by the log of market capitalization of listed firms in that country, by country, time, and industry fixed effects, and by investment opportunities, leverage, dividend yield, and liquidity of complex firms by country and time. P_0 is the *outside option*. It proxies for the probability that investors choose to invest in non-complex firms. We define it as the log of the outside option's market share at time t, measured as the market value of foreign institutional ownership in non-complex firms at time t divided by the market value of foreign institutional ownership of all the firms in the sample at time t. For US-based and non-US-based international ownership, we construct the conditional choice and outside option accordingly.

Let us, for instance, consider the Wallenberg Group in Sweden and assume that foreign investors are willing to invest in Erikson (a firm at the bottom of the pyramid). In this case, P_{bc} is the unconditional probability of choosing Erikson. In contrast, P_{bc} is the probability that the a foreigner chooses the Erikson, conditional on having decided to invest in a complex structure. The P_0 term represents the probability that the foreign investor chooses to invest in complex structures. The vector X_{bc} contains the set of standard controls used in previous regressions. The parameter β represents the degree of substitutability of the choosing to invest in top or bottom layer, after having chosen to invest in complex firms. As β approaches one, “the within group correlation of utility levels goes to one, and as β approaches zero, the within group correlation goes to zero” (Berry 1994). In other words, if β is equal to 1, investors are indifferent whether to invest in top or bottom, while if it is equal to zero they perceive the two choices as starkly different.

To address the issue of endogeneity, the conditional choice is instrumented by the log of market capitalization of listed firms in that country, by country, time, and industry fixed effects, and by investment opportunities, leverage, dividend yield, and liquidity of complex firms by country and time.

The results are reported in Table 4. In the interest of brevity we only report the results based on the nested specification. The ones based on the Heckman are consistent and are available upon request. We report the results of IV regressions using GMM with industry, time, and country fixed effects. Standard errors are clustered at the firm level. The variables are defined as in the previous specifications.

Also in this case, the results are consistent with the previous ones. We find a strong positive correlation between being the top entity in a complex structure and foreign institutional demand. This holds across the different specifications and for different types of foreign institutional investors (overall, US-based and non-US-based). We can interpret coefficients as percentage drops. Firms at the bottom of the structure experience a 38% lower demand for all foreign investors (31% and 38% for US-based and non-US-based investors respectively). Also, as before, bad horizontal governance makes even stronger the effect of being the firm at the bottom. Bad horizontal governance reduces overall foreign demand for the firm at the bottom by 51%, compared to 30% for good horizontal governance. Similarly, bad horizontal governance reduces US (non-US foreign) institutional ownership by 45% (51%), compared to 25% (32%) for good horizontal governance. This confirms our previous results.

Interestingly, we find β to be around 0.17 which is significantly larger than 0 but even more significantly different from 1. Investors perceive the choice between investing in the top and investing in the bottom as different.

7. Exogenous Shocks

We now focus on exogenous shocks to the main features that define international investor demand: default risk and expropriation risk. At any moment investors are affected by the desire to minimize both expropriation and business risk. We therefore expect that exogenous shifts in either one of them will directly affect the investor choice, moving the investors away or towards firms belonging to business groups. We separately consider shocks to the ability to shield from state expropriation as well as from the risk of distress.

7.1. Shocks to Distress

We start with shocks to distress. Any activity inside the group has to meet two potentially conflicting goals – to protect the group against government expropriation and to achieve reduction in the default risk. The former is particularly important in bad governance countries in which business group internal transfers are engineered to prevent the state from having a fair view of the assets of the firm. This implies that in bad governance countries business groups are more effective at shielding themselves from state expropriation; however, it comes at the expense of lower ability to mitigate risk of distress.

The risk of distress becomes particularly important during the crisis. Since foreign investors are more sensitive to risks they should particularly appreciate the default risk reduction feature of business groups in this time period. Given that business groups in good governance countries are better positioned to react to default shocks we would expect that in these countries the increase in foreign investor demand for business groups should be larger. Overall, these considerations suggest that the additional impact on foreign investor demand for business groups during the crisis should be more limited in the case of bad vertical governance.⁷

If we look inside the group, a deterioration of the economic conditions will be mostly felt by the bottom firms, while the top firms will be relatively more immune and protected. The investors more sensitive to this risk exposure would therefore prefer to invest in the top entity of the group.

This effect should be stronger in the case of good horizontal governance countries. Indeed, in the case of bad horizontal governance, the market would have already incorporated the fact that the benefits accrue mostly to the top of the structure. In good governance countries, instead, in normal times, part of the benefits would still be flowing to the firms at the bottom of the structure. However, as the shock arrives

⁷ Bad vertical governance may lower the risk reduction dimension by both hampering the ability to transfer the cash flows freely inside the group and making it more difficult to jettison an unprofitable division. The latter may be due, for example, to the ensuing (un)employment implications not tolerable in countries with high political meddling. In

and the whole power of the group structure is employed to protect the core of the group – i.e., the top entity – the reallocation of all the benefits – in general shared with the bottom of the structure – to the top entity will make the bottom suffer. This would determine a reallocation of investment to the top. We therefore expect that an increase in the risk of distress reduces the incentives of foreign investors to invest in the bottom of the business group structures, especially in the presence of good horizontal governance.

We use as exogenous shock to distress the recent financial market crisis and ask whether institutional ownership is affected differentially in different governance environments. We report the results in Table 5. In Panel A, we analyze the impact of the crisis on foreign institutional demand in complex firms, while in Panel B, we study the impact of the crisis on the choice of investing in the bottom firms that are part of complex firms.

We regress ownership on hierarchy, governance, and a Crisis dummy that is equal to one from the 2nd half of 2008 to the 2nd half of 2009 and zero otherwise. We interact this dummy with hierarchy and vertical governance dummies as used in Table 2A, and with bottom and horizontal governance dummies as used in Table 2B. All control variables are measured at the end of the previous year and defined in the Appendix. We report the results of Tobit regressions for institutional ownership and OLS regressions for ownership concentration with industry, time, and country fixed effects.

First of all, we find that the negative effect of having a complex structure on investor demand is reduced. Quantitatively, the difference in ownership declines from a 2.1 percentage point lower demand to a 1.0 (=2.1-1.1) percentage point lower demand of all foreign investors (*catching up*). The negative effect of business group membership on ownership is cut by almost 50% for US-based foreign investors (from -1.2 to -0.7 percentage points) and by 67% for non-US-based foreign investors (from -1.5 to -0.5 percentage points) (Table 5 Panel A, Columns 1, 4, 7).

When we split further by bad/good vertical governance, we find that the *catching up* is most prevalent with overall foreign investment in good governance complex firms. Quantitatively, badly governed complex firms experience a 0.5 percentage points lower foreign investment before the crisis, which increases to a 1.0(=0.5-0.1+0.6) lower foreign investment during the crisis. Firms in a good vertical governance environment, however, experience a reduction from 2.5 percentage points lower foreign investment before the crisis to 0.1(=2.5-1.0-1.4) percentage points lower foreign investment (based on the split by expropriation risk). The marginal effect of the crisis on foreign investment in complex firms with good governance is significantly larger than that on complex firms with bad governance, as measured by

a highly publicized case, Russian government ordered tycoon Oleg Deripaska to restore production at one of his unprofitable plants in 2009 after laid off workers blocked a major road.

the Ftest. As above, we note that the *catching up* is strong both with US-based and non-US-based foreign investment.

7.2. *Shocks to Governance*

We now consider a “shock” to governance: a shock to the ability of the firm to hide the true firm value. This should reduce the attractiveness of a business group structure to protect against state expropriation. This effect should be more important in the cases in which the investment in business groups was chosen for its role of expropriation shield – i.e., bad vertical governance countries. In other words, a reduction in the ability to shield the firm from expropriation should make business group structures less appreciated, especially in bad governance countries. Therefore, we expect that a reduction in the ability of a business group structure to protect the firm from expropriation reduces the incentives of foreign investors to invest in business group structures, especially in the presence of bad vertical governance.

We look at the effect of the firm being listed in New York (issuance of ADRs or American Depository Receipts). We contrast sponsored and unsponsored ADRs. The former are chosen by the company and therefore are completely endogenous. The latter, instead, are chosen by financial intermediaries who decide to create ADRs to allow the stock of the firm to be traded (Iliev et al., 2010). More specifically, on September 5, 2008 a change in the Rule 12g3-2(b) by the SEC created a space for depository banks to establish *unsponsored* (involuntary) ADRs. “In this way, this exogenous regulation shock exposed foreign firms to the positive as well as the potential negative consequences of unsponsored cross-listing programs. For example, once an unsponsored ADR program is established by a depository bank, the firm becomes liable for fraudulent misstatements or omissions under anti-fraud provisions of U.S. federal or state securities laws” (Iliev et al., 2010).

Therefore, these ADRs can be seen as exogenous shocks to the transparency of the firm. Indeed, while for the case of sponsored ADRs it may be argued that firms with already existing good quality of firm-level governance optimally choose to list in the US (e.g., Doidge, Karoly, and Stulz, 2004), in the case of unsponsored ADRs the fact that the firm is listed in the US nilly-willy will affect its disclosure, forcing it to adopt better disclosure standards. Given that this has not been optimally chosen by the firm, it may affect its ability to dissimulate its assets and withstand government expropriation.

We regress both ownership and concentration on hierarchy and governance, splitting the sample according to sponsored ADRs and unsponsored ADRs⁸. Here, sponsored (unsponsored) ADR is a dummy equal to one if the firm has a sponsored (unsponsored) ADR at that point in time. We interact this dummy

⁸ We also run a similar regression on a sample of firms that have a sponsored (unsponsored) ADR and firms matched by size, book-to-market, complex/single layer, and country. The results are the same.

with hierarchy and vertical governance dummies defined as before⁹. All the control variables are measured at the end of the previous year and defined in the Appendix.

We report the results in Table 6. In Panel A, we look at the sponsored ADRs, while in Panel B, we focus on unsponsored ADRs. We also report the test of the difference between the coefficient of bad governance x complex firm x ADR dummy and good governance x complex firm x ADR dummy (F test bad = good).

The results display a clear difference between sponsored and unsponsored ADRs. Sponsored ADRs increase foreign demand for complex firms, regardless of quality of vertical governance (Table 6 Panel A). This is consistent with the notion of positive self-selection. Unsponsored ADRs, however, increase foreign demand by 2.9 percentage points on average, but reduce demand for complex firms, particularly in badly governed countries so that the overall impact of an unsponsored ADR for firms in business groups is zero (Table 6 Panel B). This is consistent with our hypothesis that being listed against one's will makes firms more visible and therefore more exposed to state expropriation. However, while the results seem robust in the specifications, the tests of the difference do not show a significant difference most of the time. This is likely due to the limited size of the sample.

8. Conclusion

International investors are subject to different country risk: the risk of government expropriation – i.e., bad vertical governance – but accentuates the risk of expropriation of the minority shareholders – i.e., bad horizontal governance. We ask which one prevail in foreign investor choice by analyzing their investment attitude towards business groups. We argue that group affiliation and a complex structure help to reduce the risk of government expropriation – i.e., bad vertical governance – but accentuates the risk of expropriation of the minority shareholders – i.e., bad horizontal governance.

We use disaggregated data on portfolio investment of foreign institutional investors in the biggest firms in the world to investigate how their investment decision is affected by the business structure affiliation. We hypothesize that investors trade off the benefits of risk reduction against the agency costs related minority shareholder expropriation.

We use a novel dataset on worldwide institutional and block-ownership for the period 2000-2008. We look at the overall sample of firms and we regress both foreign institutional ownership and concentration of foreign ownership on hierarchy, governance, the interaction between them and a set of control

⁹ We do not estimate the relationship to horizontal governance given that the limited size of the sample would make this analysis not very reliable.

variables. Then, we break down the analysis in US and non-US foreign institutional ownership as well as US and non-US foreign institutional ownership concentration.

We document a strong negative relationship between hierarchy and foreign institutional investor demand. Also, hierarchy increases concentration both for all foreign institutional investors and for US and non-US investors separately. In the presence of bad governance, hierarchy affects less institutional investor demand. Also, in the presence of bad governance, hierarchy is less related to institutional investor concentration.

Next, we focus on the complex firms – i.e. of all firms with more than one layer – and we ask whether horizontal governance affects the incentive to invest in the top entity or in the bottom one. We find a positive correlation between being the top entity in a complex structure and foreign institutional investor demand. Bad horizontal governance makes even stronger the benefit of being the firm at the top.

Our results are robust to controlling for the endogeneity of the firm structure and for the nested choice process of the investor. We also document that foreign investors perceive the choice of investing in the top versus the bottom firm as very different.

Finally, we focus on shocks that affect exogenously the way governance affects the incentives of investors to invest in complex firms as well as the layer in which to invest. We consider the 2008-2009 crisis and the listing of unsponsored ADRs. We show that the crisis reduced the negative effect of a complex structure on foreign investor demand, in line with our hypothesis that a complex structure better shields in the case of expropriation by the state. Also, by comparing the sponsored and unsponsored ADRs listing, we show that while the former seem to increase demand in the case of good vertical governance, unsponsored ADRs reduce it even more, in line with the hypothesis that a exogenously imposed disclosure hampers the ability of a complex structure to shield government expropriation.

Appendix: Variable Definitions

Variable	Description of Variable and Source of Data
Foreign Institutional ownership	fraction of company's shares outstanding pertaining to institutional investors; estimated from FactSet
US Institutional Ownership	fraction of company's shares outstanding pertaining to institutional investors domiciled abroad; estimated from Factset
Non-US Foreign Institutional Ownership	fraction of company's shares outstanding pertaining to institutional investors domiciled domestically; estimated from Factset
Foreign Ownership Concentration	Herfindahl-Hirschman index of institutional ownership, i.e. the sum of the squared <i>shares of institutional investors' holdings</i> in each firm
US Ownership Concentration	Herfindahl-Hirschman index of foreign institutional ownership, i.e. the sum of the squared <i>shares of foreign institutional investors' holdings</i> in each firm
Non-US Foreign Ownership Concentration	Herfindahl-Hirschman index of domestic institutional ownership, i.e. the sum of the squared <i>shares of domestic institutional investors' holdings</i> in each firm
Hierarchy	dummy equal to one if a firm is part of a group with more than one publicly listed layer
Bottom	dummy equal to one if a firm is part of a group with more than one publicly listed layer and is not the firm at the top
Crisis	dummy equal to one from 2 nd half of 2008 to 2 nd half of 2009 and zero otherwise
Sponsored ADR	dummy equal to one if the firm has a sponsored American Depositary Receipt; list of sponsored ADRs from Bank of New York
Unsponsored ADR	dummy equal to one if the firm has an unsponsored American Depositary Receipt; list of unsponsored ADRs from Bank of New York
Market Cap (Size)	market value of company's equity at the end of the previous 6 months period (WorldScope 08001)
Book-to-Market, B/M	the market value of equity (WorldScope 08001) divided by book value of equity (WorldScope 03501)
Cash	Cash (WorldScope ?????) divided by total assets (WorldScope 02999)
Investment Opportunities	Two-year geometric average of annual growth rate in net sales in US dollars (WorldScope 01001)
Tangibility	PP&E (WorldScope 02501) divided by total assets (WorldScope 02999)
Leverage	Ratio of long-term debt (WorldScope 03251) to total assets (WorldScope 02999).
Dividend Yield	Dividend yield (WorldScope 09404)
Momentum	Past six months return on a company stock in US dollars; estimated from Datastream
Liquidity	Median of daily trading volume divided by number of shares outstanding over past six months
Revised Anti-Directorship Index	an index aggregating shareholder rights. The index is formed by adding 1 rights when: (1) the country allows shareholders to mail their proxy vote; (2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; (3) cumulative voting is allowed; (4) an oppressed minorities mechanism is in place; or (5) when the minimum percentage of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting is less than or equal to 10% (the sample median). The index ranges from 0 to 5. Originally constructed and described in La Porta et

Anti-Self-Dealing Index	al (1997). Revised in Djankov et al (2008). an index of the strength of minority shareholder protection against self-dealing by the controlling shareholder; constructed and described in Djankov et al (2008).
Protection Against Expropriation by Government	risk of expropriation of private foreign investment, from 0 to 10, with a higher score meaning less risk; obtained from Political Risk Services; variable described by Knack and Keefer (1995)
Corruption Index	Corruption Perception Index by Transparency International; ranges from 0 to 10 with higher values indicating lower level of corruption. Updated annually.

References

- Acemoglu, Daron, Simon Johnson, and David Robinson, 2002, The Rise of Europe: Atlantic Trade, Institutional Change and Economic Growth, *NBER Working Paper*.
- Acemoglu, Johnson, Robinson, and Thaicharoen 2003
- Acemoglu, Daron and Simon Johnson, 2005, Unbundling Institutions, *Journal of Political Economy* 113, 949-995.
- Baxter and Jermann 1997
- Berry, Steven T., 1994, Estimating Discrete-Choice Models of Product Differentiation, *RAND Journal of Economics*, 25(2), 242-262.
- Booth, Laurence, Varouj Aivazian, Asli Demirguc-Kunt, and Vojislav Maksimovic, 2001, Capital Structures in Developing Countries, *The Journal of Finance*, 56(1), 87-130.
- Brennan, Michael J. and H. Henry Cao, 1997, International Portfolio Investment Flows, *The Journal of Finance*, 52(5), 1851-1880.
- Cardell, N. S., 1991, Variance Components Structures for the Extreme Value and Logistic Distributions, *Mimeo*, Washington State University, 1991.
- Choe, Hyuk, Bong-Chan Kho, and Rene Stulz, 2005, Do Domestic Investors Have an Edge? The Trading Experience of Foreign Investors in Korea, *Review of Financial Studies* 18, 795-829.
- Claessens, Stijn, Simeon Djankov, and Larry Lang, 2000, The Separation of Ownership and Control in East Asian Corporations, *Journal of Financial Economics* 58, 81-112.
- Claessens, Stijn and Luc Laeven, 2003, Financial Development, Property Rights, and Growth, *Journal of Finance* 58, 2401-2436.
- Cooper, I. and E. Kaplanis, 1994, Home Bias in Equity Portfolios, Inflation Hedging, and International Capital Market Equilibrium, *Review of Financial Studies*, 7(1), 45-60.
- Demirguc-Kunt, Asli and Vojislav Maksimovic, 1999, Institutions, Financial Markets and Firm Debt Maturity, *Journal of Financial Economics*, 54(3), 295-336.
- Djankov, Simeon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, 2008, The Law and Economics of Self-Dealing, *Journal of Financial Economics* 88, 430-465
- Dlugosz, Jennifer, Ruediger Fahlenbrach, Paul Gompers, and Andrew Metrick, 2006, Large Blocks of Stock: Prevalence, Size, and Measurement, *Journal of Corporate Finance*, 12(3), 594-618.
- Durnev, Art and Larry Fauver, 2011, Stealing from Thieves: Expropriation Risk, Firm Governance, and Performance, *SSRN Working Paper*.
- Ferreira, Miguel and Pedro Matos, 2008, The Colors of Investors' Money: The Role of Institutional Investors Around the World?, *Journal of Financial Economics* 88, 499-533.
- Ferreira, Miguel, Massimo Massa, and Pedro Matos, 2010, Shareholders at the Game? Institutional Investors and Cross-Border Mergers and Acquisitions, *Review of Financial Studies* 23, 601-644.
- Gianetti, Mariassunta and Andrei Simonov, 2006, Which Investors Fear Expropriation? Evidence from Investors' Portfolio Choices, *The Journal of Finance*, 61(3), 1507-1547.
- Gillan, Stuart and Laura T. Starks, 2003, Corporate Governance, Corporate Ownership, and the Role of Institutional Investors: A Global Perspective, *SSRN Working Paper*.
- Gompers, Paul A. and Andrew Metrick, 2001, Institutional Investors and Equity Prices, *Quarterly Journal of Economics*, CXIV(2001), 229-260.
- Gopalan, Radhakrishnan, Vikram Nanda, and Amit Seru, 2007, Affiliated Firms and Financial Support: Evidence from Indian Business Groups, *Journal of Financial Economics*, 86(3), 759-795.

- Graham, John R., Campbell R. Harvey and Hai Huang, 2005, Investor Competence, Trading Frequency, and Home Bias, *NBER Working Paper*.
- Iliev, Peter, Darius P. Miller, and Lukas Roth, 2010, Uninvited U.S. Investors? Economic Consequences of Involuntary Cross-listings, *Working Paper*.
- Kang, Jun-Koo and Rene Stulz, 1997, Why is There a Home Bias? An Analysis of Foreign Portfolio Equity Ownership in Japan, *Journal of Financial Economics* 46, 3-28.
- Kho, Bong-Chan, René M. Stulz, and Francis E. Warnock, 2009, Financial Globalization, Governance, and the Evolution of Home Bias, *Journal of Accounting Research*, 47(2), 597-635.
- Knack, Stephen, and Philip Keefer, 1995, Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures, *Economics and Politics* 7, 207-227.
- La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, 1997, Legal determinants of external finance, *Journal of Finance* 52, 1131-1150.
- La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, 1999, The quality of government, *Journal of Law, Economics and Organization* 15, 222-279.
- La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 2002, Investor Protection and Corporate Valuation, *Journal of Finance*, 57, 1147-1170.
- Laeven, Luc and Ross Levine, 2008, Complex Ownership Structures and Corporate Valuations, *Review of Financial Studies* 21, 579-604.
- Lemmon, Mike and Karl Lins, 2003, Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis, *Journal of Finance* 58, 1445-1468.
- Leuz, C. and F. Oberholzer-Gee, 2003, Political Relationships, Global Financing, and Corporate Transparency, *Unpublished Working Paper, Wharton School*.
- Leuz, Christian, Karl Lins, and Frank Warnock, 2009, Do Foreigners Invest Less in Poorly Governed Firms?, *Review of Financial Studies* 22, 3245-3285.
- Lins, Karl, 2003, Equity Ownership and Firm Value in Emerging Markets, *Journal of Financial and Quantitative Analysis* 38, 159-184.
- McFadden, Daniel, 1978, Econometric Models for Probabilistic Choice Among Products, *The Journal of Business*, 53(3), 13-29.
- Opp, Marcus, 2012, Expropriation Risk and Technology, *Journal of Financial Economics*, 103, 113-129.
- Portes, Richard and Helene Rey, 2005, The Determinants of Cross-Border Equity Flows, *Journal of International Economics*, 65(2), 269-296.
- Villalonga, Belen and Rafael Amit, 2006, How do Family Ownership, Control and Management Affect Firm Value?, *Journal of Financial Economics* 80, 385-417.
- Wurgler, Jeffrey, 2000, Financial Markets and the Allocation of Capital, *Journal of Financial Economics*, 58(1-2), 187-214.

Table 1: Summary Statistics

Our sample covers the period 2001-2009. Variables are observed semi-annually. Panel A shows the number of unique sample firms and the number of observations by country. Panel B provides summary statistics for all sample observations. Panel C splits observations into business groups and single-layer firms. There are roughly 9,000 business group observations and roughly 58,000 single-layer firms. We report mean and median along with p-values of a t-test for the difference in mean and a χ^2 test for the difference in median. Panel D splits business group observations by bottom and top. There are roughly 4,400 top firms and roughly 4,600 bottom firms. Variable definitions are provided in Appendix A.

Panel A: Observations by Country							
Country	Code	# firms	# obs	Country	Code	# firms	# obs
Argentina	AR	24	247	Jordan	JO	12	42
Austria	AT	39	286	Japan	JP	2 139	27 120
Australia	AU	331	1 894	South Korea	KR	430	3 322
Belgium	BE	62	438	Kuwait	KW	14	30
Brazil	BR	4	32	Luxembourg	LU	8	72
Canada	CA	275	2 889	Mexico	MX	48	449
Switzerland	CH	113	933	Malaysia	MY	202	1 689
Chile	CL	37	294	Netherlands	NL	51	435
Germany	DE	333	2 501	Norway	NO	70	571
Denmark	DK	68	502	New Zealand	NZ	45	424
Egypt	EG	9	30	Peru	PE	10	67
Spain	ES	64	463	Philippines	PH	30	232
Finland	FI	97	905	Pakistan	PK	22	111
France	FR	366	2 581	Poland	PL	115	660
United Kingdom	GB	665	6 418	Portugal	PT	17	158
Greece	GR	104	640	Russia	RU	25	103
Hong Kong	HK	113	920	Sweden	SE	180	1 675
Hungary	HU	12	73	Singapore	SG	129	770
Indonesia	ID	20	102	Slovenia	SI	9	56
Ireland	IE	25	267	Thailand	TH	44	349
Israel	IL	67	598	Turkey	TR	53	423
India	IN	121	602	Taiwan	TW	490	2 905
Italy	IT	132	896	South Africa	ZA	99	680
Total						7 323	66 854

Panel B: Summary Statistics of Main Variables

	N	mean	median	std dev
Foreign Inst. Ownership (%)	66 854	5.17%	2.36%	7.03%
US Foreign Inst. Ownership (%)	66 854	2.17%	0.65%	3.77%
Non-US Foreign Inst. Ownership (%)	66 854	3.01%	1.19%	4.48%
Foreign Ownership HHI	62 700	0.36	0.27	0.30
US Foreign Ownership HHI	56 502	0.47	0.44	0.31
Non-US Foreign Ownership HHI	55 515	0.39	0.30	0.33
log10(Size \$mn)	66 854	2.46	2.37	0.76
log10(Book-To-Market)	66 854	-0.14	-0.12	0.35
Cash (% of Assets)	66 854	15.10%	10.85%	14.29%
Investment Opportunities (%)	66 854	13.10%	8.93%	28.15%
Tangibility (%)	66 854	30.81%	27.98%	21.90%
Leverage (%)	66 854	12.21%	8.16%	13.30%
Dividend Yield (%)	66 854	2.11%	1.45%	2.81%
Momentum (%)	66 854	5.25%	5.69%	36.56%
Liquidity (daily, %)	66 854	0.31%	0.13%	0.59%

Panel C: Mean and Median of Complex and Single-Layer Firms

	Complex		Single Layer		Difference	
	mean	median	mean	median	mean	median
Foreign Inst. Ownership (%)	5.93%	2.73%	5.06%	2.32%	0.87% [0.00]	0.41% [0.00]
US Foreign Inst. Ownership (%)	2.51%	0.85%	2.12%	0.62%	0.38% [0.00]	0.24% [0.00]
Non-US Foreign Inst. Ownership (%)	3.43%	1.47%	2.95%	1.16%	0.49% [0.00]	0.31% [0.00]
Foreign Ownership HHI	0.29	0.17	0.37	0.28	-0.08 [0.00]	-0.11 [0.00]
US Foreign Ownership HHI	0.39	0.31	0.49	0.46	-0.09 [0.00]	-0.14 [0.00]
Non-US Foreign Ownership HHI	0.31	0.18	0.41	0.32	-0.09 [0.00]	-0.13 [0.00]
log10(Size \$mn)	2.89	2.82	2.39	2.32	0.49 [0.00]	0.50 [0.00]
log10(Book-To-Market)	-0.15	-0.14	-0.14	-0.11	-0.01 [0.03]	-0.03 [0.00]
Cash (% of Assets)	12.33%	8.57%	15.52%	11.22%	-3.19% [0.00]	-2.64% [0.00]
Investment Opportunities (%)	12.85%	9.34%	13.14%	8.85%	-0.28% [0.36]	0.49% [0.01]
Tangibility (%)	35.75%	33.65%	30.07%	27.22%	5.68% [0.00]	6.43% [0.00]
Leverage (%)	14.96%	11.45%	11.80%	7.71%	3.16% [0.00]	3.74% [0.00]
Dividend Yield (%)	2.53%	1.74%	2.04%	1.41%	0.48% [0.00]	0.33% [0.00]
Momentum (%)	6.21%	7.46%	5.10%	5.43%	1.11% [0.01]	2.04% [0.00]
Liquidity (daily, %)	0.29%	0.13%	0.32%	0.13%	-0.02% [0.00]	0.00% [0.38]

Panel D: Mean and Median of Top and Bottom Firms

	Top		Bottom		Difference	
	mean	median	mean	median	mean	median
Foreign Inst. Ownership (%)	8.99%	6.17%	3.70%	1.40%	5.28% [0.00]	4.78% [0.00]
US Foreign Inst. Ownership (%)	3.86%	2.23%	1.52%	0.44%	2.34% [0.00]	1.79% [0.00]
Non-US Foreign Inst. Ownership (%)	5.14%	3.62%	2.19%	0.66%	2.94% [0.00]	2.96% [0.00]
Foreign Ownership HHI	0.17	0.07	0.38	0.29	-0.21 [0.00]	-0.22 [0.00]
US Foreign Ownership HHI	0.25	0.15	0.51	0.47	-0.25 [0.00]	-0.32 [0.00]
Non-US Foreign Ownership HHI	0.19	0.07	0.41	0.32	-0.22 [0.00]	-0.25 [0.00]
log10(Size \$mn)	3.30	3.41	2.58	2.53	0.72 [0.00]	0.88 [0.00]
log10(Book-To-Market)	-0.16	-0.16	-0.13	-0.13	-0.03 [0.00]	-0.03 [0.00]
Cash (% of Assets)	11.53%	8.89%	12.90%	8.36%	-1.37% [0.00]	0.53% [0.05]
Investment Opportunities (%)	14.14%	9.70%	11.91%	9.13%	2.24% [0.00]	0.57% [0.25]
Tangibility (%)	34.09%	31.49%	36.95%	35.06%	-2.86% [0.00]	-3.57% [0.00]
Leverage (%)	19.46%	17.01%	11.68%	6.60%	7.78% [0.00]	10.40% [0.00]
Dividend Yield (%)	2.46%	1.72%	2.57%	1.77%	-0.11% [0.1]	-0.05% [0.23]
Momentum (%)	6.05%	7.53%	6.33%	7.37%	-0.29% [0.7]	0.16% [0.8]
Liquidity (daily, %)	0.38%	0.24%	0.23%	0.08%	0.14% [0.00]	0.17% [0.00]

Table 2: Naïve One-Stage Regressions on Foreign Institutional Ownership and Foreign Ownership Concentration

We relate foreign institutional ownership and concentration of foreign ownership to vertical governance (Panels A and B) and horizontal governance (Panels C and D). Columns (1)-(3), (4)-(6), and (7)-(9) explain foreign, US, and non-US foreign institutional ownership and ownership concentration, respectively. In Panels A-B, the sample consists of all firms between 2001 and 2009. *Hierarchy* is a Dummy equal to one if a firm is complex (i.e. has more than one layer) and zero otherwise. *Bad (good) vertical governance* is a Dummy equal to one if the firm is headquartered in a country with below- (above-) median vertical governance. Vertical governance is measured by expropriation risk (Columns 2, 5, 8) and by perceived corruption (Columns 3, 6, 9) as reported by Transparency International, respectively. *Ftest bad=good* gives the p-value of an F-Test on the difference of the coefficients of complex firms in good and complex firms in bad vertical governance countries. In Panel C-D, the sample consists of all complex firms, i.e. of all firms with more than one layer. *Bottom* is a Dummy equal to one if a firm is not the firm on top of the complex structure and zero otherwise. *Bad (good) horizontal governance* is a Dummy equal to one if the firm is headquartered in a country with below- (above-) median horizontal governance. Horizontal governance is measured by the anti-selfdealing index (Columns 2, 5, 8) and by the revised anti-director index (Columns 3, 6, 9), respectively. *Ftest bad=good* gives the p-value of an F-Test on the difference of the coefficients of bottom firms in good and bottom firms in bad horizontal governance countries. All control variables are measured at the end of the previous year and defined in the Appendix. We report the results of Tobit regressions for foreign institutional ownership (Panels A and C) and OLS regressions for foreign ownership concentration (Panels B and D) with industry, time, and country fixed effects. Standard errors are clustered at the firm level. a, b, and c denote significance at 1, 5, and 10 percent levels respectively.

Panel A: Foreign Institutional Ownership and Vertical Governance

	Foreign Inst. Ownership			US Foreign Inst. Ownership			Non-US Foreign Inst. Ownersh.		
	Vertical Governance			Vertical Governance			Vertical Governance		
	(1)	Exprop (2)	Corrupt (3)	(4)	Exprop (5)	Corrupt (6)	(7)	Exprop (8)	Corrupt (9)
Hierarchy Dummy	-0.017 ^a (-8.15)			-0.011 ^a (-7.81)			-0.012 ^a (-7.70)		
Bad Vertical Gov x Hierarchy		-0.011 ^b (-2.49)	-0.009 ^b (-2.26)		-0.010 ^a (-3.71)	-0.009 ^a (-3.46)		-0.003 (-0.94)	-0.003 (-0.95)
Good Vertical Gov x Hierarchy		-0.020 ^a (-8.08)	-0.021 ^a (-8.48)		-0.010 ^a (-6.94)	-0.011 ^a (-7.24)		-0.015 ^a (-8.45)	-0.016 ^a (-8.78)
Log Size	0.060 ^a (46.49)	0.060 ^a (46.53)	0.060 ^a (46.53)	0.038 ^a (36.37)	0.038 ^a (36.44)	0.038 ^a (36.36)	0.039 ^a (44.09)	0.039 ^a (43.98)	0.039 ^a (44.13)
Log B/M	0.011 ^a (4.15)	0.010 ^a (3.95)	0.011 ^a (4.14)	0.014 ^a (8.40)	0.014 ^a (8.21)	0.014 ^a (8.36)	-0.002 (-0.84)	-0.002 (-1.00)	-0.002 (-0.81)
Cash	0.035 ^a (6.24)	0.035 ^a (6.23)	0.035 ^a (6.16)	0.015 ^a (3.84)	0.015 ^a (3.82)	0.015 ^a (3.81)	0.029 ^a (6.67)	0.029 ^a (6.66)	0.028 ^a (6.57)
Investment Opportunities	0.004 ^c (1.72)	0.004 ^c (1.70)	0.004 ^c (1.75)	-0.005 ^a (-3.26)	-0.005 ^a (-3.20)	-0.005 ^a (-3.25)	0.009 ^a (5.11)	0.009 ^a (5.07)	0.009 ^a (5.13)
Tangibility	-0.009 ^b (-2.09)	-0.009 ^b (-2.09)	-0.009 ^b (-2.09)	-0.005 ^c (-1.81)	-0.005 ^c (-1.81)	-0.005 ^c (-1.82)	-0.006 ^c (-1.77)	-0.006 ^c (-1.74)	-0.006 ^c (-1.76)
Leverage	-0.015 ^b (-2.35)	-0.015 ^b (-2.45)	-0.015 ^b (-2.37)	-0.016 ^a (-3.89)	-0.017 ^a (-3.97)	-0.016 ^a (-3.90)	-0.001 (-0.22)	-0.001 (-0.30)	-0.001 (-0.26)
Dividend Yield	-0.000 ^c (-1.73)	-0.000 (-1.59)	-0.000 ^c (-1.75)	-0.000 (-0.85)	-0.000 (-0.68)	-0.000 (-0.85)	-0.000 (-0.99)	-0.000 (-0.86)	-0.000 (-0.98)
Momentum	-0.005 ^a (-5.71)	-0.005 ^a (-5.58)	-0.006 ^a (-5.82)	-0.002 ^a (-2.88)	-0.002 ^a (-2.78)	-0.002 ^a (-2.96)	-0.006 ^a (-7.70)	-0.006 ^a (-7.56)	-0.006 ^a (-7.83)
Liquidity	-0.010 (-0.07)	0.010 (0.08)	0.014 (0.10)	0.056 (0.62)	0.059 (0.64)	0.059 (0.65)	-0.082 (-0.94)	-0.060 (-0.67)	-0.054 (-0.62)
Constant	-0.150 ^a (-8.86)	-0.152 ^a (-9.06)	-0.154 ^a (-9.22)	-0.085 ^a (-7.79)	-0.085 ^a (-7.80)	-0.086 ^a (-7.93)	-0.165 ^a (-12.99)	-0.168 ^a (-12.72)	-0.168 ^a (-12.83)
Sigma (constant)	0.062 ^a (59.04)	0.062 ^a (58.33)	0.062 ^a (58.78)	0.039 ^a (34.54)	0.039 ^a (34.30)	0.039 ^a (34.42)	0.047 ^a (54.26)	0.047 ^a (53.42)	0.047 ^a (54.08)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	66838	65844	66591	66838	65844	66591	66838	65844	66591
P-Value (Tobit)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ftest bad=good		0.069	0.005		0.923	0.335		0.001	0.000

Panel B: Foreign Institutional Ownership Concentration and Vertical Governance

	Foreign Inst. Ownership Concentration			US Foreign Inst. Ownership Concentration			Non-US Foreign Inst. Ownersh. Concentration		
	(1)	Vertical Governance		(4)	Vertical Governance		(7)	Vertical Governance	
		Exprop (2)	Corrupt (3)		Exprop (5)	Corrupt (6)		Exprop (8)	Corrupt (9)
Hierarchy Dummy	0.050 ^a (7.95)			0.045 ^a (7.12)			0.051 ^a (7.82)		
Bad Vertical Gov x Hierarchy		0.007 (0.65)	0.005 (0.49)		0.030 ^a (2.61)	0.024 ^b (2.37)		0.008 (0.66)	0.002 (0.22)
Good Vertical Gov x Hierarchy		0.066 ^a (8.69)	0.071 ^a (8.88)		0.050 ^a (6.62)	0.054 ^a (6.76)		0.067 ^a (8.60)	0.074 ^a (9.00)
Log Size	-0.316 ^a (-84.73)	-0.317 ^a (-84.11)	-0.317 ^a (-84.89)	-0.336 ^a (-92.02)	-0.337 ^a (-91.30)	-0.336 ^a (-91.86)	-0.336 ^a (-86.60)	-0.338 ^a (-86.01)	-0.337 ^a (-86.84)
Log B/M	-0.067 ^a (-8.50)	-0.066 ^a (-8.41)	-0.067 ^a (-8.58)	-0.123 ^a (-14.87)	-0.122 ^a (-14.67)	-0.124 ^a (-14.87)	-0.012 (-1.37)	-0.010 (-1.16)	-0.012 (-1.42)
Cash	-0.064 ^a (-3.71)	-0.064 ^a (-3.68)	-0.062 ^a (-3.60)	-0.024 (-1.34)	-0.021 (-1.19)	-0.022 (-1.23)	-0.078 ^a (-4.39)	-0.078 ^a (-4.37)	-0.075 ^a (-4.25)
Investment Opportunities	-0.031 ^a (-5.19)	-0.030 ^a (-5.02)	-0.030 ^a (-5.09)	0.012 ^b (1.98)	0.013 ^b (2.14)	0.012 ^b (2.01)	-0.036 ^a (-5.44)	-0.035 ^a (-5.21)	-0.035 ^a (-5.30)
Tangibility	0.021 ^c (1.75)	0.019 (1.59)	0.021 ^c (1.78)	0.025 ^b (2.04)	0.023 ^c (1.84)	0.025 ^b (2.07)	0.028 ^b (2.11)	0.027 ^b (1.99)	0.029 ^b (2.18)
Leverage	0.028 (1.53)	0.032 ^c (1.75)	0.030 ^c (1.66)	-0.000 (-0.02)	0.008 (0.46)	0.003 (0.14)	0.008 (0.44)	0.011 (0.58)	0.011 (0.57)
Dividend Yield	0.001 (0.80)	0.000 (0.55)	0.001 (0.92)	-0.001 (-0.99)	-0.001 (-1.40)	-0.001 (-0.95)	0.002 ^b (2.32)	0.001 ^b (1.98)	0.002 ^b (2.33)
Momentum	0.023 ^a (6.97)	0.022 ^a (6.76)	0.023 ^a (7.14)	0.008 ^b (2.23)	0.007 ^b (2.11)	0.008 ^b (2.34)	0.037 ^a (10.00)	0.037 ^a (9.85)	0.037 ^a (10.10)
Liquidity	-0.980 ^a (-3.20)	-1.081 ^a (-3.52)	-1.078 ^a (-3.54)	-2.108 ^a (-6.18)	-2.129 ^a (-6.20)	-2.168 ^a (-6.34)	-0.986 ^a (-2.73)	-1.079 ^a (-2.96)	-1.111 ^a (-3.08)
Constant	1.264 ^a (19.38)	1.280 ^a (19.43)	1.284 ^a (19.58)	1.325 ^a (18.57)	1.330 ^a (18.60)	1.334 ^a (18.70)	1.532 ^a (22.37)	1.552 ^a (22.77)	1.556 ^a (23.08)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	62686	61867	62445	56488	55894	56270	55501	54708	55274
Adj. R square	0.507	0.510	0.509	0.529	0.532	0.530	0.502	0.504	0.502
Ftest bad=good		0.000	0.000		0.158	0.021		0.000	0.000

Panel C: Foreign Institutional Ownership in Complex Firms and Horizontal Governance

	Foreign Inst. Ownership			US Foreign Inst. Ownership			Non-US Foreign Inst. Ownersh.		
	Horizontal Gov.			Horizontal Gov.			Horizontal Gov.		
	Antiself	Anti revised		Antiself	Anti revised		Antiself	Anti revised	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Bottom Dummy	-0.019 ^a (-4.48)			-0.008 ^a (-3.29)			-0.012 ^a (-4.23)		
Bad Horizontal Gov x Bottom		-0.036 ^a (-4.71)	-0.036 ^a (-5.05)		-0.015 ^a (-3.53)	-0.016 ^a (-3.95)		-0.024 ^a (-4.35)	-0.023 ^a (-4.55)
Good Horizontal Gov x Bottom		-0.010 ^b (-2.18)	-0.009 ^c (-1.88)		-0.004 (-1.41)	-0.003 (-1.06)		-0.007 ^b (-2.27)	-0.007 ^b (-2.09)
Log Size	0.051 ^a (16.61)	0.051 ^a (16.80)	0.051 ^a (16.80)	0.031 ^a (14.37)	0.031 ^a (14.45)	0.031 ^a (14.46)	0.034 ^a (16.80)	0.034 ^a (16.94)	0.034 ^a (16.91)
Log B/M	0.013 ^c (1.81)	0.012 (1.58)	0.012 (1.59)	0.014 ^a (3.05)	0.014 ^a (2.93)	0.014 ^a (2.92)	-0.001 (-0.19)	-0.002 (-0.40)	-0.002 (-0.38)
Cash	0.006 (0.36)	0.007 (0.43)	0.007 (0.48)	0.003 (0.36)	0.003 (0.31)	0.003 (0.36)	0.010 (0.94)	0.011 (1.03)	0.011 (1.07)
Investment Opportunities	-0.002 (-0.36)	-0.002 (-0.40)	-0.002 (-0.43)	-0.004 (-1.17)	-0.004 (-1.23)	-0.004 (-1.26)	0.002 (0.66)	0.002 (0.63)	0.002 (0.61)
Tangibility	-0.003 (-0.34)	-0.001 (-0.08)	-0.000 (-0.03)	-0.009 (-1.53)	-0.009 (-1.47)	-0.008 (-1.43)	0.007 (0.97)	0.009 (1.24)	0.009 (1.28)
Leverage	-0.026 ^c (-1.92)	-0.024 ^c (-1.74)	-0.023 ^c (-1.65)	-0.013 ^c (-1.73)	-0.012 (-1.53)	-0.011 (-1.42)	-0.014 (-1.36)	-0.013 (-1.24)	-0.013 (-1.19)
Dividend Yield	-0.000 (-0.75)	-0.000 (-0.98)	-0.000 (-0.93)	-0.000 ^c (-1.79)	-0.001 ^c (-1.87)	-0.000 ^c (-1.83)	0.000 (0.64)	0.000 (0.50)	0.000 (0.56)
Momentum	0.001 (0.43)	0.001 (0.35)	0.001 (0.40)	0.002 (0.97)	0.002 (0.89)	0.002 (0.94)	-0.001 (-0.72)	-0.001 (-0.72)	-0.001 (-0.68)
Liquidity	-0.052 (-0.11)	-0.158 (-0.31)	-0.138 (-0.27)	0.093 (0.34)	0.030 (0.10)	0.035 (0.12)	-0.118 (-0.40)	-0.180 (-0.58)	-0.162 (-0.52)
Constant	-0.111 ^a (-3.58)	-0.098 ^a (-3.11)	-0.097 ^a (-3.10)	-0.060 ^a (-3.31)	-0.054 ^a (-2.93)	-0.053 ^a (-2.88)	-0.160 ^a (-6.66)	-0.151 ^a (-6.28)	-0.152 ^a (-6.28)
Sigma (constant)	0.064 ^a (25.70)	0.064 ^a (25.84)	0.064 ^a (25.81)	0.038 ^a (16.71)	0.038 ^a (16.67)	0.038 ^a (16.65)	0.044 ^a (26.69)	0.044 ^a (26.72)	0.044 ^a (26.68)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8775	8643	8643	8775	8643	8643	8775	8643	8643
P-Value (Tobit)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ftest bad=good		0.002	0.001		0.027	0.009		0.004	0.004

Panel D: Foreign Institutional Ownership Concentration in Complex Firms and Horizontal Governance

	Foreign Inst. Ownership Concentration			US Foreign Inst. Ownership Concentration			Non-US Foreign Inst. Ownersh. Concentration		
	Horizontal Gov.			Horizontal Gov.			Horizontal Gov.		
	Antiself	Anti revised		Antiself	Anti revised		Antiself	Anti revised	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Bottom Dummy	0.022 ^c (1.86)			0.052 ^a (4.00)			0.027 ^b (2.17)		
Bad Horizontal Gov x Bottom		0.020 (0.88)	-0.001 (-0.03)		0.062 ^b (2.49)	0.049 ^b (2.14)		0.006 (0.28)	0.005 (0.26)
Good Horizontal Gov x Bottom		0.017 (1.46)	0.028 ^b (2.22)		0.042 ^a (3.30)	0.048 ^a (3.57)		0.035 ^b (2.56)	0.037 ^b (2.46)
Log Size	-0.268 ^a (-28.80)	-0.269 ^a (-28.87)	-0.269 ^a (-28.79)	-0.290 ^a (-29.91)	-0.291 ^a (-30.12)	-0.291 ^a (-30.05)	-0.292 ^a (-32.76)	-0.292 ^a (-32.63)	-0.292 ^a (-32.62)
Log B/M	-0.076 ^a (-3.68)	-0.076 ^a (-3.67)	-0.077 ^a (-3.73)	-0.127 ^a (-5.89)	-0.128 ^a (-5.86)	-0.129 ^a (-5.89)	0.010 (0.54)	0.010 (0.51)	0.010 (0.51)
Cash	-0.127 ^a (-2.60)	-0.124 ^b (-2.53)	-0.123 ^b (-2.53)	-0.078 (-1.55)	-0.077 (-1.53)	-0.078 (-1.55)	-0.145 ^a (-3.05)	-0.145 ^a (-3.03)	-0.144 ^a (-3.02)
Investment Opportunities	-0.029 ^b (-2.20)	-0.030 ^b (-2.23)	-0.031 ^b (-2.26)	-0.000 (-0.03)	-0.000 (-0.02)	-0.001 (-0.05)	-0.030 ^c (-1.92)	-0.030 ^c (-1.95)	-0.030 ^c (-1.95)
Tangibility	-0.035 (-1.25)	-0.031 (-1.09)	-0.029 (-1.02)	-0.019 (-0.68)	-0.018 (-0.61)	-0.016 (-0.57)	-0.047 (-1.56)	-0.048 (-1.58)	-0.048 (-1.57)
Leverage	0.052 (1.26)	0.049 (1.19)	0.055 (1.32)	0.059 (1.28)	0.053 (1.15)	0.055 (1.19)	0.014 (0.32)	0.020 (0.45)	0.021 (0.48)
Dividend Yield	-0.001 (-0.64)	-0.001 (-0.74)	-0.001 (-0.73)	-0.000 (-0.15)	-0.000 (-0.09)	-0.000 (-0.08)	-0.002 (-1.31)	-0.002 (-1.18)	-0.002 (-1.15)
Momentum	0.031 ^a (3.34)	0.030 ^a (3.28)	0.030 ^a (3.29)	0.011 (1.25)	0.010 (1.12)	0.010 (1.12)	0.035 ^a (3.48)	0.035 ^a (3.45)	0.036 ^a (3.48)
Liquidity	-2.879 ^a (-3.29)	-2.672 ^a (-3.11)	-2.744 ^a (-3.18)	-4.318 ^a (-4.33)	-4.197 ^a (-4.06)	-4.249 ^a (-4.11)	-2.306 ^a (-2.74)	-2.360 ^a (-2.67)	-2.341 ^a (-2.65)
Constant	1.301 ^a (11.10)	1.289 ^a (10.68)	1.306 ^a (10.83)	1.319 ^a (9.79)	1.304 ^a (9.47)	1.314 ^a (9.54)	1.508 ^a (15.56)	1.526 ^a (15.43)	1.528 ^a (15.66)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8463	8353	8353	7917	7826	7826	7634	7555	7555
Adj. R-square	0.553	0.549	0.550	0.576	0.576	0.576	0.548	0.545	0.546
Ftest bad=good		0.896	0.207		0.433	0.955		0.254	0.180

Table 3: Selection I: Two Stage Least Square on Foreign Institutional Ownership

Instrumenting the choice to form a complex firm by the natural log of a country's market capitalization (Panel A), we relate foreign institutional ownership in complex firms to horizontal governance (Panel B). We relate foreign institutional ownership in complex firms to horizontal governance using a Heckman Selection model. In the first stage (Panel A), we run a probit regression to explain whether a firm is complex or not. The exclusion restriction is the log of the market capitalization of listed firms in a country at a point in time. Also, we construct book-to-market and liquidity as the mean by country-time. In the second stage (Panel B), we explain ownership in firms that are part of a complex structure. Columns (1)-(3), (4)-(6), and (7)-(9) explain foreign, US, and non-US foreign institutional ownership, respectively. *Bottom* is a Dummy equal to one if a firm is not the firm on top of the complex structure and zero otherwise. *Bad (good) horizontal governance* is a Dummy equal to one if the firm is headquartered in a country with below- (above-) median horizontal governance. Horizontal governance is measured by the anti-selfdealing index (Columns 2, 5, 8) and by the revised anti-director index (Columns 3, 6, 9), respectively. *Ftest bad=good* gives the p-value of an F-Test on the difference of the coefficients of bottom firms in good and bottom firms in bad horizontal governance countries. *Lambda* is the inverse Mill's ratio from the first stage. All control variables are measured at the end of the previous year and defined in the Appendix. We report the results of Tobit regressions for foreign institutional ownership (Panel B) with industry, time, and country fixed effects. Standard errors are clustered at the firm level. a, b, and c denote significance at 1, 5, and 10 percent levels respectively.

Panel A: 1st Stage – Choice to form a Complex Firm

	Prob(Hierarchy=1)		
	(1)	Vertical Governance	
		Exprop (2)	Corrupt (3)
Exclusion: Log Marketcap (Listed Firms)	0.204 ^a (5.61)	0.216 ^a (5.78)	0.216 ^a (5.78)
Log Size	0.491 ^a (16.71)	0.496 ^a (16.80)	0.496 ^a (16.80)
Log B/M	0.222 (1.52)	0.260 ^c (1.75)	0.260 ^c (1.75)
Cash	-0.535 ^a (-3.34)	-0.541 ^a (-3.36)	-0.541 ^a (-3.36)
Investment Opportunities	-0.173 ^a (-3.15)	-0.174 ^a (-3.13)	-0.174 ^a (-3.13)
Tangibility	0.048 (0.44)	0.039 (0.35)	0.039 (0.35)
Leverage	-0.176 (-1.05)	-0.195 (-1.16)	-0.195 (-1.16)
Dividend Yield	0.019 ^a (4.30)	0.019 ^a (4.27)	0.019 ^a (4.27)
Liquidity	-38.649 ^a (-3.98)	-31.647 ^a (-3.14)	-31.647 ^a (-3.14)
Constant	-2.926 ^a (-6.16)	-3.043 ^a (-6.30)	-3.043 ^a (-6.30)
Country Fixed	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes
Cluster	Firm	Firm	Firm
Observations	66782	66502	66502
P-Value	0.000	0.000	0.000

Panel B: 2nd Stage – Foreign Institutional Ownership in Complex Firms and Horizontal Governance

	Foreign Inst. Ownership			US Foreign Inst. Ownership			Non-US Foreign Inst. Ownersh.		
	(1)	Horizontal Gov		(4)	Horizontal Gov		(7)	Horizontal Gov	
		Anti Selfdeal (2)	Anti Revised (3)		Anti Selfdeal (5)	Anti Revised (6)		Anti Selfdeal (8)	Anti Revised (9)
Bottom Dummy	-0.019 ^a (-4.56)			-0.008 ^a (-3.41)			-0.013 ^a (-4.28)		
Bad Horizontal Gov x Bottom		-0.036 ^a (-4.70)	-0.036 ^a (-5.03)		-0.015 ^a (-3.52)	-0.016 ^a (-3.93)		-0.024 ^a (-4.34)	-0.023 ^a (-4.53)
Good Horizontal Gov x Bottom		-0.011 ^b (-2.30)	-0.009 ^b (-2.00)		-0.004 (-1.58)	-0.004 (-1.23)		-0.007 ^b (-2.35)	-0.007 ^b (-2.17)
Log Size	0.078 ^a (8.82)	0.077 ^a (8.41)	0.077 ^a (8.38)	0.052 ^a (7.91)	0.051 ^a (7.76)	0.051 ^a (7.74)	0.045 ^a (7.97)	0.044 ^a (7.34)	0.044 ^a (7.31)
Log B/M	0.013 ^c (1.78)	0.011 (1.55)	0.011 (1.55)	0.014 ^a (3.01)	0.013 ^a (2.87)	0.013 ^a (2.86)	-0.001 (-0.23)	-0.002 (-0.44)	-0.002 (-0.42)
Cash	-0.022 (-1.24)	-0.020 (-1.11)	-0.019 (-1.06)	-0.018 (-1.59)	-0.018 (-1.58)	-0.018 (-1.54)	-0.002 (-0.13)	0.001 (0.04)	0.001 (0.08)
Investment Opportunities	-0.011 ^b (-2.09)	-0.011 ^b (-1.97)	-0.011 ^b (-1.98)	-0.011 ^a (-2.91)	-0.011 ^a (-2.87)	-0.011 ^a (-2.88)	-0.002 (-0.49)	-0.001 (-0.36)	-0.001 (-0.37)
Tangibility	-0.001 (-0.14)	0.001 (0.06)	0.001 (0.10)	-0.007 (-1.30)	-0.008 (-1.32)	-0.007 (-1.28)	0.008 (1.08)	0.009 (1.31)	0.010 (1.35)
Leverage	-0.034 ^b (-2.43)	-0.032 ^b (-2.29)	-0.031 ^b (-2.19)	-0.020 ^b (-2.47)	-0.019 ^b (-2.35)	-0.018 ^b (-2.25)	-0.018 (-1.62)	-0.016 (-1.50)	-0.016 (-1.45)
Dividend Yield	0.001 (1.38)	0.001 (1.08)	0.001 (1.11)	0.000 (0.86)	0.000 (0.72)	0.000 (0.74)	0.001 ^c (1.74)	0.001 (1.48)	0.001 (1.53)
Momentum	0.002 (0.64)	0.002 (0.53)	0.002 (0.58)	0.002 (1.24)	0.002 (1.13)	0.002 (1.18)	-0.001 (-0.62)	-0.001 (-0.65)	-0.001 (-0.61)
Liquidity	-0.193 (-0.42)	-0.287 (-0.58)	-0.267 (-0.54)	-0.017 (-0.06)	-0.075 (-0.27)	-0.069 (-0.25)	-0.176 (-0.60)	-0.230 (-0.74)	-0.211 (-0.68)
Lambda	0.072 ^a (3.40)	0.067 ^a (3.10)	0.067 ^a (3.08)	0.056 ^a (3.56)	0.054 ^a (3.43)	0.054 ^a (3.41)	0.030 ^b (2.19)	0.026 ^c (1.83)	0.026 ^c (1.81)
Constant	-0.232 ^a (-5.18)	-0.212 ^a (-4.62)	-0.211 ^a (-4.59)	-0.154 ^a (-4.95)	-0.145 ^a (-4.63)	-0.143 ^a (-4.59)	-0.211 ^a (-6.24)	-0.197 ^a (-5.64)	-0.197 ^a (-5.62)
Sigma (constant)	0.064 ^a (25.88)	0.064 ^a (25.99)	0.063 ^a (25.96)	0.038 ^a (16.87)	0.038 ^a (16.81)	0.038 ^a (16.79)	0.044 ^a (26.62)	0.044 ^a (26.65)	0.044 ^a (26.62)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8775	8643	8643	8775	8643	8643	8775	8643	8643
P-Value (Tobit)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ftest bad=good		0.003	0.001		0.035	0.012		0.005	0.004

Table 4: Selection II: Nested Choice and Foreign Institutional Ownership

We relate foreign institutional ownership in complex firms to horizontal governance using the Berry (1994) nested choice model. Columns (1)-(3) explain foreign institutional ownership: We explain foreign institutional ownership in complex firms as a function of horizontal governance, conditioning on having invested in a complex firm in a certain country. *Conditional choice* is the natural log of a firm's market share at each point in time, where market share is the market value of institutionally owned shares of that firm at time t divided by market value of institutional ownership of all complex firms in that country at time t . Conditional choice is instrumented by the log of market capitalization of listed firms in that country, and by investment opportunities, leverage, dividend yield, and liquidity of complex firms by country and time. *Outside option* is the log of the outside option's market share at time t , measured as the market value of institutional ownership in non-complex firms at time t divided by the market value of institutional ownership of all firms in the sample at time t . For US and non-US foreign ownership, we construct conditional choice and outside option accordingly. Results are reported in Columns (4)-(6) and (7)-(9). *Bottom* is a Dummy equal to one if a firm is not the firm on top of the complex structure and zero otherwise. *Bad (good) horizontal governance* is a Dummy equal to one if the firm is headquartered in a country with below- (above-) median horizontal governance. Horizontal governance is measured by the anti-selfdealing index (Columns 2, 5, 8) and by the revised anti-director index (Columns 3, 6, 9), respectively. *Ftest bad=good* gives the p-value of an F-Test on the difference of the coefficients of bottom firms in good and bottom firms in bad horizontal governance countries. All control variables are measured at the end of the previous year and defined in the Appendix. We report the results of IV regressions using GMM with industry, time, and country fixed effects. Standard errors are clustered at the firm level. a, b, and c denote significance at 1, 5, and 10 percent levels respectively.

	Foreign Inst. Ownership			US Foreign Inst. Ownership			Non-US Foreign Inst. Ownersh.		
	Horizontal Gov.			Horizontal Gov.			Horizontal Gov.		
	Antiself	Anti revised	Corrupt	Antiself	Anti revised	Corrupt	Antiself	Anti revised	Corrupt
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Bottom Dummy	-0.376 ^a (-5.49)			-0.314 ^a (-5.24)			-0.382 ^a (-5.40)		
Bad Horizontal Gov x Bottom		-0.519 ^a (-4.33)	-0.510 ^a (-4.71)		-0.403 ^a (-3.32)	-0.449 ^a (-4.17)		-0.547 ^a (-4.45)	-0.506 ^a (-4.66)
Good Horizontal Gov x Bottom		-0.307 ^a (-4.29)	-0.304 ^a (-3.95)		-0.283 ^a (-4.38)	-0.254 ^a (-3.69)		-0.307 ^a (-4.07)	-0.320 ^a (-3.94)
Conditional Choice	0.164 ^a (4.27)	0.169 ^a (4.43)	0.167 ^a (4.37)	0.266 ^a (4.78)	0.229 ^a (6.90)	0.228 ^a (6.89)	0.106 ^a (2.72)	0.110 ^a (2.81)	0.107 ^a (2.75)
Outside Option	9.697 ^a (9.92)	9.498 ^a (9.76)	9.531 ^a (9.78)	8.188 ^a (5.63)	9.183 ^a (10.44)	9.191 ^a (10.44)	12.660 ^a (8.14)	12.338 ^a (7.92)	12.427 ^a (7.97)
Log Size	2.237 ^a (15.14)	2.222 ^a (15.05)	2.231 ^a (15.17)	1.714 ^a (8.51)	1.846 ^a (14.30)	1.851 ^a (14.40)	2.347 ^a (15.99)	2.337 ^a (15.82)	2.346 ^a (15.93)
Log B/M	0.187 ^c (1.80)	0.172 (1.62)	0.174 (1.63)	0.196 (1.56)	0.260 ^a (2.63)	0.260 ^a (2.63)	0.017 (0.15)	-0.003 (-0.03)	0.000 (0.00)
Cash	0.203 (0.98)	0.239 (1.16)	0.243 (1.17)	0.259 (1.34)	0.256 (1.27)	0.260 (1.28)	0.215 (0.93)	0.260 (1.14)	0.261 (1.14)
Investment Opportunities	-0.098 (-1.29)	-0.103 (-1.35)	-0.103 (-1.34)	-0.095 (-1.31)	-0.099 (-1.31)	-0.102 (-1.33)	-0.079 (-0.99)	-0.088 (-1.10)	-0.088 (-1.09)
Tangibility	-0.173 (-1.27)	-0.139 (-1.02)	-0.138 (-1.01)	-0.205 (-1.53)	-0.221 (-1.63)	-0.216 (-1.58)	-0.037 (-0.25)	-0.004 (-0.03)	-0.004 (-0.03)
Leverage	-0.157 (-0.78)	-0.135 (-0.68)	-0.131 (-0.65)	-0.173 (-0.96)	-0.142 (-0.75)	-0.123 (-0.66)	-0.289 (-1.33)	-0.256 (-1.20)	-0.259 (-1.20)
Dividend Yield	0.006 (0.95)	0.004 (0.74)	0.005 (0.78)	0.003 (0.44)	0.000 (0.08)	0.001 (0.12)	0.010 (1.45)	0.009 (1.32)	0.009 (1.36)
Momentum	-0.004 (-0.11)	0.001 (0.02)	0.001 (0.03)	0.053 (1.41)	0.060 (1.53)	0.060 (1.55)	-0.068 (-1.50)	-0.067 (-1.47)	-0.066 (-1.44)
Liquidity	-8.641 (-0.96)	-9.519 (-1.00)	-9.346 (-0.98)	-6.111 (-0.85)	-6.828 (-0.84)	-6.842 (-0.84)	-14.368 (-1.54)	-15.269 (-1.58)	-14.846 (-1.53)
Constant	-11.703 ^a (-13.60)	-11.658 ^a (-13.45)	-11.678 ^a (-13.45)	-10.254 ^a (-13.15)	-10.496 ^a (-14.25)	-10.473 ^a (-14.22)	-10.040 ^a (-10.85)	-10.085 ^a (-10.85)	-10.092 ^a (-10.85)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8476	8385	8385	7924	7847	7847	7644	7581	7581
Adjusted R ²	0.876	0.877	0.876	0.874	0.877	0.877	0.854	0.855	0.854
Ftest bad=good		0.092	0.083		0.351	0.100		0.068	0.129

Table 5: Experiment I: Crisis and Foreign Institutional Ownership

We analyze the impact of the crisis on foreign institutional ownership in complex firms as a function of vertical governance (Panel A) and institutional ownership in bottom firms that are part of complex firms as a function of horizontal governance (Panel B). Columns (1)-(3), (4)-(6), and (7)-(9) explain foreign, US, and non-US foreign institutional ownership, respectively. *Crisis* is a Dummy equal to one from the 2nd half of 2008 to the 2nd half of 2009. In Panel A, we interact this dummy with *hierarchy* and *vertical governance* dummies as used in Table 2A, and in Panel B, we interact this dummy with *bottom* and *horizontal governance* dummies as used in Table 2B. *Ftest bad=good* is a p-value of the test of the difference between the coefficient of *bad governance x complex firm x crisis* and *good governance x complex firm x crisis*. All control variables are measured at the end of the previous year and defined in the Appendix. We report the results of Tobit regressions with industry and country fixed effects. a, b, and c denote significance at 1, 5, and 10 percent levels respectively.

Panel A: Crisis, Foreign Institutional Ownership, and Vertical Governance

	Foreign Inst. Ownership			US Foreign Inst. Ownership			Non-US Foreign Inst. Ownersh.		
	Vertical Governance			Vertical Governance			Vertical Governance		
	(1)	Exprop (2)	Corrupt (3)	(4)	Exprop (5)	Corrupt (6)	(7)	Exprop (8)	Corrupt (9)
Complex	-0.021 ^a (-9.19)			-0.012 ^a (-8.51)			-0.015 ^a (-9.04)		
Complex x Crisis	0.011 ^a (4.76)			0.005 ^a (3.45)			0.010 ^a (5.64)		
Complex x Bad Gov		-0.009 ^c (-1.69)	-0.005 (-1.11)		-0.009 ^b (-2.51)	-0.006 ^b (-1.96)		-0.003 (-0.81)	-0.002 (-0.47)
Complex x Good Gov		-0.023 ^a (-9.25)	-0.025 ^a (-9.63)		-0.012 ^a (-7.57)	-0.013 ^a (-7.92)		-0.017 ^a (-9.43)	-0.018 ^a (-9.66)
Bad Gov x Crisis		-0.001 (-0.66)	0.001 (0.35)		-0.002 (-0.96)	-0.000 (-0.25)		0.001 (0.85)	0.003 ^b (2.00)
Good Gov x Crisis		0.010 ^a (11.18)	0.010 ^a (10.52)		0.008 ^a (13.66)	0.009 ^a (13.51)		0.006 ^a (7.67)	0.005 ^a (6.87)
Bad Gov x Complex x Crisis		-0.003 (-0.54)	-0.006 (-1.51)		-0.003 (-0.92)	-0.004 ^c (-1.65)		0.002 (0.48)	-0.001 (-0.33)
Good Gov x Complex x Crisis		0.014 ^a (4.19)	0.014 ^a (3.78)		0.006 ^a (2.59)	0.006 ^b (2.46)		0.010 ^a (4.01)	0.008 ^a (3.05)
Log Size	0.060 ^a (47.06)	0.060 ^a (46.88)	0.060 ^a (46.89)	0.039 ^a (37.01)	0.038 ^a (36.82)	0.038 ^a (36.75)	0.039 ^a (44.16)	0.039 ^a (43.89)	0.039 ^a (44.05)
Log B/M	0.009 ^a (3.80)	0.006 ^b (2.49)	0.007 ^a (2.69)	0.014 ^a (8.78)	0.012 ^a (7.14)	0.012 ^a (7.24)	-0.002 (-1.38)	-0.004 ^b (-2.27)	-0.004 ^b (-2.02)
Cash	0.031 ^a (5.67)	0.031 ^a (5.60)	0.031 ^a (5.56)	0.013 ^a (3.44)	0.013 ^a (3.34)	0.013 ^a (3.37)	0.026 ^a (6.12)	0.026 ^a (6.04)	0.026 ^a (5.99)
Investment Opportunities	0.006 ^a (2.61)	0.005 ^b (2.26)	0.005 ^b (2.26)	-0.003 ^b (-2.40)	-0.004 ^a (-2.81)	-0.004 ^a (-2.92)	0.010 ^a (6.06)	0.010 ^a (5.81)	0.010 ^a (5.85)
Tangibility	-0.011 ^a (-2.78)	-0.011 ^a (-2.64)	-0.010 ^b (-2.56)	-0.006 ^b (-2.46)	-0.006 ^b (-2.29)	-0.006 ^b (-2.19)	-0.008 ^b (-2.38)	-0.007 ^b (-2.24)	-0.007 ^b (-2.23)
Leverage	-0.018 ^a (-2.92)	-0.019 ^a (-3.09)	-0.019 ^a (-3.00)	-0.018 ^a (-4.30)	-0.019 ^a (-4.46)	-0.018 ^a (-4.40)	-0.004 (-0.84)	-0.005 (-1.00)	-0.004 (-0.93)
Dividend Yield	-0.000 (-1.48)	-0.000 ^b (-2.46)	-0.000 ^b (-2.33)	-0.000 (-0.26)	-0.000 (-1.46)	-0.000 (-1.34)	-0.000 (-0.78)	-0.000 (-1.42)	-0.000 (-1.37)
Momentum	-0.004 ^a (-5.09)	-0.004 ^a (-4.26)	-0.004 ^a (-4.36)	-0.003 ^a (-5.34)	-0.002 ^a (-4.23)	-0.002 ^a (-4.39)	-0.003 ^a (-4.20)	-0.002 ^a (-3.41)	-0.002 ^a (-3.51)
Liquidity	0.021 (0.16)	0.011 (0.08)	0.012 (0.09)	0.074 (0.83)	0.051 (0.57)	0.047 (0.52)	-0.055 (-0.63)	-0.044 (-0.50)	-0.038 (-0.44)
Constant	-0.120 ^a (-7.24)	-0.123 ^a (-7.49)	-0.126 ^a (-7.70)	-0.076 ^a (-7.07)	-0.076 ^a (-7.11)	-0.077 ^a (-7.29)	-0.135 ^a (-11.05)	-0.139 ^a (-10.79)	-0.140 ^a (-10.91)
Sigma (constant)	0.063 ^a (60.33)	0.063 ^a (59.52)	0.063 ^a (59.92)	0.039 ^a (35.18)	0.039 ^a (34.78)	0.039 ^a (34.85)	0.047 ^a (55.28)	0.047 ^a (54.37)	0.047 ^a (55.01)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	66838	65844	66591	66838	65844	66591	66838	65844	66591
P-Value (Tobit)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ftest Hier. Crisis		0.004	0.000		0.025	0.004		0.047	0.021

Panel B: Crisis, Foreign Institutional Ownership in Complex Firms, and Horizontal Governance

	Foreign Inst. Ownership			US Foreign Inst. Ownership			Non-US Foreign Inst. Ownersh.		
	Horizontal Gov.			Horizontal Gov.			Horizontal Gov.		
	Antiself	Anti revised		Antiself	Anti revised		Antiself	Anti revised	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Complex	-0.019 ^a (-4.15)			-0.008 ^a (-3.03)			-0.013 ^a (-4.05)		
Complex x Crisis	0.000 (0.11)			-0.000 (-0.11)			0.002 (0.94)		
Complex x Bad Gov	-0.034 ^a (-4.00)	-0.033 ^a (-4.01)		-0.014 ^a (-2.80)	-0.015 ^a (-3.06)		-0.023 ^a (-3.86)	-0.022 ^a (-3.75)	
Complex x Good Gov	-0.007 (-1.37)	-0.007 (-1.35)		-0.002 (-0.78)	-0.002 (-0.56)		-0.005 (-1.49)	-0.006 (-1.61)	
Bad Gov x Crisis	0.026 ^a (3.76)	0.023 ^a (3.76)		0.015 ^a (3.80)	0.012 ^a (3.36)		0.014 ^a (3.03)	0.015 ^a (3.54)	
Good Gov x Crisis	0.013 ^a (3.05)	0.012 ^a (2.58)		0.006 ^b (2.21)	0.007 ^b (2.18)		0.010 ^a (3.86)	0.009 ^a (2.92)	
Bad Gov x Complex x Crisis	-0.011 (-1.33)	-0.011 (-1.39)		-0.008 ^c (-1.68)	-0.006 (-1.26)		-0.003 (-0.54)	-0.004 (-0.73)	
Good Gov x Complex x Crisis	-0.015 ^b (-2.52)	-0.012 ^c (-1.85)		-0.007 ^b (-1.99)	-0.007 ^c (-1.78)		-0.009 ^b (-2.18)	-0.006 (-1.46)	
Log Size	0.053 ^a (16.69)	0.052 ^a (16.95)	0.052 ^a (16.97)	0.031 ^a (14.30)	0.031 ^a (14.45)	0.031 ^a (14.46)	0.035 ^a (17.25)	0.035 ^a (17.37)	0.035 ^a (17.40)
Log B/M	0.012 ^c (1.68)	0.008 (1.14)	0.008 (1.14)	0.013 ^a (3.00)	0.011 ^a (2.58)	0.011 ^a (2.58)	-0.001 (-0.17)	-0.003 (-0.72)	-0.003 (-0.69)
Cash	-0.001 (-0.03)	0.000 (0.01)	0.001 (0.03)	0.000 (0.05)	-0.000 (-0.03)	0.000 (0.00)	0.006 (0.52)	0.006 (0.59)	0.006 (0.60)
Investment Opportunities	0.002 (0.34)	0.001 (0.26)	0.001 (0.25)	-0.001 (-0.50)	-0.002 (-0.58)	-0.002 (-0.61)	0.004 (1.36)	0.004 (1.29)	0.004 (1.29)
Tangibility	-0.010 (-1.08)	-0.006 (-0.64)	-0.006 (-0.60)	-0.012 ^b (-2.12)	-0.011 ^c (-1.89)	-0.011 ^c (-1.87)	0.002 (0.28)	0.005 (0.72)	0.005 (0.75)
Leverage	-0.030 ^b (-2.14)	-0.029 ^b (-2.12)	-0.028 ^b (-2.04)	-0.015 ^c (-1.96)	-0.015 ^c (-1.94)	-0.014 ^c (-1.83)	-0.017 (-1.61)	-0.017 (-1.61)	-0.017 (-1.58)
Dividend Yield	-0.000 (-0.65)	-0.001 (-1.36)	-0.001 (-1.34)	-0.000 ^c (-1.78)	-0.001 ^b (-2.22)	-0.001 ^b (-2.21)	0.000 (0.89)	0.000 (0.29)	0.000 (0.33)
Momentum	0.001 (0.53)	0.004 ^c (1.65)	0.004 (1.49)	0.001 (0.44)	0.002 (1.38)	0.002 (1.27)	-0.000 (-0.09)	0.002 (1.09)	0.002 (0.98)
Liquidity	0.030 (0.06)	-0.077 (-0.15)	-0.059 (-0.12)	0.137 (0.50)	0.074 (0.26)	0.078 (0.27)	-0.054 (-0.18)	-0.119 (-0.39)	-0.100 (-0.32)
Constant	-0.080 ^a (-2.60)	-0.071 ^b (-2.27)	-0.071 ^b (-2.25)	-0.051 ^a (-2.81)	-0.047 ^a (-2.59)	-0.046 ^b (-2.51)	-0.131 ^a (-5.55)	-0.125 ^a (-5.23)	-0.126 ^a (-5.24)
Sigma (constant)	0.065 ^a (26.24)	0.065 ^a (26.49)	0.065 ^a (26.42)	0.038 ^a (16.99)	0.038 ^a (16.96)	0.038 ^a (16.95)	0.045 ^a (26.79)	0.045 ^a (26.89)	0.045 ^a (26.86)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8775	8643	8643	8775	8643	8643	8775	8643	8643
P-Value (Tobit)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ftest Bottom Crisis		0.724	0.941		0.911	0.771		0.491	0.790

Table 6: Experiment II: ADR and Foreign Institutional Ownership

We analyze the impact of sponsored American Depository Receipts (ADRs; Panel A) and unsponsored ADRs (Panel B) on foreign institutional ownership in complex firms as a function of vertical governance. Columns (1)-(3), (4)-(6), and (7)-(9) explain foreign, US, and non-US foreign institutional ownership, respectively. *ADR sponsored* (*ADR unsponsored*) is a Dummy equal to one if the firm has a sponsored (unsponsored) ADR at that point in time. We interact this dummy with *hierarchy* and *vertical governance* dummies as used in Table 2A. All control variables are measured at the end of the previous year and defined in the Appendix. We report the results of Tobit regressions with industry, time, and country fixed effects. Standard errors are clustered at the firm level. a, b, and c denote significance at 1, 5, and 10 percent levels respectively.

Panel A: Sponsored ADR, Foreign Institutional Ownership, and Vertical Governance

	Foreign Inst. Ownership			US Foreign Inst. Ownership			Non-US Foreign Inst. Ownersh.		
	(1)	Vertical Governance		(4)	Vertical Governance		(7)	Vertical Governance	
		Exprop (2)	Corrupt (3)		Exprop (5)	Corrupt (6)		Exprop (8)	Corrupt (9)
Complex	-0.018 ^a (-8.45)			-0.011 ^a (-7.77)			-0.013 ^a (-8.07)		
Bad Vert Gov x Hierarchy		-0.012 ^a (-2.66)	-0.010 ^a (-2.58)		-0.010 ^a (-3.58)	-0.009 ^a (-3.51)		-0.004 (-1.29)	-0.004 (-1.42)
Good Vert Gov x Hierarchy		-0.020 ^a (-8.28)	-0.022 ^a (-8.52)		-0.011 ^a (-6.97)	-0.011 ^a (-7.11)		-0.015 ^a (-8.56)	-0.016 ^a (-8.78)
ADR Sponsored	0.016 ^a (2.93)	0.016 ^a (3.06)	0.016 ^a (3.02)	0.008 ^b (2.49)	0.008 ^b (2.51)	0.008 ^b (2.54)	0.004 (1.17)	0.005 (1.38)	0.004 (1.29)
ADR sponsored x Hierarchy	0.019 ^c (1.83)			0.003 (0.54)			0.017 ^b (2.43)		
Bad Vert Gov x Hierarchy x ADR		0.012 (0.61)	0.016 (1.00)		-0.001 (-0.11)	0.004 (0.50)		0.015 (1.09)	0.016 (1.50)
Good Vert Gov x Hierarchy x ADR		0.023 ^b (2.03)	0.018 (1.59)		0.006 (0.79)	0.000 (0.05)		0.015 ^b (2.22)	0.012 ^c (1.72)
Log Size	0.059 ^a (44.65)	0.059 ^a (44.68)	0.059 ^a (44.69)	0.038 ^a (34.97)	0.038 ^a (35.02)	0.038 ^a (34.94)	0.038 ^a (42.69)	0.039 ^a (42.61)	0.039 ^a (42.75)
Log B/M	0.010 ^a (3.94)	0.010 ^a (3.74)	0.010 ^a (3.93)	0.014 ^a (8.23)	0.014 ^a (8.05)	0.014 ^a (8.20)	-0.002 (-0.94)	-0.002 (-1.10)	-0.002 (-0.91)
Cash	0.034 ^a (6.18)	0.035 ^a (6.17)	0.034 ^a (6.10)	0.015 ^a (3.79)	0.015 ^a (3.78)	0.015 ^a (3.77)	0.028 ^a (6.65)	0.028 ^a (6.64)	0.028 ^a (6.55)
Investment Opportunities	0.004 ^c (1.76)	0.004 ^c (1.75)	0.004 ^c (1.80)	-0.005 ^a (-3.23)	-0.005 ^a (-3.16)	-0.005 ^a (-3.22)	0.009 ^a (5.13)	0.009 ^a (5.09)	0.009 ^a (5.15)
Tangibility	-0.008 ^b (-2.03)	-0.008 ^b (-2.03)	-0.008 ^b (-2.04)	-0.004 ^c (-1.77)	-0.004 ^c (-1.77)	-0.005 ^c (-1.79)	-0.006 ^c (-1.73)	-0.006 ^c (-1.71)	-0.006 ^c (-1.74)
Leverage	-0.015 ^b (-2.43)	-0.016 ^b (-2.50)	-0.015 ^b (-2.43)	-0.017 ^a (-3.93)	-0.017 ^a (-4.00)	-0.017 ^a (-3.93)	-0.001 (-0.27)	-0.002 (-0.34)	-0.001 (-0.29)
Dividend Yield	-0.000 (-1.61)	-0.000 (-1.45)	-0.000 (-1.63)	-0.000 (-0.76)	-0.000 (-0.59)	-0.000 (-0.77)	-0.000 (-0.94)	-0.000 (-0.79)	-0.000 (-0.92)
Momentum	-0.006 (-0.04)	0.013 (0.10)	0.016 (0.12)	0.058 (0.65)	0.060 (0.66)	0.060 (0.67)	-0.079 (-0.91)	-0.058 (-0.66)	-0.053 (-0.61)
Liquidity	-0.005 ^a (-5.67)	-0.005 ^a (-5.53)	-0.005 ^a (-5.77)	-0.002 ^a (-2.85)	-0.002 ^a (-2.74)	-0.002 ^a (-2.92)	-0.006 ^a (-7.70)	-0.006 ^a (-7.56)	-0.006 ^a (-7.83)
Constant	-0.149 ^a (-8.98)	-0.151 ^a (-9.11)	-0.153 ^a (-9.29)	-0.085 ^a (-7.82)	-0.084 ^a (-7.80)	-0.086 ^a (-7.95)	-0.164 ^a (-13.07)	-0.167 ^a (-12.78)	-0.167 ^a (-12.92)
Sigma (constant)	0.062 ^a (58.68)	0.062 ^a (57.96)	0.062 ^a (58.42)	0.039 ^a (34.37)	0.039 ^a (34.13)	0.039 ^a (34.26)	0.047 ^a (54.18)	0.047 ^a (53.32)	0.047 ^a (54.00)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	66838	65844	66591	66838	65844	66591	66838	65844	66591
P-Value (Tobit)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ftest ADRxHIER: bad=good		0.614	0.944		0.539	0.686		0.993	0.764

Panel B: Un-sponsored ADR, Foreign Institutional Ownership, and Vertical Governance

	Foreign Inst. Ownership			US Foreign Inst. Ownership			Non-US Foreign Inst. Ownersh.		
	(1)	Vertical Governance		(4)	Vertical Governance		(7)	Vertical Governance	
		Exprop (2)	Corrupt (3)		Exprop (5)	Corrupt (6)		Exprop (8)	Corrupt (9)
Complex	-0.017 ^a (-7.77)			-0.010 ^a (-7.56)			-0.011 ^a (-7.30)		
Bad Vert Gov x Hierarchy		-0.010 ^b (-2.31)	-0.008 ^b (-2.04)		-0.010 ^a (-3.53)	-0.008 ^a (-3.25)		-0.003 (-0.87)	-0.002 (-0.83)
Good Vert Gov x Hierarchy		-0.019 ^a (-7.82)	-0.020 ^a (-8.24)		-0.010 ^a (-6.82)	-0.011 ^a (-7.14)		-0.014 ^a (-8.05)	-0.015 ^a (-8.39)
ADR Unspns.	0.029 ^a (6.22)	0.029 ^a (6.16)	0.029 ^a (6.19)	0.011 ^a (4.24)	0.011 ^a (4.18)	0.011 ^a (4.24)	0.014 ^a (4.90)	0.014 ^a (4.81)	0.014 ^a (4.80)
ADR unspns. x Hierarchy	-0.028 ^b (-2.39)			-0.012 ^c (-1.69)			-0.016 ^a (-2.79)		
Bad Vert Gov x Hierarchy x ADR		-0.038 ^a (-3.00)	-0.041 ^a (-3.46)		-0.024 ^a (-3.48)	-0.023 ^a (-3.08)		-0.008 (-0.81)	-0.015 ^c (-1.90)
Good Vert Gov x Hierarchy x ADR		-0.023 ^c (-1.65)	-0.024 (-1.56)		-0.009 (-0.99)	-0.009 (-0.95)		-0.017 ^b (-2.49)	-0.017 ^b (-2.40)
Log Size	0.059 ^a (45.48)	0.059 ^a (45.52)	0.059 ^a (45.55)	0.038 ^a (35.53)	0.038 ^a (35.59)	0.038 ^a (35.53)	0.038 ^a (43.24)	0.039 ^a (43.12)	0.039 ^a (43.28)
Log B/M	0.010 ^a (4.02)	0.010 ^a (3.82)	0.010 ^a (4.01)	0.014 ^a (8.31)	0.014 ^a (8.13)	0.014 ^a (8.28)	-0.002 (-0.92)	-0.002 (-1.08)	-0.002 (-0.89)
Cash	0.035 ^a (6.27)	0.035 ^a (6.26)	0.035 ^a (6.19)	0.015 ^a (3.85)	0.015 ^a (3.84)	0.015 ^a (3.83)	0.029 ^a (6.69)	0.029 ^a (6.67)	0.028 ^a (6.59)
Investment Opportunities	0.004 ^c (1.80)	0.004 ^c (1.79)	0.004 ^c (1.84)	-0.005 ^a (-3.21)	-0.005 ^a (-3.14)	-0.005 ^a (-3.19)	0.009 ^a (5.16)	0.009 ^a (5.12)	0.009 ^a (5.19)
Tangibility	-0.008 ^c (-1.94)	-0.008 ^c (-1.94)	-0.008 ^c (-1.94)	-0.004 ^c (-1.71)	-0.004 ^c (-1.71)	-0.004 ^c (-1.71)	-0.005 ^c (-1.67)	-0.005 ^c (-1.65)	-0.005 ^c (-1.67)
Leverage	-0.016 ^b (-2.52)	-0.016 ^a (-2.61)	-0.016 ^b (-2.53)	-0.017 ^a (-4.00)	-0.017 ^a (-4.08)	-0.017 ^a (-4.00)	-0.001 (-0.32)	-0.002 (-0.41)	-0.002 (-0.35)
Dividend Yield	-0.000 ^c (-1.80)	-0.000 ^c (-1.67)	-0.000 ^c (-1.80)	-0.000 (-0.89)	-0.000 (-0.72)	-0.000 (-0.88)	-0.000 (-1.04)	-0.000 (-0.92)	-0.000 (-1.02)
Momentum	-0.044 (-0.32)	-0.025 (-0.18)	-0.020 (-0.15)	0.042 (0.47)	0.044 (0.49)	0.045 (0.50)	-0.100 (-1.14)	-0.078 (-0.88)	-0.072 (-0.83)
Liquidity	-0.005 ^a (-5.51)	-0.005 ^a (-5.36)	-0.005 ^a (-5.61)	-0.002 ^a (-2.76)	-0.002 ^a (-2.64)	-0.002 ^a (-2.84)	-0.006 ^a (-7.56)	-0.005 ^a (-7.42)	-0.006 ^a (-7.69)
Constant	-0.148 ^a (-8.82)	-0.150 ^a (-9.01)	-0.152 ^a (-9.18)	-0.085 ^a (-7.76)	-0.084 ^a (-7.77)	-0.085 ^a (-7.90)	-0.164 ^a (-12.95)	-0.167 ^a (-12.69)	-0.167 ^a (-12.80)
Sigma (constant)	0.062 ^a (58.86)	0.062 ^a (58.16)	0.062 ^a (58.61)	0.039 ^a (34.42)	0.039 ^a (34.19)	0.039 ^a (34.31)	0.047 ^a (54.21)	0.047 ^a (53.36)	0.047 ^a (54.03)
Country Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	66838	65844	66591	66838	65844	66591	66838	65844	66591
P-Value (Tobit)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ftest ADRxHIER: bad=good		0.414	0.341		0.140	0.235		0.393	0.803