Corporate Governance and Regulation:

Can There Be Too Much of a Good Thing?

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Abstract

For a large number of companies from a cross-section of countries, we analyze how company corporate governance practices and country regulatory regimes interact in terms of affecting company valuation. We confirm that company corporate governance practices play a crucial role in efficient company functioning and shareholder protection, and consequently impact valuation. We find little valuation impact from corporate governance rules at the country level, and evidence of possible over-regulation. Corporate governance appears more valuable for large companies and those that rely more heavily on external financing, consistent with the hypothesis that the main role of corporate governance is to protect external financiers.

1. Introduction

In this paper, we investigate the impact of country legal regimes and company corporate governance practices on company performance using a cross-country framework. Corporate governance is nowadays a widely used concept with many studies of country legal regimes and company-specific corporate governance practices and structures. These studies have highlighted some aspects of legal regimes and main corporate governance practices that are associated with improved company performance and valuation. Studies have also explored some of the channels through which corporate governance may affect performance. Although both legal regimes and company practices have been found to matter in corporate governance, by how much each does and the interaction between legal regimes and company practices has not much been researched to date. In this paper, by using data on practices for companies from different legal regimes, we investigate not only the impact of country rules and detailed company-level practices on company valuation but also the degree of substitutability or complementarity between rules and practices in terms of their effects on company valuation. We find evidence of positive valuation impact of company corporate governance practices, but also find that impact varies by country legal systems. In particular, we find evidence of possible overregulation when a company already has good corporate governance practices.

The importance of corporate governance has been well established in recent years. Corporate governance can reduce agency problems among shareholders and between managers and shareholders, limiting private benefits and expropriation by controlling owners. Better corporate governance also means better monitoring of management, which can translate into higher company performance. Much evidence supports these two channels (see Dennis and McConnell, 2003, and Claessens, 2006, for recent reviews). Typically though, this empirical literature has investigated corporate governance from either a country or a company point of view. In their widely cited papers, La Porta et al. (1997, 1998, 2000, henceforth LLSV) show that higher investor protection at the country level is associated with greater access to finance, more capital market development, and higher company valuation. Starting with Gompers, Ishii and

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Metrick (2003), a large number of studies have investigated how different corporate governance practices at the company level within a single country affect shareholders, bondholders and investors and more generally company behavior and performance. These single-country studies have tried to identify the individual corporate governance aspects most important for company behavior and valuation.

Studying, however, in one framework country level corporate governance regimes and company corporate governance practices can be important for several reasons. For one, companies' specific corporate governance choices have to be considered in light of the corporate governance regime in the specific country. Take two similar companies implementing exactly the same governance practices but located in two different countries. Identical corporate governance practices may be valued differently by investors depending on whether they are required or voluntarily adopted. Also shareholders may consider some aspects of the legal regime in one country as substitutes to the same corporate governance practices used in another country. Or shareholders may prefer to invest in companies whose country of incorporation guarantees better protection in the eventuality of legal disputes, irrespective of the company corporate governance practices. Correspondingly, shareholders may value corporate governance practices differently depending on the legal regime in the country. Second, corporate governance practices are not independent of the legal regime and vice-versa. Given current laws, a company may not have a choice in some of its corporate governance practices, except to incorporate in another jurisdiction. This discussion makes clear that both the strength of country protection and companies' corporate governance practices are aspects to account for when studying the impact of corporate governance of companies' performance. Only by taking both rules and practices into account, we can hope to detect which practices affect performance, the degree of complementarity or substitutability between practices and legal regimes, and the overall impacts of practices and legal regimes on performance.

Doing such an analysis can be complex though. In a single-country context, company-level studies can focus on those few corporate governance aspects salient for the particular country. In a cross-country setting, the variety in corporate governance practices that matter increases. Also given the differences in legal regimes and

consequent requirements, it becomes more important to capture as many corporate governance aspects as possible, but this is difficult due to the lack of a comprehensive coverage of sufficient aspects of corporate governance practices.[1] The fact that studies for different countries looking at the association between board independence and performance have found contradictory results (e.g., Hermalin and Weisbach, 2003) may be related to the lack of comparable data. Several of the cross-country studies have had to resort to using a broad measure of corporate governance (e.g., in the form of an index covering aspects of transparency, independence, accountability, social responsibility and discipline in one number). This does not allow one to study individual corporate governance practices, however, which can be an important omission. For US companies, for example, Bebchuk, Cohen and Ferrell (2004) find that not everything matters equally for performance, and that associations between a broad index and performance may be driven by only a few aspects.

More generally, with more details on corporate governance practices one can disentangle the various channels and answer specific questions like: Is it more important to have an independent board or to leave more monitoring powers to shareholders? What are the effects of an entrenched board? How do these aspects depend on the local legal regimes? Are there interactions between certain aspects of legal regimes and corporate governance practices in terms of company performance? Furthermore, using more detailed data one can investigate interactions between corporate governance and (access to) external financing. Corporate governance has been found to help relax external financing constraints by alleviating signaling problems and ensuring managers select value-maximizing projects and do not expropriate private benefits. Whether these results on the importance of corporate governance for external financing hold across countries and how they depend on specific corporate governance regimes and practices is subject to study.

The Institutional Shareholder Services (ISS) dataset provides us with a unique opportunity to investigate the interaction between performance and the corporate

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[1] For instance, Gompers, Ishii and Metrick (2003) cover only the presence of anti-takeover provisions (ATPs) in companies' charters, thus potentially ignoring other important governance practices.

governance regime at the country and company's level in a cross-country framework.[2] The coverage of companies and countries is quite wide, approximately 5300 US companies and 2400 non-US companies from 22 advanced economies for the period 2003 – 2005. In contrast to many existing empirical studies using only a broad measure of the company's corporate governance practices in the form of an index, ISS provides individual corporate governance practices for each company. It covers, among others, information on the composition and independence of boards and committees, the level of shareholders' involvement in the company's decisions, and relations with the auditors. For a cross-country analysis, we need to cover in detail the countries' institutional environment, especially the different legal frameworks and various other aspects possibly affecting the impact of corporate governance practices. Fortunately, much progress has been made in recent years to document aspects of countries' legal regimes, and we can draw on this literature.

Using these data, we find that across the 23 countries two corporate governance practices are consistent positively and significantly associated with performance: the degree of board independence, and the existence and independence of board committees. Also, absence of entrenched boards and higher investor protection at the country level are positively associated with performance, but this evidence is not as robust under all specifications. These corporate governance channels are found to be stronger for companies in highly financial dependent industries. We also find evidence that strong corporate governance practices pay off less for small companies, maybe because strong corporate governance practices involve costs in terms of monitoring, time and resources which offset the benefits.

Importantly, we find interaction effects between the strength of legal protection and the companies' corporate governance practices. In particular, we find that country level investor protection matters little when companies have weak corporate governance practices, suggesting that country legal protection cannot substitute for weak company corporate governance practices. In contrast, for corporations with strong corporate

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[2] Two other studies also using ISS data, but done independently are Aggarwal et. al. (2007) and Chhaochharia and Laeven (2007).

governance practices, excessive country regulation can harm valuation, consistent with a hypothesis that excessive regulation can harm managerial initiatives and lead to lower returns and valuations. This finding has important consequences from a regulatory viewpoint. If high corporate governance practices in the form of strong, independent, and pro-shareholder boards are already in place, as for the average US company, there may be a cost of increasing regulatory burden. On the contrary, if companies of a specific country tend to adopt weak corporate governance practices, regulatory intervention may be of little value. This may be the case, for instance, for Italian and Belgian companies, which rank well below the overall sample mean for level of board entrenchment and independence, or existence and independence of board committees. Of course, this is not to say that no forms of government rules or interventions are useful in these countries and for these types of corporations. Our conclusion has to remain limited to the type of regulatory intervention captured in our index of legal regimes. But, our finding does suggest that regulations need to be well-designed and that there can be costs from overregulation.

We contribute to the literature in methodological aspects by using detailed panel data on companies' corporate governance practices, which means we can be less concerned about reverse causality driving our results. Using detailed aspects of corporate governance, we can also disentangle the channels through which corporate governance acts. Furthermore, our results are robust to the inclusion of different control variables, using different statistic techniques and using several performance variables (Tobin's Q, return on assets, and market to book). Besides these, we also add in methodological aspects by analyzing the role of company external financing needs and size without introducing endogeneity problems. We show that corporate governance acts especially as a bonding-monitoring-discipline device for those companies that can expect to require more external financing by applying the Rajan and Zingales (1998) methodology of identifying industries that heavily rely on external financing. We also show that naturally large companies benefit more from good corporate governance.

The paper is structured as follows. Section 2 reviews the relevant literature. Section 3 describes corporate governance indicators and the main financial data used in the

analysis, and the empirical methodology employed. Section 4 discusses the results and section 5 concludes.

2.   Literature

We are interested in disentangling various aspects of corporate governance, inter-relating these aspects with country-specific measures of legal investor protection and studying their association with performance. Such analysis can teach us whether the implementation of certain corporate governance practices and legal requirements is reflected in better performance and higher company valuation in all countries. The largely US-based evidence supports that (some) corporate governance practices can lead to higher valuation and rates of return. The first such paper, Gompers, Ishii and Metrick (2003) find that the more anti-takeover provisions (ATPs) a company has in its charter, the lower its performance.[3]   Since then a number of papers have documented for the US positive relationships between corporate governance practices and valuation, rates of return and performance (e.g., Bebchuk, Cohen, and Ferrell, 2004).   Studies for other countries (e.g., for the UK (Dedman, 2003); for the top 300 European firms (Bauer and Guenster, 2003); India (Black and Khanna, 2007); Korea (Black et al., 2005, 2006; Black and Kim, 2007); Brazil (Nenova, 2005); Bulgaria (Atanasov et al., 2007)) have found similar results.

However, theoretical analysis also suggests that there can be trade-offs with respect to corporate governance requirements. Burkart, Gromb, and Panunzi (1997) argue in particular that too much monitoring and legal protection may hurt managerial initiative and consequently lower returns and worsen company valuation. They argue that constraints on managers through monitoring may be costly precisely because managerial discretion comes with benefits. Managers are less inclined to show initiative, like searching for new, profitable investment projects, when shareholders are more likely to interfere. Along the same lines, Boot, Gopalan and Thakor (2006) find that corporate

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[3]However, some other studies show that this methodology not only can be incorrect (Arcot and Bruno, 2006) or not associated with performance (Core et al., 2006), but when valid, its association with performance is not necessary monotonic (Hannes, 2002).

governance controls may sometimes prevent management from doing what it should and thereby actually exacerbate agency problems.

These theoretical papers suggest that there can be trade-offs between the gains from monitoring and those from (more) managerial initiative, and too intensive monitoring can be inefficient. The trade-off is likely to depend, among others, on the degree of interaction between internal (boards, committees, company charters, disclosure rules) and external (takeovers, product market competition, ownership structure, legal protection) mechanisms of corporate governance. The empirical literature has indeed identified some examples of counter-effects of strong corporate governance. Gillan, Hartzell, and Starks (2003) point out that there is a difference between strong corporate governance and optimal corporate governance, as stronger corporate governance does not necessary mean better performance and higher valuation because costs may offset the benefits. A number of papers have found the introduction of some new regulations to hurt valuation. Chhaochharia and Grinstein (2006) and Wintoki (2007) find that the Sarbanes-Oxley Act in the US hurts some companies' valuation, and Litvak (2007a and 2007b) finds that foreign companies cross-listed in the US from well-governed countries reacted worse to the Act, as did already high-disclosing companies.[4]

Furthermore, there is at least anecdotal evidence that the implementation of corporate governance practices may not be the result of optimal contracting, but of other pressures. Worldwide, there is an increasing appetite for more regulation and rigid laws (besides the Sarbanes-Oxley Act and similar efforts in other countries, there are calls for laws requiring increased hedge funds transparency and reforms of company laws), especially after the recent wave of corporate scandals. Increasingly, public opinion, press and institutional investors are asking for more rigidity, and more and more sophisticated corporate governance practices are being required of companies. But many of these requirements do not have strong theoretical, let alone empirical support that they help with company performance. They also raise the risk of corporate governance becoming a tick-box exercise, where the more boxes ticked, the better corporate governance is

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[4] This is in line with the increasing debate among academics, politicians, and practitioners about the negative effects of the introduction of the Sarbanes-Oxley Act, especially for small firms (e.g., Kamar et al, 2007).

considered, without necessarily being supported by empirical evidence or theoretical analyses (Arcot and Bruno, 2006).

This is not to say that corporate governance does not matter, but that not all aspects matter equally and those that matter can vary across countries. Cross-country work has shown that corporate governance reforms can pay off in term of higher valuations. Dahya, Dimitrov and McConnell (2006), for example, show in a cross-country study the importance of board independence and board committees. Studies have found though that the corporate governance aspects that matter for valuation to vary by country. A company, for example, may not have an independent board, but may have strong board committees and a non-entrenched board, which in some institutional environments may still provide for appropriate internal and external (market) monitoring, but not in others. By using cross-country data, one can investigate what the impact of higher legal protection on performance is relative to corporate governance practices exercised at the company level (and vice-versa).

Only a few studies have so far looked at both these perspectives. Using data on company corporate governance practices across countries, Durnev and Kim (2005) and Klapper and Love (2004) show the impact of corporate governance to be a decreasing function of legal protection. Doidge, Karolyi and Stulz (forthcoming) show that country effects dominate company corporate governance practices in determining valuations. Durnev and Fauver (2007) draw attention to the links between corporate governance and government policies, including corruption and predatory behavior. They find that in countries with more predatory governments, companies practice weaker corporate governance and disclose less financial information. This cross-country work has, however, only started to address the interface between legal regimes and corporate governance practices. For instance, it is not clear, given different legal regimes, whether the constitution of board committees is important, whether their independence plays a role, and to what extent these practices impact company performance.

Corporate governance is both a way to reduce agency costs and limit pet projects, leading to more efficient investments, boosting growth and performance and a way to

protect investors from managerial expropriation, thus easing companies' access to external financing and enhancing valuation. In particular, corporate governance can mitigate the problem of inefficient access to finance (credit rationing). Borrowers with large private benefits for which performance conveys little information about managerial actions, are more likely to see their positive NPV projects turned down by the capital markets (Tirole, 2006). In particular, when investor protection is low and corporate governance practices are hard to enforce, there will be a limit on the fraction of future cash flows that companies can credibly commit to outside investors ("limited pledgeability" of cash flow, Almeida and Wolfenzon, 2005). For such companies it is therefore important to bond credibly to higher quality corporate governance, which can involve the cross-listing or the use of ADRs (Doidge et al., 2004). In general, a company's cost of funds will depend on the extent that investors expect the company to be governed well after the funds have been raised. Corporate governance is in great part about mitigating this commitment problem: "*Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment*" (Shleifer and Vishny, 1997).

This commitment problem is particularly large for companies that rely heavily on external financing.[5] But a test whether companies which are heavy users of external finance are valued higher when better corporate governance practices are in place can not unambiguously show that corporate governance reduces the agency problems of moral hazard and adverse selection. The reason is that the association between corporate governance and company external financing can arise from reverse causality, that is, companies improve corporate governance practices (only) when raising new funds. Conversely, external financing could trigger changes in companies' corporate governance

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[5] Lombardo and Pagano (2002) formalize the above argument in a simple model. They argue that corporate governance, and more generally the legal environment, can affect the severity of agency problems between company insiders and outside shareholders in two ways. First, it may directly reduce the private benefits that managers are able to extract from companies. This shifts the demand function upwards, thus increasing the quantity of external equity and reducing the cost of capital to companies in equilibrium. Second, it reduces the auditing and judicial costs that shareholders potentially incur. This effect shifts the supply curve down, thus again increasing the quantity of available external finance and lower the cost of capital. Overall, the effect on the equilibrium quantity is always positive.

structures, in part as investors require changes. Therefore, using actual measures of external financing could create endogeneity problems.

In a seminal paper, Rajan and Zingales (1998) show how external financial dependent companies grow more in countries with greater financial development. They solve the simultaneity bias—financially more developed countries having companies using a greater degree of external financing—by identifying an industry's need for external finance from data for US companies. The US can provide a benchmark for external financing dependence if two conditions hold: capital markets in the US are relatively frictionless, and a technological demand at the industry level for external financing carries over to other countries. We use a similar argument to investigate whether companies belonging to industries that are financially more dependent are higher valued when displaying better corporate governance practices or facing stricter regimes. This provides a test whether corporate governance specifically adds value for those companies most in need of external financing because shareholders rights are more protected, without the simultaneity problems. Our analysis differs from Rajan and Zingales methodology in that, besides using company-specific corporate governance measures, we do not limit our analysis to manufacturing industries only, but include all companies (except for financial institutions).

Another important variable affecting the impact of corporate governance on company valuation may be size. In the general finance literature size has been found to matter for company performance. Small companies may have better growth opportunities, reflected in higher valuation (Shin and Stulz, 2000). Size can also proxy for company age and older and larger companies tend to have lower ratio market-to-book ratios. Beck at al. (2005) find a size effect in the association between financial development and growth, possibly because smaller companies face tighter credit constraints than large companies. There might also be a relationship between size and corporate governance practices. Some empirical evidence finds that strong corporate governance is more beneficial for large than for small companies. For instance, Chhaochharia and Grinstein (2006) find that

the Sarbanes-Oxley Act was more harmful for small companies, for which the costs of complying with corporate governance rules outweighs the benefits.

In order to limit the endogeneity problem between corporate governance choices and company size, we again apply the Rajan and Zingales methodology by interacting companies' corporate governance with a proxy for size at the industry level. Specifically, we test whether companies belonging to industries that have in the US on average large-sized companies perform better if they have stronger corporate governance than companies belonging to small-size industries. Among others, such evidence will highlight whether strong corporate governance is equally beneficial for large and small companies. Performance might not only differ with corporate governance practices, external financial dependence and size. It can also be industry dependent, vary with company leverage or degree of assets intangibility, or differ because of cross-listing on other, and higher standard stock exchanges. We therefore include certain control variables to capture these company characteristics.

Besides affecting the availability and cost of external financing, and therefore valuation, corporate governance can affect economic performance in other ways too. By putting more pressure on management and punishing management for bad performance, better corporate governance encourages managers to pursue more value-maximizing projects, be more efficient in company operations, and therefore increase value added (Jensen, 1986). We therefore also analyze how companies' return on assets relates to corporate governance practices and legal regimes. In addition, besides Tobin's Q we use market to book as another market valuation measure.

3.   Data and Econometric Models

Data on corporate governance practices analyzed

The corporate governance data come from the proxy voting agent Institutional Shareholder Services (ISS). ISS gathers corporate governance information of approximately 5300 US companies and 2400 non-US companies from Canada, Europe,

East Asia and Pacific for the period 2003 – 2005. The non-US companies it covers are all large and belong to the main indices of their respective country stock markets. For instance, the UK companies mainly belong to the FTSE350 index. The US coverage is wider as it covers also mid- and small cap companies. Therefore, to avoid over-sampling problems we select a sub-sample of US companies, specifically all those belonging to the S&P500 index. The sample then reduces to 7078 total company-year observations.

In terms of corporate governance practices, ISS documents among others the presence or lack thereof of the following:
- board independence: whether the board is controlled by a majority of independent outsiders;
- nomination, compensation, and audit committees composition: whether the committees exist and if they consist solely of independent outsiders;
- governance committee composition: whether the committee exists or not;
- degree of board entrenchment: whether the board is annually elected (not staggered), whether no poison pills are in place, majority vote is required to amend charter/bylaws or to approve mergers;
- whether chairman and CEO are separated;
- whether former CEO sits on the board;
- relations with the auditors: whether auditors are ratified at the recent shareholder meeting, and the fees (audit related and others) paid to auditors are strictly audit fees; and
- whether the CEO is not listed as having a related-party transaction in the proxy statement.

In addition to this information ISS collects information on corporate governance practices which we do not consider in our analysis. This is in part because of limited variability within countries among some of these corporate governance practices, which may be the consequence of legal requirements. For instance, the percentage of companies where shareholders may act by written consent is 99% for European and Asian companies: the inclusion of such items in our index would confound the econometric

results.[6] ISS also gather information on the size of the board, on whether directors have participated in ISS education programs, or on the authority of the board to hire own advisors. Such data are generally available, but their associations with performance are not clear theoretically. We therefore exclude them from our analysis to avoid any spurious results. Finally, there are some practices with many missing or non-available observations, observations that are not equally collected for all countries, which would reduce our sample too much and create biased estimations.

Using the above provisions and on the basis of earlier work and theoretical analysis, we construct five main different indices.

1. *Committees index*. Codes of best practices stress the importance of the committees as a corporate governance device. In particular, the presence of a nomination, compensation, audit and governance committee should guarantee a more transparent procedure of directors' appointments, compensation approval and internal audit, respectively. We initially assign one point for each committee a company has: the resulting index, **COMM1**, therefore considers only the existence or not of a committee, and it ranges from 0 to 4. However, codes of corporate governance also advocate for a certain degree of independence of the committee members. We therefore create another index that gives points respectively for strict independence of nomination, compensation and audit committees: the resulting index **COMM2** ranges from 0 to 3.

2. *Entrenchment index*. We follow Bebchuk, Cohen and Farrell (2004) and we give one point each if a company has no poison pills in place, if the board is annually elected (no staggered), if a majority is required for mergers and if a majority is required for charter and bylaws amendments (no supermajority). Differently from

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[6] The problems of missing observations and limited variability concern especially the following corporate governance practices: shareholders may act by written consent or call special meetings, anti-takeover characteristics (TIDE, sunset, trigger, etc) which are typical to the US but not to other markets, the existence of interlocks among compensation committee members, proxy contest defense, shareholders vote on directors selected to fill vacancies, board attendance. For these reasons, we can not construct all the corporate governance provisions of Bebchuk, Cohen and Farrell (2004). Of the 18 provisions considered by Bebchuk, Cohen and Farrell, for example, only four apply to our sample (limits to special meeting and written consent, no cumulative vote, blank check), while the other 14 are typical for the US only. Regardless, these 14 provisions do not appear to be significant in the Bebchuk, Cohen and Farrell study.

Bebchuk, Cohen and Farrell, we do not have data on golden parachutes, and on charter and bylaws separately. The resulting index (**BCF**) varies from 0 to 4.

3. *Board independence index*. We construct a dummy **INDEP1** that takes the value 1 if the board consists of a majority of independent members, as judged by ISS. We also have information of the presence of the former CEO on the board and of the separation between CEO and Chairman, which are both proxy for a greater division of the powers in the board, and hence of greater independence. We therefore also construct the index **INDEP3** which, in addition to INDEP1, considers the presence of the former CEO on the board and whether the CEO and the Chairman are separated or not (with the index to vary from 0 to 3).

4. *Transparency index*. In addition to the existence of the audit committee, a higher degree of transparency can be guaranteed by the ratification of the choice of auditors at the shareholders' annual meeting. Further, if fees paid to the auditors are strictly audit fees, the existence of possible conflicts of interests will be less and the credibility of the auditor's report will be higher. Recent high-profile frauds and some accounting literature (e.g., Kohlbeck and Mayhew, 2004) highlight the use of related party transactions as a way of manipulation profits. We therefore give points if the auditors are ratified at the most recent annual meeting, if the fees are strictly audit fees, and if the CEO is not involved in related party transactions. This index **TRANSP** goes from 0 to 3.

In our main regressions, we do not use an overall corporate governance score constructed from all the individual indicators, because it would suffer from at least two problems: one, it would not allow us detecting the specific corporate governance channels associated with improved performance, crucial since not all corporate governance practices matter equally; second, it would dramatically reduce our sample to only 1914 observations. Nevertheless, since it has been widely done in the literature, we will construct an overall measure for a robustness test.

Data on country-level indicator of investor protection

Consistently with the existing literature, we consider both de-jure and de-facto aspects of investor protection: the La Porta et al. (1998) LLSV anti-director index as revised by Djankov et al. (2007), the International Country Risk Guide (ICRG) Law and Order index, and the anti-self-dealing index as developed by Djankov et al. (2007). The widely used LLSV anti-director index consists of six sub-indices capturing the possibility of voting by mail and of depositing shares, aspects of cumulative voting, oppressed minority, preemptive rights, and the percentage of share capital to call a meeting. This index covers aspects of de-jure regulation since it does not control for the level of regulatory enforcement. The ICRG Law and Order Index assesses both legal system and the de-facto law and order tradition of a country. For the ICRG index, we take the average over the three years 2003-2005. Finally, we use the self-dealing index constructed by Djankov et al. (2007) which itself is the sum of two indices: the ex-ante and ex-post control against self-dealing indexes. The ex-ante index covers disclosure and approval requirements imposed by law. The ex-post index mainly looks at enforceability as it scores how easy it is for minority shareholders to obtain redress through the courts in case of legal disputes (standing rights to sue, ease of holding management or the body liable for civil damages).

We normalize these three legal indices to a scale from 0 to 1 and combine them to construct three new investor protection indicators:
- INV_PROT1: the sum of the LLSV revised anti-director index and the ICRG Law and Order index;
- INV_PROT2: the sum of INV_PROT1 and the anti-self dealing index;
- INV_PROT3: the product of the revised anti-director index and the ICRG Law and Order Index so as to get a measure of the effective degree of investor protection (as in Durnev and Kim, 2005).

Summary statistics

Of the total 7078 observations in the ISS dataset, we exclude from the main regression results financial companies and companies of countries with no La Porta et al.

(1997, 2006) LLSV index (Bermuda, 9 observations) or countries for which we have only one year observation: China (2 observations), Cayman Island (1 observation), Israel (2 observations), Luxemburg (3 observations), Thailand (1 observation), and South Africa (1 observation). We are then left with a total of 5857 company-year observations, for which we have a complete set of information in terms of the existence and independence of board committees (COMM1 and COMM2). However, we progressively lose observations in the construction of some of the other corporate governance indicators. In particular, we lose 228 observations in the creation of BCF, 750 for INDEP1, 2348 for INDEP3, and 2829 for TRANSP. Among others, we have very limited information on the level of board independence of Austrian companies (5 observations), and the separation of the roles between the Chairman and the CEO in Japan (3 observations), Portugal (3 observations), and Spain (5 observations).

Table 1.A reports summary statistics of the governance indicators described above by country. The analysis of the data by country shows an interesting picture of the differences in corporate governance regimes and practices across countries. Ireland scores the highest (2) in the INV_PROT1 indicator, followed by UK (1.97) and Singapore (1.89). Greece and Italy are at the bottom of the ranking (0.98). Similar differences exist for INV_PROT2 and INV_PROT3. US companies tend to have all four board committees (on average COMM1=3.94), similar to Canadian companies (COMM1=3.82). At the bottom in terms of board committees, we find Danish (COMM1=0.11) and Austrian companies (COMM1=0.31). Danish companies stand out also for the absence of independent committees (COMM2=0), while again US (COMM2=2.66) and Canadian (COMM2=1.97) companies are well above the sample average of COMM2=1.04. Companies in Hong Kong (BCF=2.06) tend to give more power to shareholders. In terms of board independence, Italian and Japanese companies rank the lowest on the two corporate governance indicators (INDEP1, INDEP3). There is not much variation in the TRANSP index across countries.

Table 1.B shows the percentage of incidence of corporate governance provisions per indicator. For the COMM1 indicator, most companies have an audit committee (83%), but only in 40% of the cases do companies have an audit committee consisting of a

majority of independent members. Similarly, in roughly half of cases, do companies have a nomination committee (52%), but only in 26% of the cases do we observe independent nomination committees. Only in 31% of cases do companies have a governance committee. The absence of poisons pills (80%) clearly stands out as the driver of the BCF index, while in only very few cases (10%) is a simple majority required to amend the company charters/bylaws. Roughly half of the companies have a majority of independent board members (46%), a percentage which increase to 65% for INDEP3 due to fewer observations. In 40% of the cases does the company have a separated CEO/Chairman. And in 91% of company-year observations is the CEO considered not to have related party transactions (TRANSP).

Table 1.C shows the overlap (or lack thereof) between country-level requirements and the main corporate governance practices. For instance, it shows the relation between the level of investor protection (INV_PROT1) and the existence of committees (COMM1). The majority of companies in countries with an INV_PROT1 index less than 1.7 have all board committees (20.45%), an independent board (26.85%), and a BCF index equal to 1 (18.60%). However, when INV_PROT1 index is equal or greater than 1.7, companies tend to have only one board committee (25.7%), a not independent board (46.33%), and a BCF index equal to 1 (40.06%). There is therefore no clear and monotonically relation between investor protection at the country level and the existence of board committees. The largest majority of companies have a low BCF indicator, but as there is an equal split in terms of board independence across the level of investor protection INV_PROT1, the relation with country-level requirements is not straightforward.

Financial data

For US companies, financial data are obtained from COMPUSTAT, while for non-US companies we use Worldscope data. As mentioned before, our companies are large in size, with an average total assets of $US10 billion and an average total sales of $US7.9 billion (Table 1.D).

We use Tobin's Q as our main performance measure. As in La Porta et al. (2002), Doidge, Karolyi, and Stulz (2004), and Durnev and Kim (2005), we define Tobin's Q as the ratio of total assets plus market value of equity less book value of equity, over total assets. The average Tobin's Q of the companies in our sample is 1.66. In our robustness checks, we also use Return on Assets (ROA) and Market to Book Ratio (MTB), where ROA is defined as the ratio of the earnings before interests, taxes, depreciation and amortization (EBITDA) to the book value of assets. The average ROA and MTB in our sample are 2.94 and 0.06.

As control variables, we use the logarithm of sales (LOG_SALES), the ratio of property-plants-equipments to sales (PPE_SALES), the 1-year growth of sales (G_S), the ratio of capital expenditures to sales (CAPEX_SALES), the ratio of total debt to common equity (D_E), and a dummy ADR equal to 1 if a company has American Depository Receipts traded.[7]

We construct our measure of external financing dependence as Rajan and Zingales (1998) do. The Rajan and Zingales industrial measure refers to only US manufacturing industries for the year 1980; since our data are for the period 2003-2005, we update the measure of external financing dependence for all 2-digit SIC code industries, using the COMPUSTAT universe of US companies for the year 2003-2005. A company's dependence on external finance is defined as the ratio of capital expenditures minus cash flow from operations to total capital expenditures. Following Rajan and Zingales, we sum the firm's use of external finance over the period 2003-2005 and then divide this by the sum of capital expenditures over the same period.[8]

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[7] We winsorize at the 1% and 99% percentile Tobin's Q, MTB, G_S, CAPEX_SALES, and D_E to limit the effects of outliers. As common in the literature, we also drop observations with negative values for common equity.
[8] From the year 2000 on the variable cash flow from operations (COMPUSTAT item 110) is no longer available due to a change in accounting rules. Cash flow is therefore calculated as the sum of COMPUSTAT items 123, 125, 126, 106, 213, and 217, plus the change in working capital (the sum of COMPUSTAT items 302, 303, and 304). Capital expenditures are calculated as the sum of COMPUSTAT items 128 and 129. We winsorize values at the 2.5% and 97.5% percentile also to address that for a few industries we have only a very small number of companies. Also, Rajan and Zingales used the 3-digits ISIC code for identifying industries, but these typically correspond to 2-digits SIC codes.

Finally, we construct a measure of an industry's tendency to have large company size by calculating for the United States the share of employment in the industry provided by companies with more than 20 employees.[9] As in Beck et al. (2005), we find a positive, but very small correlation between Large Firm Share and External Dependence, which suggests that the industry characteristics explaining company size are not the same as those characteristics explaining dependence on external finance.

Econometric model and strategy

Besides univariate analysis, we use the following econometric specifications to investigate the associations between corporate governance, external financing dependence and performance.

Corporate governance and performance

To capture the associations of country and company governance with performance, we use a panel approach using data over the period 2003 – 2005 to regress Tobin's Q on indicators of companies' corporate governance and the strength of the countries' legal environment, while controlling for industry, time, and other company characteristics. As common in this literature (Durnev and Kim, 2005; Doidge et al, 2004, Caprio et al. 2006), we use country random effects because the investor protection explanatory variables we use do not have within-country variation, thus precluding the use of country fixed effects. Also, our sample of companies is a sub-sample of the total population within each country and a random effects specification is thus preferable (Green, 1997). Furthermore, the Breusch-Pagan (1980) test suggests the presence of unobserved country level heterogeneity. Specifically, we estimate the following country, random effects regression with time and industry fixed effects:

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[9] This data is available from the 2000 US Census for industries classified according to the 3-digit NAICS code. We convert the 3-digit NAICS into 2-digit SIC code for three reasons. First, Rajan and Zingales (1998) mainly uses 3-digit ISIC codes, which correspond to 2-digit SIC codes. Secondly, the number of industries classified according to the 3-digit NAICS code is almost twice that classified according to the 2-digit SIC code. Since in our regressions we control also for industry fixed effects, using 3-digit codes provides for more degrees of freedoms. In those few cases where more than one industry classified according to the 3-digit NAICS code corresponds to one industry classified according to the 2-digit SIC code, we take the average.

$$Y_{i,t}^c = \alpha + \beta_1 \cdot INV\_PROT^c + \beta_2 \cdot CG_{i,t}^c + \gamma \cdot INV\_PROT^c * CG_{i,t}^c + (Firms\ controls)_{i,t}^c + \varepsilon_{i,t}^c,$$

(1)

where Y is Tobin's Q, the variable INV_PROT is the country-level investor protection indicator, while CG is the vector of the company corporate governance indicator(s) as described above. And in terms of indexes, c is country, i is company, and t is time. Theoretical and empirical literature predict the coefficients β_1, β_2 to be positive and γ to be negative. By summing the various coefficients, we can find the overall economic effect of an increase in investors' protection strength in the presence of different company's corporate governance practices.

To capture the differences in valuation for a given level of country and company-level corporate governance, we next divide companies according to their level of country and company-level of corporate governance, i.e., above or below the respective medians. We therefore end up with four groups: companies with both high (above the median) levels of country and company corporate governance (*HiHi*), companies with high level of country investor protection but low (below the median) level of company corporate governance (*HiLo*), and vice versa (*LoHi*), and finally companies with low standards of both country and company corporate governance (*LoLo*). Besides univariate analysis documenting the differences in performance among these four groups of companies, we perform the following country random effects regression with time and industry fixed effects:

$$Y_{i,t}^c = \alpha + \beta_1 \cdot Hi^c Hi_{i,t}^c + \beta_2 \cdot Hi^c Lo_{i,t}^c + \beta_3 \cdot Lo^c Lo_{i,t}^c + (Firms\ controls)_{i,t}^c + \varepsilon_{i,t}^c,$$ (2)

where Y is again Tobin's Q, $HiHi, HiLo, LoLo$ are dummy variables equal to 1 if the company corporate governance structure is characterized by high standards at both country and company levels (*HiHi*), by high standards at the country and low standards at the company level (*HiLo*), or by low standards at both the country and company levels (*LoLo*), and 0 otherwise, with low standards at the country and high at the company level (*LoHi*) as the base case. The country-level indicator is INV_PROT1, divided between

high (*Hi*) and low (*Lo*) according to the 23-countries' median level. The company-level governance indicators are *COMM1*, *COMM2*, *BCF*, *INDEP1*, *INDEP3* and *TRANSP*, which are divided between high (*Hi*) and low (*Lo*) according to their overall sample median. The estimated coefficients $\beta_1, \beta_2, \beta_3$ provide then the differences in performance, all compared to the base case.

In both specifications (1) and (2), we control for the variables usually found to be associated with performance, i.e., size, tangibility of assets, and cross-listing on other stock exchanges, for which we use respectively the logarithm of sales (in US$), the ratio of property, plants, and equipment (PPE) to sales, and a dummy equal to 1 if a company has American Depository Receipts (ADRs) traded. We use sales rather than assets because it is less affected than earnings by diversion, manipulation, and different accounting rules; however, our results are robust to the use of the logarithm of total assets. We use the ratio of PPE to sales because companies operating with higher proportions of fixed assets (and lower proportions of intangible assets) may find it less necessary (or optimal) to adopt stricter governance mechanisms, for example, because they have less scope to misuse assets (Klapper and Love, 2004). Finally, empirical evidence suggests that companies cross-listed on US exchanges are valued higher (Doidge et al., 2004; Coffee, 2002).

Regressions (1) and (2) uses, besides time and 2-digit SIC code industry fixed effects, clustered standard errors at country level to deal with this source of possible autocorrelation. We do not use company fixed effects because, as in Gompers et al. (2003), we do not have enough variability in the corporate governance indicators over the short time period we consider. As is common in this literature, financial companies are excluded from the main regressions, but we do perform robustness checks including financial companies.

Robustness checks

We perform four main sets of robustness checks of specification (2) in terms of: a) company-level data; b) country-level investor protection indicators; c) overall governance impact; and d) association between country rules and corporate governance practices adopted by companies.

a. Robustness of the control variables, sample and performance measures

As an alternative set of controls we use those as in Black et al. (2005): the ratio of capital expenditures to sales, the ratio of total debt to equity, and 1-year growth of sales, to control for investment intensity, leverage, and growth opportunities, respectively. We also check whether our results are still valid with the inclusion of financial companies (SIC code 6). Finally, we use ROA as an alternative accounting measure of performance and MTB as alternative measure to Tobin's Q.

b. Robustness of the country-level indicator of investor protection

We check the robustness of both the association of governance with performance and the differences among groups of companies by using our two alternative country-level indicators of investor protection: *INV_PROT2* and *INV_PROT3*.

c. Robustness of the overall governance impact on performance

To confirm the impact of the incremental effect of higher country-level investor protection, we run the following regression:

$$Y_{i,t}^c = \alpha + \beta_1 \cdot INV\_PROT^c + \beta_2 \cdot INV\_PROT^c * Hi_{i,t}^c + \gamma \cdot Hi_{i,t}^c + (Firms\ controls)_{i,t}^c + \varepsilon_{i,t}^c,$$

(3)

where *Y* is again Tobin's Q, *INV_PROT* is the country-level indicator *INV_PROT1*, and *Hi* is a dummy equal to 1 if the company-level corporate governance indicator is above the median, and 0 otherwise. The coefficient β_1 indicates the investor protection effect for companies with low (*Lo*), i.e., below the median, corporate governance practices. The coefficient β_2 indicates the incremental valuation effect for companies with high (*Hi*),

i.e., above the median, corporate governance practices. The sum of the coefficients $\beta_1 + \beta_2$ indicates the *total* effect of country-level investor protection on performance for highly-governed companies (*Hi*). Finally, the coefficient γ tests whether the performance of highly-governed companies is different from that of poorly-governed ones when country-level investor protection is weak.

d. Robustness given the association between country and company corporate governance indicators

As noted, company level corporate governance practices may not be independent from the country's level of investor protection. In particular, companies incorporated in countries with stronger legal protection may be forced to adopt higher corporate governance standards. In practice, this does not appear to be the case though. Table 2 shows a fairly equal distribution among the possible outcomes (*HiHi*, *HiLo*, *LoHi*, and *LoLo*) across the countries. To address this possibility more rigorously, however, we correct company corporate governance practices for country effects. In line with Chhaochharia and Laeven (2007), we compute the average corporate governance within each country for each indicator, and calculate the difference between each company corporate governance indicator and its country average. Companies with positive differences, i.e., above the country mean, are then considered to have high corporate governance practices given the specific country's regime. This allows us to compare high and low corporate governance standards with fewer concerns about legal regimes driving corporate governance choices. Specifically, we then run the following modified specification of regression (2):

$$ Y_{i,t}^c = \alpha + \beta_1 \cdot Hi^c \hat{Hi}_{i,t}^c + \beta_2 \cdot Hi^c \hat{Lo}_{i,t}^c + \beta_3 \cdot Lo^c \hat{Lo}_{i,t}^c + (Firms\ controls)_{i,t}^c + \varepsilon_{i,t}^c, \qquad (4) $$

where $Hi\hat{Hi}, Hi\hat{Lo}, Lo\hat{Lo}$ are dummies equal to 1 for companies in above the mean (mean and median country indicator coincide) country legal protection and above country mean corporate governance practices ($Hi\hat{Hi}$), companies in above the mean country legal protection and below country mean corporate governance practices ($Hi\hat{Lo}$), and

companies in below the mean country legal protection and below country mean corporate governance practices ($Lo\hat{L}o$) respectively, or 0 otherwise. As an example, in the case of Canada, we subtract the country average 3.82 from COMM1, 1.97 from COMM2, etc. Companies with a positive difference will fall in the $Hi\hat{H}i$ group, while those with a negative difference in $Hi\hat{L}o$. We continue to use INV_PROT1 as our country investor protection indicator and all other control variables and specifications remain as in (2).

Corporate governance, external financing dependence, size and performance

To test whether companies belonging to industries that typically are more financially dependent are especially higher valued with better corporate governance, we use the Rajan and Zingales methodology to overcome causality issues arising from associations between corporate governance, external financing dependence and performance. Specifically, we interact the measure of industry external financing dependence with a measure of the company's corporate governance quality to estimate the following model:

$$Y_{i,k,t}^{c} = \alpha + \beta \cdot GOV_{i,t}^{c} \cdot EXT\_DEP_{k} + Size_{i,t}^{c} + (Fixed\ effects)_{k,t}^{c} + \varepsilon_{i,k,t}^{c}, \qquad (5)$$

where Y is Tobin's Q, EXT_DEP is the Rajan and Zingales measure of dependence on external financing at the industry level k, and $Size$ is the logarithm of sales. EXT_DEP is interacted with GOV, which is either the country (*INV_PROT)* or company-level (CG) corporate governance, all as defined above. The regression is run with 2-digit SIC code industry, country and time fixed effects, with robust standard errors clustered at the country level. The United States is dropped as it is the benchmark country.

If corporate governance matters more for external financing dependent companies, we would expect the coefficient β of the interaction term to be positive and significant. If so, this would suggest that corporate governance to be especially important in guaranteeing an efficient allocation of external capital resources leading to higher high

returns and allowing a better monitoring of management enhancing investors' confidence and valuation for those companies.

As in other papers, we check whether we find similar evidence in the presence of cross-industry differences in size. The model we estimate with this size variable is:

$$Y_{i,k,t}^{c} = \alpha + \beta \cdot GOV_{i,t}^{c} \cdot Large\,firm\,share_{k} + Size_{i,t}^{c} + (Fixed\,effects)_{k,t}^{c} + \varepsilon_{i,k,t}^{c}, \tag{6}$$

where *Large firm share* is the share of employment of companies in *k*'s 2-digit SIC code industry with more than 20 employees in the United States from the US Census, and Y, EXT_DEP, *Size* and *GOV* are as defined above. The regressions are run with industry, country and time fixed effects, with robust standard errors clustered at the country level. If in regression (6) the estimated coefficient β is positive and significant, then higher standards of corporate governance are more valuable for large-size companies, e.g., because those companies can more easily bear the costs of it.

Finally, we test whether the larger impact of some company corporate governance practices for external financing dependent and large companies varies in the presence of strong country legal protection. As there are no strong theoretical foundations regarding the differential impact of strong regimes for external financing dependent companies, we limit our analysis to testing for differences for large companies. In our specific test, we modify specification (6) by multiplying the interaction term $GOV_{i,t}^{c} \cdot Large\,firm\,share_{k}$ with a dummy identifying the strength of legal protection in the company's country of incorporation. Specifically, we run the following model:

$$Y_{i,k,t}^{c} = \alpha + \beta_{1} \cdot GOV_{i,t}^{c} \cdot Large\,firm\,share_{k}$$
$$+ \beta_{2} \cdot [GOV_{i,t}^{c} \cdot Large\,firm\,share_{k}] \cdot dummy\_country + Size_{i,t}^{c} + (Fixed\,effects)_{k,t}^{c} + \varepsilon_{i,k,t}^{c},$$

$$\tag{7}$$

where *dummy_country* is a dummy which takes the value of 1 if the country's legal protection is above the 22 countries' median and 0 otherwise. All the other variables are as specified above. The coefficient β_1 indicates the effect of a specific corporate governance practice for companies that operate in sectors with naturally large companies and β_2 indicates the incremental effect due to stronger legal protection for such companies.

4. Results

Univariate Analysis

Table 2 provides an initial assessment of the association between corporate governance and performance (Tobin's Q) for the main indicators (INV_PROT1, COMM1, BCF, INDEP1). We provide these data for the four groups of companies/countries: companies with both high (above the median) levels of country investor protection and company corporate governance (*HiHi*), companies with high level of country investor protection but low (below the median) level of company corporate governance (*HiLo*) and vice-versa (*LoHi*), and finally companies in low country investor protection and with low company corporate governance (*LoLo*).

There is a clear, but non-monotonic interaction between corporate governance at the company and country level in terms of effects on company valuation. Take for instance COMM1. Companies with high corporate governance practices have higher Tobin's Q than companies with low corporate governance practices. But companies in countries with high corporate governance rules do not have higher Tobin's Q than companies in countries with low corporate governance rules. In particular, when both the country and company are high (INV_PROT1 HIGH and COMM1 HIGH), companies do not have the highest average Tobin's Q (1.70). Rather companies with COMM1 HIGH incorporated in a country with relatively low investor protection level (INV_PROT1 LOW) have the highest Tobin's Q (2.03). Surprisingly, the governance combination COMM1 LOW and INV_PROT1 HIGH is not associated with a higher average Tobin's Q (1.42) than the

combination COMM1 LOW and INV_PROT1 LOW (1.53). This evidence is confirmed using BCF and INDEP1 as company-level indicators and most of these differences are statistically significant. Of course, these are univariate comparisons and we need check whether such associations still hold in our multivariate analyses.

Corporate governance and performance

We first show the results of the association between governance choices and performance, estimated using equation (1), with results reported in Table 3. We first consider country level investor protection and each of the six indices (COMM1, COMM2, BCF, INDEP1, INDEP3, and TRANSP) separately and interacted with INV_PROT1 (columns I-VI). Note that, given missing observations on some companies' corporate governance practices, we have fewer observations for the last two indexes. We find that none of the indexes of the degree of investor protection are statistically significant. We do find each of company practices to matter, however, with all coefficients positive and significant. This means that the existence of board committees, lack of entrenchment at the board level, board independence and transparency contributes to higher valuation.[10] In terms of relationship between country rules and company corporate governance practices, we find that the interaction terms of the various company practices with INV_PROT1 are all negative and significant. This suggests a substitution effect between company and country corporate governance and in particular that the impact of corporate governance practices at the company level is less when investors' protection at the country level is high. The coefficients of the control variables are in line with the results found in the literature: size (log of sales) and capital intensity (the ratio of property, plants, and equipments (PPE) over sales) are negative and highly significant, while the dummy ADR is generally positive, although not always significant.

We next run the regressions using at the same time all three corporate governance indexes, COMM1, BCF, and INDEP1, and their interactions with INV_PROT1 (regression VII). We find that the INV_PROT1 is statistically significant positive, that

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[10] Additionally, as in Bebchuk et al. (2004) we examine the association between staggered boards and firm value for US companies only. We find that the governance indicator BCF is positive and significant also for our sample of US companies.

the three indexes themselves remain positive statistically significant, and that all three interactions are again statistically significant negative, confirming the evidence above. We also run similar regressions using the COMM2, INDEP3 and TRANSP indexes (results not shown). We obtain similar results for COMM2 and TRANSP, while INDEP3 is no longer significant. The latter result suggests that, in terms of independence, what matters is the effective independence at the board level rather than matters such as the separation of the CEO/Chairman roles.[11]

By calculating the sum of coefficients, we can show the economic impact of differences in legal regime. The regression result of column VII, for example, implies that a one standard deviation (0.26) increase in INV_PROT1 is associated with a change in Tobin's Q of 0.26 * [0.57 – 0.20*COMM1 – 0.31*BCF – 0.46*INDEP1]. The overall magnitude of the impact of legal reform thus depends on the degree of corporate governance in place at the company level. Take for instance companies with COMM1=4. For these firms, a one standard deviation increase in INV_PROT1 is associated with a decrease in Tobin's Q of 0.26* [-0.23 – 0.31*BCF – 0.46*INDEP1], i.e., a decrease of 0.0598, which is 3.5% of the average Tobin's Q.[12] The effect is even more negative when the board consists of a majority of independent directors, because for companies with COMM1=4 and INDEP1=1 a one standard deviation increase in INV_PROT1 is associated with a decrease in Tobin's Q of 0.26*[-0.69 – 0.31*BCF], i.e., a decrease of 0.1796 (10.8% of the average Tobin's Q).[13] In other words, our results suggest possible overregulation from strong legal regimes when company corporate governance practices in place are already high.

We next run the regressions using instead of INV_PROT1 our other two indexes of investor protection, INV_PROT2 and INV_PROT3 (regressions VIII and IX). The results found above are substantially confirmed when using INV_PROT3 as the country level index. However, the positive association between country legal investor protection and valuation is no longer significant when using INV_PROT2 as indicator (column

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[11] When using INDEP3 and TRANSP, the sample is reduced by 30-50% and these results thus have to be considered with some caveats.
[12] For which we have 1734 total observations, with an average INV_PROT1 index of 1.55.
[13] For which we have 1589 total observations, with an average INV_PROT1 index of 1.53.

VIII), and BCF is no longer significant as well. Under this specification also TRANSP is no longer significant (result not shown here).

We next run the regressions of equation (2), using the dummies for the *Hi-Lo* country regimes and company corporate governance practices, where the category *Lo* investor protection and *Hi* company practice is the "base" case and thus dropped (Table 4). We see here clearly the effects of different combinations of country regimes and company corporate governance practices, and the differences in valuation effects of these combinations. Relative to the base case (*Lo* investor protection and *Hi* company practices), all other combinations have statistically significant lower Tobin's Q, with the difference being the highest for the combination *Hi* investor protection regime and *Lo* company practices (β_2 ranging from -0.46 to -0.79) depending on which company corporate governance measure we use). The coefficient β_3 of the combination where both investor protection and company practices are *Lo*, is between -0.24 and -0.70, not very different from the *Hi* investor protection regime with *Lo* company practices. In particular, the differences between the coefficients β_2 and β_3 are never statistically significant different, except for the TRANSP index (at the 8% level) although not robust to further specifications.

This lack of statistically significant difference between these two groups suggests that for those companies with poor corporate governance practices, there are no significant effects of country level investor protection on company valuation. In other words, better country legal investor protection does not substitute for poor company corporate governance practices. At the same time, there is a negative effect of higher investor protection for those companies with better corporate governance practices, since the group of *Hi* investor protection and *Hi* company corporate governance practices has a discount between 0.51 and 0.76 (depending on the specification used) compared to the base case of *Lo* investor protection and *Hi* company corporate governance practices. This suggests that stronger country corporate governance rules are not necessarily the optimal policy. In terms of specific company practices, β_1 is statistically higher than β_2 and β_3 is negative for COMM1, COMM2, and INDEP1, but not for BCF, INDEP3 and

TRANSP, regardless of the level (*Hi* or *Lo*) of country investor protection. This suggests that company practices COMM1, COMM2 and INDEP1 impact performance "more" than other practices under any country legal condition. This is consistent with the literature that has found contradicting results on the relation between the presence of a separated CEO/Chairman (INDEP3) and greater transparency (TRANSP) and performance, and consistent with our earlier regression results. The lack of evidence for the BCF index (the F-test does not reject the hypothesis of equal coefficients) could be due to the impact of board on management entrenchment to vary across countries given differences in ownership structures. Consequently, the US evidence of BCF does not translate to other countries.

These results confirm those of Table 3 that there can be overregulation when company corporate governance practices are already good, negatively impacting valuation. In particular, for companies of a country like the US or Canada, that on average have high company corporate governance practices, there may not be a need to have stricter country investor protection. On the other hand, if companies tend to converge to low corporate governance standards, stricter country-level protection may neither suffice to improve performance. It is worth, though, to mention that the sample of countries considered in this analysis have on average already a high level of investor protection compared to many emerging markets and developing countries.[14] While for our sample of companies it is the corporate governance at the company level that matters most, it might well be that increases in legal protection are effective in increasing performance for companies from emerging markets and developing countries, as existing literature indeed suggests.

We next perform several robustness checks to confirm both the significance of the results and the economic impact of the corporate governance variables (Tables 5-8), with often only the results of the main corporate governance indicators reported for space reasons. As a first robustness check, we include three extra company control variables in equation (2): the one-year growth of sales (SALES GROWTH) to control for growth

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[14] The average LLSV and Self-Dealing indexes for our sample of companies are respectively 0.73 and 0.53, compared to 0.62 and 0.39 for developing countries.

opportunities, the ratio of debt to equity (D_E) to control for leverage and degree of debt financiers' monitoring, and the ratio of capital expenditures to sales (CAPEX_SALES) to control for investment opportunities. We still use INV_PROT1 as our country legal protection index.

In Table 5 (columns Ia, IIa, IIIa) we report the results with COMM1, BCF and INDEP1, but we find similar results for the other indexes. The results confirm the earlier evidence: companies with poor corporate governance practices are lower valued and differences in legal regime do not affect the discount for these companies; and for companies with good corporate governance practices, a stricter regime can increase the discount. We also run regression (2) including financial companies (SIC code 6) and results are again confirmed (columns Ib, IIb, IIIb, although for BCF the F-test can again not reject equality of the β_1 and β_2 coefficients). Finally, we perform a robustness check by using the return on assets (ROA) as a performance measure instead of Tobin's Q. The coefficients of the three dummies (columns Ic, IIc, IIIc) are still significant at the 1% level and the relative comparisons are still valid in case of COMM1 and INDEP1, as well as for COMM2.

We next run robustness checks on the investor protection index by using our two alternative indices on the country legal regimes, INV_PROT2 and INV_PROT3. We run again equation (2), i.e., using the three group dummies. We find very similar results as before (Table 6), especially for COMM1 and INDEP1, with companies with high practices in low regime countries having the highest values and no significant differences in valuation between low and high investor protection countries for companies with low practices (again, for BCF the F-test can not reject equality of the β_1 and β_2 coefficients).

We also consider whether the specifications we have used may have affected the results because of the clearly non-monotonic relationships between on one hand investor protection and corporate governance practices and on the other hand performance. We therefore next regress Tobin's Q on the index INV_PROT1, the interaction term INV_PROT1*COMM1 Hi (or the interaction with the dummy BCF Hi or INDEP1) and the dummy COMM1 Hi (or the dummy BCF Hi or INDEP1), including the usual

company controls (of regression 3). In this specification, both the level of investor protection and good company practices are allowed to have a direct impact on valuation, yet we allow for a combined effect of the level of investor protection and good practices. Regression results are reported in Table 7.

We find that on its own INV_PROT1 is not significantly related with valuation for any of the three company practices indexes. This once again confirms that country level investor protection has no significant impact on Tobin's Q in the presence of low company corporate governance standards. The incremental effects of investor protection on Tobin's Q for companies with high governance practices ($\beta_2, \beta_3, \beta_4$), however, are always negative and significant, whereas good corporate governance practices are always significant positive. The total effect of country investor protection on Tobin's Q for high standards companies ($\beta_1 + \beta_2, \beta_1 + \beta_3$, or $\beta_1 + \beta_4$) is always negative and significantly different from zero, confirming the "too much of a good thing" effect. The only exception is column V where, similarly to the previous analyses, the total effect for BCF ceases to be significant when BCF is used at the same time with the COMM1 and INDEP1 indices. In terms of economic impact and using the regression results of column V, the effect on Tobin's Q of an one standard deviation increase in INV_PROT1 is 0.26*[$\beta_1 + \beta_2$ COMM1 Hi + β_3 BCF Hi + β_4 INDEP1], which can be smaller or larger than zero. Still, for most companies with good corporate governance practices, effects are negative. For companies with COMM1 above the median, for example, an one standard deviation is associated with a decrease in Q of 0.0624 (3.7% of the average). For companies with also an independent board, the decrease in Q is 0.24 (14% of the average).

We next run the regression specification (4) where we consider the deviations in corporate governance practices from within-country averages. Since INDEP1 is a dummy, those regression results are the same as in (2) and are not presented. Table 8 shows that the results of Table 2 are confirmed for all indicators, with negative effects of excessive regulation and the greatest impact of COMM1 and COMM2 (F-test). The coefficients are generally somewhat smaller than those of Table 2, which reflects the fact

that we take out the country average effects. The only exception is INDEP3, where the coefficients either lose significance or change sign.

In addition to these robustness tests, we have run a further series of robustness checks (not reported for space reasons). Following the existing literature, we estimated model (1) and (2) using an overall corporate governance index including all practices and constructed as the sum of COMM1, BCF, INDEP3 and TRANSP. The results of Tables 2 and 3 are confirmed: the overall index has a positive and significant association with Tobin's Q, and the evidence of excessive regulation is strongly confirmed under both specifications. Another possible concern could be the large share of US companies in the sample, since the US has a rare combination of relatively low country corporate governance regime and a relatively high level of company corporate governance practices. We therefore also use a smaller subset of US companies, specifically those companies with higher (above median) market capitalization. The main results of Tables 2 and 3 are confirmed. The results are also confirmed when using as dependent variable the MTB (market-to-book ratio) instead of Tobin's Q. Finally, as in Aggarwal et al. (2007), we also run specifications (1) and (2) using only 2005 ISS data and find that our main results confirmed.

Corporate governance, external financing dependence, and performance

We next discuss the results of the association between corporate governance, external financing dependence and performance using regression specification (5). Table 9, column I, shows that the interaction term of external financing with investor protection INV_PROT1 itself is not statistically significant. The coefficients of the interaction terms external financial dependence with COMM1, COMM2, and INDEP1 are positive and significant, while the coefficients for the interaction of external financial dependence with BCF, INDEP3, and TRANSP are not statistically significant (Columns II-VII). These results suggest that companies belonging to industrial sectors that naturally rely more on external financing are higher valued the more board committees they have and if the board committees are independent. This can be interpreted as evidence that the market values strong and independent boards more than any other bonding practice when

providing financing to companies, maybe because these practices reduce moral hazard and adverse selection problems, and improve companies' performance, particularly when naturally dependent on external financing. In terms of magnitudes, using for instance the coefficient results in column II, our results imply that the difference in valuation between the 25th and 75th percentile of financial dependent industries would be 3.3% higher for a company with an index COMM1 equal to 3 compared to a COMM1 equal to 1.

Next we check whether the associations between corporate governance, external financial dependence and performance are affected by the size of the company, avoiding issues of simultaneity by using the average size of the companies within the respective industry (regression 6). The results in Table 10 confirm the positive and significant impact of COMM1, COMM2, and INDEP1, with BCF now also significant at 1% and the lack of a significant impact of country legal protection (column I) and INDEP3 (column VI). TRANSP shows a statistically significant negative effect. It shows that companies belonging to industries with greater shares of large companies are valued higher if they have stronger corporate governance in the form of independent board committees and executives on the board. In other words, the market values strong corporate governance practices especially for those companies that are naturally large. This evidence, in line with previous studies (e.g., Chhaochharia and Grinstein, 2005), is consistent with the view that for large, but not for small companies the benefits of strong corporate governance practices exceed the costs.

Finally, Table 11 shows the effect of stronger country legal regime on the impact of corporate governance practices for companies which vary in size. The interaction effects of COMM1, COMM2, BCF, and TRANSP with the industry share of large size companies are all positive and significant. This confirms most the results of Table 10, i.e., that companies belonging to industries with greater shares of large companies are valued higher if they have stronger corporate governance in the form of independent board committees and executives on the board. Importantly, the incremental effect from stronger country legal investor protection is mostly not significant (and actually significantly negative in case of TRANSP). This suggests that large companies do not

benefit especially from a stronger country regime, even though such companies would in principle be able to bear the cost of it. This again suggests that the gains from stronger regimes, controlling for company corporate governance practices, are elusive, a further confirmation of the potential costs of too strong country regimes.

5.   Conclusions

In this paper we have analyzed whether and through what channels corporate governance at the company and country level affects performance and company valuation. Consistent with existing studies, we find that better corporate governance at the company level exerts a positive effect on performance. Not everything contributes equally to this relation, though. The presence of board committees and board independence play a more important role for company performance than other corporate governance practices. We also find that corporate governance is more important for companies that especially rely on external financing. This is likely because of two channels. Corporate governance acts as a *signaling* device for companies having positive NPV projects, thus allowing a more efficient capital allocation. And once funds have been allocated, corporate governance helps through the *monitoring* of management.

In terms of shareholder protection at the country level, and different from other results, we find a neutral or even a negative impact. Specifically, for companies with poor corporate governance practices, there is very little or no impact from better investor protection and for companies with good corporate governance practices, there is a discount from better investor protection. We find also that only for large companies or for companies that naturally depend heavily on external financing do strict corporate governance practices or requirements increase valuation.

Our analysis shows that the optimal form of corporate governance is not necessarily a strong corporate governance regime. A straight-jacket of (many) corporate governance rules can, besides being costly in terms of direct outlays, limit managerial freedom of initiative and thereby negatively affect performance. This finding has important policy implications. A policy-maker needs to decide both whether to intervene and if so, what

(new) rules are the most efficient to improve companies' performance and shareholders' returns, bearing in mind that increasing the number and severity of country-level regulations may not always lead to superior performance.

The paper does come with its caveats. One is the sample, which is limited to relatively well-developed countries where issues such as public enforcement of rules and the quality of the judicial system are less in doubt that in many emerging markets and developing countries. Furthermore, there may be other mechanisms at work in our countries that discipline companies, but that are not captured through the investor protection measures we use (for example, competition in factors markets, well-functioning banks and other financial institutions). As such, the effects might well differ for developing countries where enhancing country level governance is likely to have positive effects on value or where other mechanisms are weaker. Indeed, our results do not need to negate the findings in the literature that in general better country corporate governance frameworks improve company valuation and performance. There are also likely important interactions between company corporate governance practices and overall public governance, including the presence of corruption, that need to be considered when evaluating the effects of stronger corporate governance regimes.

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TABLE 1.A: CORPORATE GOVERNANCE INDICATORS BY COUNTRY

	COUNTRY INDICATORS							FIRM INDICATORS											
	Revised LLSV Anti-Director	ICRG Law and Order	DLLS Self-Dealing	INV_PROT1	INV_PROT2	INV_PROT3		COMM1		COMM2		BCF		INDEP1		INDEP3		TRANSP	
								Min: 0 Max: 4		Min: 0 Max: 3		Min: 0 Max: 4		Dummy		Min: 0 Max: 3		Min: 0 Max: 3	
	Obs.			Value				Obs.	Mean	Obs.	Mean	Obs.	Mean	Obs.	Mean	Obs.	Mean	Obs.	Mean
Country																			
AUSTRALIA	205	0.8	1	0.76	1.80	2.56	0.80	205	2.77	205	0.85	205	1.02	203	0.57	203	2.23	145	1.30
AUSTRIA	47	0.5	1	0.21	1.50	1.71	0.50	47	0.31	47	0.00	47	1.00	5	0.80	5	2.60	7	1.85
BELGIUM	47	0.6	0.83	0.54	1.43	1.97	0.50	47	1.25	47	0.25	47	0.74	22	0.27	15	1.66	2	1.50
CANADA	466	0.8	1	0.64	1.80	2.44	0.80	466	3.82	466	1.97	466	1.99	465	0.86	461	2.20	157	1.89
DENMARK	61	0.8	1	0.46	1.80	2.26	0.80	61	0.11	61	0.06	58	1.56	18	0.88	18	2.11	29	1.62
FINLAND	81	0.7	1	0.46	1.70	2.16	0.70	81	0.86	81	0.48	77	1.80	44	0.65	44	2.04	12	1.41
FRANCE	215	0.7	0.81	0.38	1.51	1.89	0.56	215	2.34	215	0.33	211	0.83	194	0.26	185	1.47	189	1.19
GERMANY	217	0.7	0.83	0.28	1.53	1.81	0.58	217	0.65	217	0.01	217	1.05	57	0.75	55	1.94	29	1.58
GREECE	112	0.4	0.58	0.22	0.98	1.20	0.23	112	0.38	112	0.04	63	2.01	73	0.04	37	1.40	3	2.00
HONG KONG	140	1	0.75	0.96	1.75	2.71	0.75	140	1.48	140	0.62	110	2.06	136	0.08	135	1.57	47	1.85
IRELAND	33	1	1	0.79	2.00	2.79	1.00	33	3.09	33	0.90	33	1.00	32	0.31	32	1.59	10	1.90
ITALY	122	0.4	0.58	0.42	0.98	1.40	0.23	122	1.13	122	0.09	121	1.04	84	0.08	50	1.42	59	1.76
JAPAN	1409	0.9	0.83	0.5	1.73	2.23	0.75	1409	1.04	1409	0.01	1407	1.35	1408	0.00	3	1.00	932	1.89
NETHERLANDS	123	0.5	1	0.2	1.50	1.70	0.50	123	1.25	123	0.72	115	0.74	51	0.92	47	2.59	15	1.46
NEW ZEALAND	38	0.8	1	0.95	1.80	2.75	0.80	38	2.71	38	0.34	38	1.00	37	0.37	37	1.70	24	1.66
NORWAY	58	0.7	1	0.42	1.70	2.12	0.70	58	0.43	58	0.24	51	1.15	17	0.82	16	2.37	15	1.60
PORTUGAL	33	0.5	0.83	0.44	1.33	1.77	0.42	33	0.42	33	0.09	27	1.03	19	0.26	3	2.00	10	1.40
SINGAPORE	119	1	0.89	1	1.89	2.89	0.89	119	2.55	119	0.87	55	1.40	107	0.50	94	2.18	27	1.96
SPAIN	120	1	0.78	0.37	1.78	2.15	0.78	120	1.71	120	0.25	100	1.02	46	0.13	5	1.40	21	1.57
SWEDEN	102	0.7	1	0.33	1.70	2.03	0.70	102	0.89	102	0.16	101	2.01	62	0.53	56	2.32	25	1.48
SWITZERLAND	135	0.6	0.83	0.27	1.43	1.70	0.50	135	1.30	135	0.45	135	1.10	60	0.78	59	1.86	21	1.85
UK	787	1	0.97	0.95	1.97	2.92	0.97	787	2.98	787	1.59	785	1.05	780	0.35	770	1.34	457	1.88
USA	1187	0.6	0.83	0.65	1.43	2.08	0.50	1187	3.94	1187	2.66	1160	1.82	1187	0.97	1179	2.01	792	1.75
Total obs.	5857							5857		5857		5629		5107		3509		3028	
Average		0.73	0.89	0.53	1.61	2.14	0.65		2.25		1.04		1.41		0.46		1.85		1.76
Median		0.70	0.89	0.46	1.70	2.12	0.70		3		0		1		0		2		2

Table 1.A reports the country legal regime variables (INV_PROT1, INV_PROT2, and INV_PROT3) and the company corporate governance indicators (COMM1, COMM2, BCF, INDEP1, INDEP3, and TRANSP). In particular, the country indicators consist of combinations of normalized values from 0 to 1 of the revised LLSV index, the ICRG Law and Order Index and the Anti-Self Dealing Index. The company-level governance indicator COMM1 considers the existence of board committees, while COMM2 their independence. BCF is constructed following the entrenchment index developed by Bebchuk et al. (2004). INDEP1 is a dummy equal to 1 if a board consists of a majority of independent directors. In addition to independence, INDEP3 takes into account the presence of the former CEO on the board and the separation of the roles between the CEO and the Chairman. TRANSP ranks the degree of potential account manipulation within the company. The composition of each index is given in Table 1.B

Table 1.B: INCIDENCE OF THE CORPORATE GOVERNANCE PROVISIONS FOR EACH INDICATOR

This table shows the composition of each corporate governance indicator and the percentage of incidence of each provision. The percentages are computed over the total company-year observations of each indicator.

INDICATOR	Constituents				INDICATOR	Constituents		
COMM1	Nomination committee	Compensation committee	Audit committee	Governance committee	INDEP1	Majority of independent board members		
	52%	58%	83%	31%		46%		
COMM2	Independent nomination committee	Independent compensation committee	Independent audit committee		INDEP3	Majority of independent board members	No former CEO on the board	Separated CEO/ Chairman
	26%	37%	40%			65%	79%	40%
BCF	Annually elected board	No poison pills in place	No supermajority for charters/ bylaws	No supermajority for merger	TRANSP	Auditor ratified	No consulting fees to auditors	CEO not having related party transactions
	30%	80%	10%	20%		65%	38%	91%

TABLE 1.C: PERCENTAGES OF CO-EXISTENCE OF CORPORATE GOVERNANCE PRACTICES FOR THE MAIN INDICATORS

This table shows the distribution of the company- year observations in the combination of specific corporate governance indicators. For instance, in 553 cases out of 5857 (9.44%), companies have COMM1=0 and INV_PROT1 less than the median 1.7.

	INV_PROT1			INV_PROT1		
	< 1.7	>= 1.7		< 1.7	>= 1.7	total
COMM1 = 0	553	297	COMM1 = 0	9.44%	5.07%	15.51%
COMM1 =1	99	1505	COMM1 =1	1.69%	25.70%	27.39%
COMM1 = 2	124	201	COMM1 = 2	2.12%	3.43%	5.38%
COMM1 = 3	264	1080	COMM1 = 3	4.51%	18.44%	22.94%
COMM1 = 4	1198	536	COMM1 = 4	20.45%	9.15%	29.60%
total	2238	3619	total	38.21%	61.79%	100.00%
BCF = 0	336	7	BCF = 0	5.97%	0.12%	6.09%
BCF = 1	1047	2255	BCF = 1	18.60%	40.06%	58.66%
BCF = 2	352	1084	BCF = 2	6.25%	19.26%	25.51%
BCF = 3	256	138	BCF = 3	4.55%	2.45%	7.00%
BCF = 4	152	2	BCF = 4	2.70%	0.04%	2.74%
total	2143	3486	total	38.07%	61.93%	100.00%
INDEP1 = 0	381	2366	INDEP1 = 0	7.46%	46.33%	53.79%
INDEP1 = 1	1371	989	INDEP1 = 1	26.85%	19.37%	46.21%
total	1752	3355	total	34.31%	65.69%	100.00%

TABLE 1.D: SUMMARY STATISTICS OF FINANCIAL DATA

This table gives summary statistics of the financial data use in the analysis. Tobin's Q and ROA (Return on Assets) and MTB (Market to Book Ratio) are the performance variables. Sales (in logarithm), total assets (in logarithm), the ratio property-plants-equipments (PPE) to sales, 1 year growth of sales (G_S), the ratio total debt to total equity (D_E) and the ratio capital expenditures to sales (CAPEX_SALES) are the control variables. ADR is a dummy equal to 1 if a company had traded ADRs, 0 otherwise. Details on how each variable is constructed are given in the text.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Tobin' s Q	5773	1.66	0.94	0.45	5.76
ROA	5778	0.06	0.1	-1.08	1.52
MTB	5857	2.94	3.56	-2.21	20.26
Total Assets ($US) (mill)	5797	10031	28145	5.8	750507
Sales ($US) (mill)	5797	7940	19246	0	328213
PPE_SALES	5773	0.64	1.24	0	33.56
G_S	5857	0.08	0.22	-0.48	1.09
D_E	5857	1.3	2.95	0	20.42
CAPEX_SALES	5857	0.1	0.19	0	1.09
ADR	5857	0.19	0.39	0	1

TABLE 2: UNIVARIATE ANALYSIS

In this table we divide the company-observation in 4 groups: companies with both high (above the median) levels of country and company corporate governance (HiHi), companies with high level of country investor protection but low (below the median) level of company corporate governance (HiLo) and vice-versa (LoHi), and finally companies with both low standards of country and company corporate governance (LoLo). We then compute the average Tobin's Q for each group. The total number of observations is in parentheses.

	INV_PROT1 HIGH	INV_PROT1 LOW	difference
			*HL-LH= -0.61***
COMM1 HIGH	1.70	2.03	**HH-LH= -0.33***
	(1587)	*(1427)*	
COMM1 LOW	1.42	1.53	**HL-LL= -0.10***
	(1988)	*(771)*	
difference	**HH-HL= 0.28***	**LH-LL= 0.50***	*HH-LL= 0.17***

	INV_PROT1 HIGH	INV_PROT1 LOW	difference
			*HL-LH= -0.62***
BCF HIGH	1.57	2.16	**HH-LH= -0.59***
	(1212)	*(735)*	
BCF LOW	1.53	1.69	**HL-LL= -0.15***
	(2233)	*(1370)*	
difference	**HH-HL**= 0.035	**LH-LL= 0.47***	*HH- LL= -0.12***

	INV_PROT1 HIGH	INV_PROT1 LOW	difference
			*HL-LH= -0.61***
BOARD IND YES	1.74	2.07	**HH-LH= -0.32***
	(976)	*(1338)*	
BOARD IND NO	1.46	1.56	**HL-LL= -0.10**
	(2336)	*(374)*	
difference	**HH-HL= 0.28***	**LH-LL= 0.50***	*HH-LL= 0.17***

TABLE 3: CORPORATE GOVERNANCE AND PERFORMANCE

This tables reports country random effects regressions of Tobin's Q on a country level index of investor protection (INV_PROT1, INV_PROT2, INV_PROT3), company corporate governance indicators (COMM1, COMM2, BCF, INDEP1, INDEP3, and TRANSP), their interaction terms, and various controls (the logarithm of sales (LOG_SALES), the ratio property-plants-equipments to sales (PPE_SALES), and a dummy equal to one if a company has traded ADRs). Regressions are run with 2-digit SIC code industry fixed effects, time fixed effects, and robust standard error clustered at country level (in parentheses). Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively.

Dependent variable	Tobin's Q								
	I	II	III	IV	V	VI	VII	VIII	IX
INV_PROT1	-0.09	-0.09	0.02	-0.003	-0.07	0.034	0.57*		
	(0.18)	(0.16)	(0.50)	(0.16)	(0.31)	(0.23)	(0.29)		
INV_PROT2								0.54	
								(0.34)	
INV_PROT3									0.72*
									(0.40)
COMM1	0.54***						0.46***	0.46***	0.29***
	(0.14)						(0.13)	(0.17)	(0.06)
COMM2		0.81***							
		(0.10)							
BCF			0.75**				0.53***	0.54	0.29***
			(0.29)				(0.17)	(0.36)	(0.08)
INDEP1				2.37***			0.98***	0.71***	0.54***
				(0.39)			(0.17)	(0.27)	(0.13)
INDEP3					0.56***				
					(0.19)				
TRANSP						0.92*			
						(0.54)			
COMM1* INV_PROT	-0.23***						-0.20**	-0.14*	-0.24**
	(0.09)						(0.083)	(0.07)	(0.10)
COMM1* INV_PROT		-0.38***							
		(0.10)							
BCF * INV_PROT			-0.41**				-0.31***	-0.22	-0.41***
			(0.18)				(0.11)	(0.17)	(0.14)
INDEP1 * INV_PROT				-1.16***			-0.46***	-0.21**	-0.49***
				(0.20)			(0.12)	(0.10)	(0.15)
INDEP3 * INV_PROT					-0.32***				
					(0.11)				
TRANSP * INV_PROT						-0.57*			
						(0.31)			
LOG SALES	-0.12***	-0.11***	-0.07**	-0.12***	-0.09***	-0.11***	-0.14***	-0.12***	-0.14***
	(0.01)	(0.01)	(0.03)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
PPE_SALES	-0.06***	-0.06***	-0.05***	-0.05***	-0.05***	-0.05***	-0.06***	-0.05	-0.06***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
ADR	0.12*	0.14**	-0.002	0.11	-0.05	0.001	0.16**	0.11	0.16**
	(0.06)	(0.06)	(0.12)	(0.07)	(0.12)	(0.11)	(0.06)	(0.07)	(0.06)
Constant, Industry & Year dummies	Y	Y	Y	Y	Y	Y	Y	Y	Y
Obs.	5749	5749	5526	5002	3419	2997	4854	4854	4854
Number of countries	23	23	23	23	23	23	23	23	23
R squared	0.23	0.23	0.18	0.23	0.20	0.22	0.25	0.24	0.25

TABLE 4: CORPORATE GOVERNANCE AND PERFORMANCE

This tables reports country random effects regressions of Tobin's Q on 3 dummy variables equal to 1 if a company has high standards of corporate governance at both country and company level (HiHi), or has high legal protection at country level but low at the company level (HiLo) (and vice-versa, LoHi), or had both low country and company governance levels (LoLo), 0 otherwise. The group LoHi is dropped as it is the reference. INV_PROT1 is the country indicators of legal protection. COMM1, COMM2, BCF, INDEP1, INDEP3, and TRANSP are the company level governance indicators. The logarithm of sales (LOG_SALES), the ratio property-plants-equipments to sales (PPE_SALES), a dummy equal to one if a company has traded ADRs are the control variables. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively. The F-Test indicates whether the estimated coefficients are significantly different.

	Dependent variable: Tobin's Q	I COMM1		II COMM2		III BCF		IV INDEP1		V INDEP3		VI TRANSP	
β_1	INV_PROT1 HIGH	HIGH	-0.51*** (0.12)	HIGH	-0.55*** (0.08)	HIGH	-0.68*** (0.13)	=1	-0.52*** (0.09)	HIGH	-0.45*** (0.11)	HIGH	-0.76*** (0.18)
β_2	INV_PROT1 HIGH	LOW	-0.72*** (0.15)	LOW	-0.79*** (0.11)	LOW	-0.73*** (0.13)	=0	-0.76*** (0.13)	LOW	-0.46*** (0.14)	LOW	-0.78*** (0.18)
β_3	INV_PROT1 LOW	LOW	-0.62*** (0.12)	LOW	-0.70*** (0.06)	LOW	-0.48*** (0.10)	=0	-0.58*** (0.07)	LOW	-0.24*** (0.06)	LOW	-0.40*** (0.07)
	INV_PROT1 LOW	HIGH	*dropped*	HIGH	*dropped*	HIGH	*dropped*	=1	*dropped*	HIGH	*dropped*	HIGH	*dropped*
	LOG SALES		-0.12*** (0.01)		-0.12*** (0.01)		-0.09*** (0.02)		-0.13*** (0.01)		-0.11*** (0.02)		-0.14*** (0.01)
	PPE_SALES		-0.06*** (0.01)		-0.06*** (0.01)		-0.05*** (0.01)		-0.05*** (0.01)		-0.05*** (0.01)		-0.05*** (0.01)
	ADR		0.08 (0.07)		0.12** (0.06)		0.050 (0.09)		0.10 (0.08)		-0.01 (0.11)		0.07 (0.10)
	Constant, Industry & Year dummies		Y		Y		Y		Y		Y		Y
	Obs.		5749		5749		5526		5002		3419		2997
	Number of countries		23		23		23		23		23		23
	R squared (overall)		0.22		0.24		0.20		0.23		0.21		0.24
F-test	$\beta_1 = \beta_2$		p<0.01		p<0.01		p=0.48		p<0.01		p=0.71		p=0.69
	$\beta_1 = \beta_3$		p=0.01		p<0.01		p=0.26		p=0.52		p=0.19		p=0.09
	$\beta_2 = \beta_3$		p=0.21		p=0.27		p=0.18		p=0.10		p=0.23		p=0.08

TABLE 5: CORPORATE GOVERNANCE AND PERFORMANCE - ROBUSTNESS CHECK a) -

This tables reports country random effects regressions of Tobin's Q on 3 dummy variables equal to 1 if a company has high standards of corporate governance at both country and company level (HiHi), or has high legal protection at country level but low at the company level (HiLo) (and vice-versa, LoHi), or had both low country and company governance levels (LoLo), 0 otherwise. The group LoHi is dropped as it is the reference. INV_PROT1 is the country indicators of legal protection. COMM1, BCF, and INDEP1 are the company level governance indicators. The logarithm of sales (LOG_SALES), the ratio property-plants-equipments to sales (PPE_SALES), a dummy equal to one if a company has traded ADRs are the control variables. In columns a. extra control variables are added (sales growth, debt/equity ratio and capital expenditures/sales ratio). Columns b. include financial companies. Columns c. use ROA instead of Tobin's Q as performance variable. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively. The F-Test indicates whether the estimated coefficients are significantly different.

			I.a	I.b	I.c		II.a	II.b	II.c		III.a	III.b	III.c
		COMM1	Q	Q	ROA	BCF	Q	Q	ROA	INDEP1	Q	Q	ROA
β_1	INV_PROT1 HIGH	HIGH	-0.48***	-0.47***	-0.063***	HIGH	-0.65***	-0.67***	-0.074***	=1	-0.50***	-0.50***	-0.070***
			(0.11)	(0.12)	(0.02)		(0.11)	(0.12)	(0.01)		(0.08)	(0.08)	(0.01)
β_2	INV_PROT1 HIGH	LOW	-0.62***	-0.69***	-0.079***	LOW	-0.68***	-0.70***	-0.082***	=0	-0.72***	-0.73***	-0.085***
			(0.14)	(0.15)	(0.02)		(0.11)	(0.13)	(0.01)		(0.11)	(0.12)	(0.01)
β_3	INV_PROT1 LOW	LOW	-0.58***	-0.59***	-0.065***	LOW	-0.44***	-0.47***	-0.050**	=0	-0.55***	-0.55***	-0.069***
			(0.11)	(0.11)	(0.02)		(0.10)	(0.10)	(0.02)		(0.07)	(0.06)	(0.012)
	INV_PROT1 LOW	HIGH	dropped	dropped	dropped	HIGH	dropped	dropped	dropped	=1	dropped	dropped	dropped
	LOG SALES		-0.11***	-0.10***	0.008**		-0.08***	-0.08***	0.011**		-0.12***	-0.11***	0.005
			(0.01)	(0.01)	(0.003)		(0.02)	(0.021)	(0.004)		(0.01)	(0.01)	(0.003)
	PPE_SALES		-0.06***	-0.03***	-0.003*		-0.05***	-0.036***	-0.002		-0.05***	-0.03***	-0.003**
			(0.01)	(0.006)	(0.001)		(0.01)	(0.004)	(0.002)		(0.01)	(0.006)	(0.001)
	ADR		0.09	0.04	-0.021**		0.06	0.024	-0.027**		0.11	0.05	-0.018**
			(0.07)	(0.06)	(0.009)		(0.08)	(0.08)	(0.012)		(0.07)	(0.07)	(0.009)
	SALES GROWTH		0.69***				0.74***				0.67***		
			(0.14)				(0.16)				(0.15)		
	DEBT_EQUITY		-0.01**				-0.01***				-0.01**		
			(0.006)				(0.005)				(0.006)		
	CAPEX_SALES		0.12				0.05				0.03		
			(0.15)				(0.26)				(0.26)		
	Constant, Industry & Year dummies		Y	Y	Y		Y	Y	Y		Y	Y	Y
	Obs.		5749	6893	5757		5526	6597	5531		5002	5963	5009
	Number of countries		23	23	23		23	23	23		23	23	23
	R squared (overall)		0.25	0.25	0.19		0.23	0.23	0.18		0.25	0.26	0.22
	F-test $\beta_1 = \beta_2$		p<0.01	p<0.01	p=0.04		p=0.57	p=0.52	p=0.33		p<0.01	p<0.01	p=0.08
	$\beta_1 = \beta_3$		p=0.04	p=0.01	p=0.87		p=0.20	p=0.27	p=0.39		p=0.51	p=0.45	p=0.93
	$\beta_2 = \beta_3$		p=0.23	p=0.20	p=0.33		p=0.16	p=0.19	p=0.22		p=0.07	p=0.11	p=0.26

48

TABLE 6: CORPORATE GOVERNANCE AND PERFORMANCE - ROBUSTNESS CHECK b) -

This tables reports country random effects regressions of Tobin's Q on 3 dummy variables equal to 1 if a company has high standards of corporate governance at both country and company level (HiHi), or has high legal protection at country level but low at the company level (HiLo) (and vice-versa, LoHi), or had both low country and company governance levels (LoLo), 0 otherwise. The group LoHi is dropped as it is the reference. INV_PROT2 and INV_PROT3 are the country indicators of legal protection. COMM1, BCF, and INDEP1 are the company level governance indicators. The logarithm of sales (LOG_SALES), the ratio property-plants-equipments to sales (PPE_SALES), and a dummy equal to one if a company has traded ADRs are used as control variables. Regressions are run with 2-digit SIC code industry fixed effects, time fixed effects, and robust standard error clustered at country level (in parentheses). Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively. The F-Test indicates whether the estimated coefficients are significantly different.

	Dependent variable: Tobin's Q	**I** COMM1	INV_PROT2	INV_PROT3	**II** BCF	INV_PROT2	INV_PROT3	**III** INDEP1	INV_PROT2	INV_PROT3
β_1	INV_PROT HIGH	HIGH	-0.50*** (0.13)	-0.50*** (0.12)	HIGH	-0.62*** (0.16)	-0.57*** (0.17)	HIGH	-0.50*** (0.10)	-0.48*** (0.10)
β_2	INV_PROT HIGH	LOW	-0.73*** (0.15)	-0.72*** (0.15)	LOW	-0.64*** (0.16)	-0.59*** (0.17)	LOW	-0.74*** (0.14)	-0.72*** (0.14)
β_3	INV_PROT LOW	LOW	-0.61*** (0.12)	-0.62*** (0.12)	LOW	-0.42*** (0.10)	-0.38*** (0.09)	LOW	-0.56*** (0.07)	-0.55*** (0.07)
	INV_PROT LOW	HIGH	dropped	dropped	HIGH	dropped	dropped	HIGH	dropped	Dropped
	LOG SALES		-0.12*** (0.01)	-0.12*** (0.01)		-0.09*** (0.02)	-0.08*** (0.02)		-0.13*** (0.01)	-0.12*** (0.02)
	PPE_SALES		-0.06*** (0.01)	-0.06*** (0.01)		-0.05*** (0.01)	-0.05*** (0.01)		-0.05*** (0.01)	-0.05*** (0.01)
	ADR		0.08 (0.07)	0.08 (0.07)		0.03 (0.10)	0.02 (0.11)		0.09 (0.08)	0.08 (0.08)
	Constant, Industry & Year dummies		Y	Y		Y	Y		Y	Y
	Obs.		5749	5749		5526	5526		5002	5002
	Number of countries		23	23		23	23		23	23
	R squared (overall)		0.22	0.22		0.20	0.19		0.23	0.23
F-test	$\beta_1 = \beta_2$		p<0.01	p<0.01		p=0.69	p=0.73		p<0.01	p<0.01
	$\beta_1 = \beta_3$		p=0.01	p<0.01		p=0.27	p=0.28		p=0.44	p=0.32
	$\beta_2 = \beta_3$		p=0.11	p=0.15		p=0.22	p=0.24		p=0.08	p=0.09

TABLE 7: CORPORATE GOVERNANCE AND PERFORMANCE - ROBUSTNESS CHECK c) –

This tables reports country random effects regressions of Tobin's Q on the country indicator INV_PROT1, a dummy variable equal to 1 if the company level of governance is above the median (Hi) and 0 otherwise, and their interaction term. COMM1, BCF, and INDEP1 are the company level governance indicators. The logarithm of sales (LOG_SALES), the ratio property-plants-equipments to sales (PPE_SALES), and a dummy equal to one if a company has traded ADRs are used as control variables. Regressions are run with 2-digit SIC code industry fixed effects, time fixed effects, and robust standard error clustered at country level (in parentheses). Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively. The F-Test indicates the total country effect for companies with an above the median governance level.

Dependent variable: Tobin's Q		I	II	III	IV	V
β_1	INV_PROT1	-0.13	-0.23	-0.003	0.005	0.11
		(0.13)	(0.34)	(0.16)	(0.16)	(0.20)
β_2	INV_PROT1 * COMM1 HIGH	-0.91***			-0.80***	-0.35*
		(0.23)			(0.25)	(0.20)
	COMM1 HIGH	1.96***			1.76***	0.85**
		(0.45)			(0.48)	(0.35)
β_3	INV_PROT1 * BCF HIGH		-0.94*		-0.63***	-0.53***
			(0.49)		(0.22)	(0.20)
	BCF HIGH		1.72**		1.17***	0.97***
			(0.82)		(0.37)	(0.33)
β_4	INV_PROT1 * INDEP1			-1.16***		-0.72***
				(0.20)		(0.14)
	INDEP1			2.37***		1.47***
				(0.39)		(0.25)
	LOG SALES	-0.11***	-0.07**	-0.12***	-0.11***	-0.13***
		(0.01)	(0.03)	(0.01)	(0.01)	(0.01)
	PPE_SALES	-0.06***	-0.05***	-0.05***	-0.06***	-0.05***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
	ADR	0.09	-0.005	0.11	0.11*	0.14**
		(0.07)	(0.12)	(0.07)	(0.06)	(0.06)
	Constant, Industry & Year dummies	Y	Y	Y	Y	Y
	Obs.	5749	5526	5002	5526	4854
	Number of countries	23	23	23	23	23
	R squared (overall)	0.22	0.18	0.23	0.23	0.24
	F-test: effect of country investor protection on Q for highly governed companies	$\beta_1 + \beta_2$ = -1.05*** p<0.01	$\beta_1 + \beta_3$ = -1.18* p=0.06	$\beta_1 + \beta_4$ =-1.16*** p<0.01	$\beta_1 + \beta_2$ = -0.80*** p<0.01 $\beta_1 + \beta_3$ = -0.63** p=0.03	$\beta_1 + \beta_3$ = -0.24* p=0.06 $\beta_1 + \beta_3$ = -0.42 p=0.16 $\beta_1 + \beta_4$ = -0.60*** p=0.01

TABLE 8: CORPORATE GOVERNANCE AND PERFORMANCE - ROBUSTNESS CHECK d) –

This tables reports country random effects regressions of Tobin's Q on 3 dummy variables equal to 1 if a company has high standards of corporate governance at both country and company level (HiHi), or has high legal protection at country level but low at the company level (HiLo) (and vice-versa, LoHi), or had both low country and company governance levels (LoLo), 0 otherwise. The group LoHi is dropped as it is the reference. The company level group is constructed by computing the corporate governance average within a country and then taking the difference between each indicator and the country average: companies with a positive (negative) difference fell in the high (low) company level group. INV_PROT1 is the country indicator of legal protection. COMM1, COMM2, BCF, INDEP1, INDEP3, and TRANSP are the company level governance indicators. The logarithm of sales (LOG_SALES), the ratio property-plants-equipments to sales (PPE_SALES), a dummy equal to one if a company has traded ADRs are the control variables. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively. The F-Test indicates whether the estimated coefficients are significantly different.

	Dependent variable: Tobin's Q		I $\hat{COMM1}$		II $\hat{COMM2}$		III $\hat{BCF}$		IV $\hat{INDEP3}$		V $\hat{TRANSP}$
β_1	INV_PROT1 HIGH	HIGH	-0.44*** (0.13)	HIGH	-0.43*** (0.09)	HIGH	-0.51** (0.21)	HIGH	-0.25 (0.17)	HIGH	-0.77*** (0.18)
β_2	INV_PROT1 HIGH	LOW	-0.67*** (0.16)	LOW	-0.67*** (0.13)	LOW	-0.52** (0.21)	LOW	-0.24 (0.18)	LOW	-0.78*** (0.18)
β_3	INV_PROT1 LOW	LOW	-0.55*** (0.10)	LOW	-0.43*** (0.09)	LOW	-0.23* (0.12)	LOW	0.21** (0.08)	LOW	-0.41*** (0.07)
	INV_PROT1 LOW	HIGH	*dropped*	HIGH	*dropped*	HIGH	*dropped*	HIGH	*dropped*	HIGH	*Dropped*
	LOG SALES		-0.11*** (0.02)		-0.09*** (0.02)		-0.09*** (0.02)		-0.11*** (0.02)		-0.14*** (0.01)
	PPE_SALES		-0.06*** (0.01)		-0.05*** (0.01)		-0.05*** (0.01)		-0.05*** (0.01)		-0.05*** (0.01)
	ADR		0.04 (0.08)		0.03 (0.09)		0.005 (0.11)		-0.008 (0.12)		0.07 (0.10)
	Constant, Industry & Year dummies		Y		Y		Y		Y		Y
	Obs.		5749		5749		5526		3419		2997
	Number of countries		23		23		23		23		23
	R squared (overall)		0.22		0.21		0.19)		0.21		0.25
F-test	$\beta_1 = \beta_2$		p<0.01		p<0.01		p=0.93		p=0.88		p=0.69
	$\beta_1 = \beta_3$		p=0.14		p=0.97		p=0.13		p<0.01		p=0.10
	$\beta_2 = \beta_3$		p=0.25		p=0.16		p=0.13		p<0.01		p=0.08

TABLE 9: CORPORATE GOVERNANCE, EXTERNAL FINANCING DEPENDENCE AND PERFORMANCE

This tables reports the regressions results of Tobin's Q on the interaction term between external financing dependence and corporate governance indicators at country (INV_PROT1) and company level (COMM1, COMM2, BCF, INDEP1, INDEP3, TRANSP),. The logarithm of sales (LOG_SALES) is used as control variable. External dependence is the Rajan and Zingales (1998) measure of financial dependence at industrial level for US companies and updated for the period 2003-2005. Regressions are run with 2-digit SIC code industry fixed effects, country fixed effects, time fixed effects, and robust standard error clustered at country level (in parentheses). Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively.

Dependent variable: Tobin's Q	I	II	III	IV	V	VI	VII
Interaction (external dependence X INV_PROT1)	0.084 (0.13)						
Interaction (external dependence X COMM1)		0.047*** (0.01)					
Interaction (external dependence X COMM2)			0.039* (0.02)				
Interaction (external dependence X BCF)				0.017 (0.03)			
Interaction (external dependence X INDEP1)					0.185*** (0.04)		
Interaction (external dependence X INDEP3)						-0.054 (0.04)	
Interaction (external dependence X TRANSP)							-0.022 (0.01)
LOG SALES	-0.083*** (0.02)	-0.085*** (0.02)	-0.084*** (0.02)	-0.083*** (0.02)	-0.103*** (0.02)	-0.103*** (0.04)	-0.110*** (0.01)
Constant, Industry, Country & Year dummies	Y	Y	Y	Y	Y	Y	Y
Number of countries	22	22	22	22	22	22	22
Obs.	4547	4547	4547	4355	3812	2256	2197
R squared	0.20	0.20	0.20	0.20	0.21	0.19	0.25

TABLE 10: CORPORATE GOVERNANCE, SIZE AND PERFORMANCE

This tables reports the regressions results of Tobin's Q on the interaction term between the average firm size with respect to the industry (large firm share) and corporate governance indicators at country (INV_PROT1) and company level (COMM1, COMM2, BCF, INDEP1, INDEP3, TRANSP). Large firm share is the Beck et al. (2005) industry k's share of employment in companies with more than 20 employees in the US for the year 2000. The logarithm of sales (LOG_SALES) is used as control variable. Regressions are run with 2-digit SIC code industry fixed effects, country fixed effects, time fixed effects, and robust standard error clustered at country level (in parentheses). Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively.

Dependent variable: Tobin's Q	I	II	III	IV	V	VI	VII
Interaction (large firm share X INV_PROT1)	0.046						
	(0.72)						
Interaction (large firm share X COMM1)		0.062***					
		(0.02)					
Interaction (large firm share X COMM2)			0.056*				
			(0.02)				
Interaction (large firm share X BCF)				0.064***			
				(0.01)			
Interaction (large firm share X INDEP1)					0.116**		
					(0.05)		
Interaction (large firm share X INDEP3)						-0.030	
						(0.02)	
Interaction (large firm share X TRANSP)							-0.060**
							(0.02)
LOG SALES	-0.084***	-0.091***	-0.086***	-0.083***	-0.104***	-0.102***	-0.111***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.05)	(0.02)	(0.01)
Constant, Industry & Year dummies	Y	Y	Y	Y	Y	Y	Y
Number of countries	22	22	22	22	22	22	22
Obs.	4593	4593	4593	4397	3848	2274	2216
R squared	0.20	0.21	0.21	0.21	0.21	0.19	0.25

TABLE 11: CORPORATE GOVERNANCE, SIZE AND PERFORMANCE

This tables reports the regressions results of Tobin's Q on the interaction term between the average firm size with respect to the industry (large firm share) and corporate governance indicators at company level (COMM1, COMM2, BCF, INDEP1, INDEP3, TRANSP), and their interaction with a dummy equal to 1 if the country legal protection is above the median (country_dummy). Large firm share is the Beck et al. (2005) industry k's share of employment in companies with more than 20 employees in the US for the year 2000. The logarithm of sales (LOG_SALES) is used as control variable. Regressions are run with 2-digit SIC code industry fixed effects, country fixed effects and robust standard error clustered at country level (in parentheses). Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively.

Dependent variable: Tobin's Q	I	II	III	IV	V	VI
Interaction (large firm share X COMM1)	0.075** (0.03)					
Interaction (large firm share X COMM1) X dummy_country	-0.026 (0.03)					
Interaction (large firm share X COMM2)		0.085*** (0.02)				
Interaction (large firm share X COMM2) X dummy_country		-0.033 (0.04)				
Interaction (large firm share X BCF)			0.121* (0.06)			
Interaction (large firm share X BCF) X dummy_country			-0.069 (0.06)			
Interaction (large firm share X INDEP1)				-0.025 (0.11)		
Interaction (large firm share X INDEP1) X dummy_country				0.173 (0.12)		
Interaction (large firm share X INDEP3)					-0.034 (0.05)	
Interaction (large firm share X INDEP3) X dummy_country					0.004 (0.06)	
Interaction (large firm share X TRANSP)						0.083* (0.04)
Interaction (large firm share X TRANSP) X dummy_country						-0.177*** (0.04)
LOG SALES	-0.091*** (0.02)	-0.086*** (0.02)	-0.084*** (0.02)	-0.104*** (0.02)	-0.102*** (0.02)	-0.110*** (0.14)
Constant, Industry, Country & Year dummies	Y	Y	Y	Y	Y	Y
Number of countries	22	22	22	22	22	22
Obs.	4593	4593	4355	3848	2274	2216
R squared	0.21	0.21	0.20	0.21	0.19	0.25