

Dominant shareholders, corporate boards, and corporate value: A cross-country analysis [☆]

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Received 28 February 2006; received in revised form 8 September 2006; accepted 17 October 2006

Available online 19 July 2007

Abstract

We investigate the relation between corporate value and the proportion of the board made up of independent directors in 799 firms with a dominant shareholder across 22 countries. We find a positive relation, especially in countries with weak legal protection for shareholders. The findings suggest that a dominant shareholder, were he so inclined, could offset, at least in part, the documented value discount associated with weak country-level shareholder protection by appointing an ‘independent’ board. The cost to the dominant shareholder of doing so is the loss in perquisites associated with being a dominant shareholder. Thus, not all dominant shareholders choose independent boards.

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JEL Classification: G30; G34

Keywords: Board of directors; Dominant shareholders; Independent directors; Corporate governance

1. Introduction

This paper is an empirical investigation of the relation between corporate value and board composition in firms with a dominant shareholder. The question addressed is whether a ‘strong’ board can offset the market value discount in firms domiciled in countries with weak legal protection for shareholders. Such a discount has been documented by Claessens, Djankov, Fan, and Lang (CDFL, 2002), Durnev and Kim (DK, 2005), and La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV, 2002). This discount is often attributed to the ability of

[☆]This paper has benefited from the helpful comments and suggestions of Rahsan Bozkurt, Naveen Daniel, David Denis, Diane Denis, Art Durnev, Mara Faccio, Mariassunta Giannetti, Andrew Karolyi, E. Han Kim, Alexei Ovtchinnikov, David Parsley, Raghu Rau, René Stulz, Michael Weisbach, David Yermack, and seminar participants at Western Finance Association 2006, Financial Management Association (Europe) 2006, Baruch College, The City University of New York (CUNY), Concordia University, Indiana University Purdue University Indianapolis, Ohio State University, Purdue University, University of Iowa, University of Oklahoma, Vrije University of Amsterdam, and York University. We thank Subotnick Financial Services Center at CUNY for allowing access to data used in the study. Jay Dahya acknowledges financial support from the Eugene M. Lang Junior Faculty Fellowship and Baruch College Fund, CUNY. Orlin Dimitrov acknowledges financial support from the Center for International Business Education and Research at Purdue University.

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a dominant shareholder to divert corporate resources from other shareholders to himself for personal consumption, especially in countries with weak legal shareholder protection. In essence, the question that we address is whether a dominant shareholder could, were he so inclined, increase firm value by appointing a strong board with a mandate of assuring minority investors that he will refrain from diversion of the firm's resources and whether the effect of board composition on firm value, if there is any, is different between countries with weak and those with strong legal shareholder protection.

The studies most closely related to ours are [DK \(2005\)](#) and [Klapper and Love \(KL, 2004\)](#). These studies empirically investigate the relation between firm value and the 'quality' of a firm's corporate governance where the proxies for the quality of governance are two firm-specific indices: the Credit Lyonnais Securities Asia (CLSA) corporate governance scores and the Standard & Poor's (S&P) transparency rankings. As do the other studies cited above, these two report that proxies for Tobin's Q are lower in countries with weak legal shareholder protection. They further report, however, that the value discount is less in firms with higher corporate governance scores. We complement these studies by exploring what role, if any, the composition of the board of directors has in reducing the value discount in firms with a dominant shareholder across countries with strong and those with weak legal shareholder protection.

The premise underlying our analysis goes as follows. Dominant shareholders have an incentive and, in the absence of a countervailing force, the ability to divert corporate resources from other shareholders to themselves for personal consumption. Such diversion reduces the observed market value of the firm. In some instances, however, a dominant shareholder may be willing to reduce his diversion of corporate resources in exchange for an increase in firm value. The most likely instance in which this will occur is when the dominant shareholder wishes to sell equity either on personal account (for diversification or consumption purposes) or through the firm (to undertake positive net present value projects).

The problem for the dominant shareholder is convincing outside shareholders that he will refrain from diverting resources. We investigate whether he can do so by appointing a strong board charged with a mandate of curbing the dominant shareholder's diversion of corporate resources. This proposition raises at least three related questions.

First, can the appointment of a strong board be a deterrent to diversion given that the dominant shareholder can just as easily remove directors as appoint them? In such circumstances, appointment of a strong board would be unlikely to increase firm value. A counter argument is that, at the margin, if replacement of strong directors is costly to the dominant shareholder for any reason, appointment of a strong board could at least ameliorate the loss in value associated with a firm having a dominant shareholder.

That leads to the second question: What incentive does a director have to monitor a dominant shareholder who can replace him? The answer lies in the market for directors. [Fama and Jensen \(1983, p. 315\)](#) argue that "[e]ffective separation of top-level decision management and control means that outside directors have incentives to carry out their tasks and not collude with managers to expropriate residual claimants." The incentive arises because "there is substantial devaluation of human capital when internal control breaks down"(p. 315). Given that a market for outside directors occurs, the failure to monitor implies a loss in human capital for ineffective directors. This argument holds together only so long as a market for outside directors occurs.

The third question is: What power does an outside director have to control the dominant shareholder even if he chooses to be an effective monitor? Outside directors may derive their power legally, contractually, or implicitly. Regarding legal power, [Djankov, La Porta, Lopez-de-Silanes, and Shleifer \(DLLS, 2007\)](#) report that, in 20 of the 22 countries in our sample, boards can be held liable for approving unfair or prejudicial transactions between the dominant shareholder and the firm, but that might not be the primary source of their power. Instead, assuming that directors suffer losses in human capital when they fail to monitor, ex ante, directors will seek assurances, either contractually or implicitly, from the dominant shareholder that they have the freedom to monitor effectively.

Our foregoing discussion frames the issues that we address empirically. We conduct our analysis with data on boards of directors for 799 firms with dominant shareholders from 22 countries. We classify directors as affiliated with the dominant shareholder or independent. We use an expansive definition of "affiliated" such that affiliated directors encompass more than just the executives of the firm and our definition of an "independent" director is narrower than outside directors in which any nonexecutive is typically considered an outside director.

We find that there does appear to be a robust market for independent directors. Of the 4,172 independent directors in our sample, 71% serve on multiple boards. We also find that firms with independent boards are more likely to issue equity than are other firms. Thus, the demand to sell shares appears to be a determinant of board composition. These two sets of results provide the foundation for our primary analysis.

In our primary analysis, we estimate regressions in which the dependent variable is firms' market-to-book value ratios (as a proxy for Tobin's Q s) and the independent variables are country levels of shareholder protection, the fraction of the board made up of independent directors, and control variables. Consistent with prior studies, we find that Q ratios are positively correlated with the country level of legal shareholder protection. On average, higher country levels of legal shareholder protection are associated with higher market-to-book ratios. We also find that, after controlling for country level of legal shareholder protection (and other factors), Q s are positively correlated with the fraction of the board composed of independent directors. A higher fraction of independent directors is associated with a higher Q ratio. Further, we find that the relation between market-to-book ratios and the proportion of independent directors is stronger in countries with weaker legal protection for shareholders.

As a final step in our analysis, we seek to identify evidence of ways in which independent directors constrain resource diversion by dominant shareholders. Perhaps the most frequently cited mechanism through which dominant shareholders are alleged to divert resources is by arranging disadvantageous transactions between the publicly traded firms that they control and other firms that they also control but in which they have a larger ownership position. Such deals are referred to as related party transactions (RPTs) and the diversion of resources in this way is often labeled "tunneling."

We examine the occurrence of RPTs by the firms in our sample with a regression analysis. After controlling for other factors, the occurrence of RPTs is negatively correlated with the fraction of the board made up of independent directors. A higher proportion of independent directors is associated with a lower likelihood of related party transactions. We then examine the relation between RPTs and firm value. We find that occurrences of RPTs are associated with lower Q s.

Thus, the evidence indicates that a dominant shareholder is more likely to appoint independent directors when his firm intends to issue equity, that a higher proportion of independent directors is associated with a lower incidence of RPTs, that firms without RPTs have higher values than firms with RPTs, and that firm values are positively correlated with the proportion of independent directors comprising the board.

A by-product of our analysis is the finding that, after controlling for country-level legal shareholder protection, board composition, and other factors, the size of the board is negatively correlated with firm value, although the relation is not always statistically significant. This result is generally consistent with Eisenberg, Sundgren, and Wells (1998), Kusnadi and Mak (2005), and Yermack (1996) who find that larger boards are associated with lower firm values in Finland, Southeast Asia, and the US, respectively.

Fundamental to the interpretation of our results is the assumption that independent directors lead to a stronger board. Accepting that assumption as true, our results imply that stronger (and smaller) boards are associated with higher equity values in firms with a dominant shareholder and this relation is more consequential in countries with weak legal protection for shareholders.

Our study contributes to the literature on the effect of country-level legal systems on corporate activities and corporate value, to the literature on the effect of board composition on corporate value and performance, and, peripherally, to the literature on the value of shareholder voting rights.¹

Section 2 presents the background and motivation. Section 3 describes the data collection procedures and gives descriptive statistics for the sample. Section 4 presents tests of the relation between equity issuance and board composition. Section 5 presents univariate tests of the relation between Q and the percentage of the board composed of independent directors. Section 6 presents multivariate tests of this relation. Section 7

¹For the effect of country-level legal systems on corporate activities and corporate value, see, for example, Beck, Levine, and Loayza (2000), Faccio and Lang (FL, 2002), Friedman, Johnson, and Mitton (FJM, 2003), Johnson, Boone, Breach, and Friedman (2000), LLSV (1997, 1999, 2002), and Rajan and Zingales (1998), among others. For the effect of board composition on corporate value and performance, see, for example, Agrawal and Knoeber (AK, 1996, 2001), Bhagat and Black (BB, 2002), Coles, Daniel, and Naveen (CDN, 2006), Dahya and McConnell (2005), Dahya, McConnell, and Travlos (2002), and Hermalin and Weisbach (HW, 1991, 2003), among others. For the value of shareholder voting rights, see, for example, Bergstrom and Rydqvist (1992), DeAngelo and DeAngelo (1985), Grossman and Hart (1988), Lease, McConnell, and Mikkelsen (1983, 1984), and Zingales (1994), among others.

presents tests of the relation between RPTs and board composition. Section 8 presents tests of robustness. Section 9 concludes.

2. Background and related literature

It is well documented that, in most countries, large publicly traded firms are not widely held. Rather, ownership and control of such firms typically vest with a dominant shareholder.² [Bebchuk, Kraakman, and Triantis \(2000\)](#), [Davies \(2000\)](#), [Shleifer and Vishny \(1997\)](#) and others argue that, in such firms, the primary agency conflict is not between owners and managers, but between the dominant shareholder, who has the power to divert corporate resources to himself, and other shareholders. [DK \(2005\)](#), [Doidge, Karolyi, and Stulz \(DKS, 2004b\)](#), and [LLSV \(2002\)](#) further observe that this agency conflict is likely to be most acute in countries that afford weak legal protection to minority shareholders. This occurs because, in such countries, it is argued, the dominant shareholder has greater ability to extract resources that otherwise would have been shared with minority investors.

[LLSV \(2002\)](#) go on to develop a model in which firm value depends upon the profits earned by the firm, the level of profits diverted by the dominant shareholder, and the cost of diverting profits. They assume that the cost of diversion is greater in countries with stronger shareholder protection. As a consequence, less diversion occurs and firm value is higher. [DK \(2005\)](#), [LLSV \(2002\)](#), and [Lins \(2003\)](#) conduct empirical investigations and find that Qs are higher in countries with stronger country-level legal shareholder protection. These results support the LLSV analysis.

[DK \(2005\)](#) and [DKS \(2004a, b\)](#) present models in which the dominant shareholder can take steps to overcome the loss in value associated with weak country-level legal shareholder protection. These steps involve a commitment on the part of the dominant shareholder to curtail his future diversion of corporate resources for personal consumption. In the [DKS \(2004a\)](#) model, the dominant shareholder can choose to list the shares of his firm on the stock exchange of a country with stronger legal shareholder protection. Doing so reduces the dominant shareholder's ability to divert corporate resources (i.e., raises the costs of diversion) and, thereby, raises the firm's equity value. [Benos and Weisbach \(2004\)](#), [Reese and Weisbach \(RW, 2002\)](#), [Siegel \(2005\)](#), and [Stulz \(1999\)](#) present similar arguments. [DKS \(2004a\)](#), [Miller \(1999\)](#), and [RW \(2002\)](#) report empirical evidence consistent with this argument.

In the [DK \(2005\)](#) and [DKS \(2004b\)](#) models, the dominant shareholder can choose a higher quality of internal corporate governance for his firm. The higher quality of governance increases the cost of diversion to the dominant shareholder with the consequence that less diversion occurs and firm value is higher. [DK \(2005\)](#) and [KL \(2004\)](#) estimate cross-firm cross-country regressions in which firms' Qs are the dependent variable and the independent variables include an index of country-level legal shareholder protection along with measures of the firm-specific quality of corporate governance. As proxies for the quality of governance they use the CLSA corporate governance scores and the S&P transparency rankings. The results of their analyses support the [DK \(2005\)](#) and [DKS \(2004b\)](#) models in that Q ratios are positively correlated with country-level legal shareholder protection and with the firm-specific measures of the quality of corporate governance. The implication is that a dominant shareholder can increase the value of his firm by improving the quality of his firm's internal governance mechanisms even in countries with weak legal shareholder protection.

Our study complements [DK \(2005\)](#) and [KL \(2004\)](#) by focusing on the firm's board of directors. Arguably, the board is a central building block of a firm's corporate governance structure. Both the CLSA and the S&P scores give weight to qualitative and quantitative board characteristics.

It is not unreasonable to expect that a stronger board could offset, at least in part, the loss in value associated with weak country-level legal shareholder protection. A strong board endowed with a mandate to monitor the dominant shareholder on behalf of minority shareholders could raise the cost of diversion to the dominant shareholder and, thereby, reduce diversion and increase value. There is, however, a reasonable argument that appointment of a strong board has little or no effect on corporate value.

Specifically, [Bebchuk \(1999\)](#) argues that certain actions by the dominant shareholder that are apparently designed to curb his diversion of private benefits are unlikely to provide concrete assurances to outside

²For example, [Claessens, Djankov, and Lang \(CDL, 2000\)](#), [FL \(2002\)](#), and [La Porta, Lopez-de-Silanes, and Shleifer \(LLS, 1999\)](#).

shareholders. Appointment of a strong board, for example, may be ineffective because a dominant shareholder can easily replace strong directors with weak ones, and this may be especially so in countries with weak legal shareholder protection.³ The result is that appointment of a strong board does not increase firm value. The opposing argument is that, at the margin, if replacement of strong directors is costly at all, appointment of a strong board could at least reduce the loss in value associated with a firm having a dominant shareholder. That is, the cost reduces the incentive of the dominant shareholder to replace strong directors.

However, a positive marginal cost for removing strong directors is not in itself sufficient to increase firm value. Directors must also have an incentive and the power to influence the actions of the dominant shareholder. As regards the incentive, if there is a market for directors and if poor performance by a director reduces the value of his human capital, then directors have an incentive to monitor. The evidence on this issue is mixed. On the one hand, studies by Coles and Hoi (2003), Gilson (1990), Harford (2003), and Kaplan and Reishus (1990) indicate that the number of boards on which a director sits is positively related to the performance of the firms on which he sits. On the other hand, studies by Core, Holthausen, and Larcker (1999) and Fich and Shivdasani (2006) suggest that firm performance suffers when outside directors sit on “too many” boards. The former studies appear to imply that strong board oversight is rewarded with more board appointments, while the latter studies appear to suggest the opposite.

As for the power to curb the dominant shareholder’s diversion, such power can arise from legal, contractual, or implicit constructs. In most of the countries in our sample, directors can be held legally liable for approving “unfair” transactions involving the dominant shareholder (DLLS, 2007). But the primary source of their power is likely to come from their explicit and implicit negotiations with the dominant shareholder prior to their appointment. Assuming that directors suffer losses in their human capital when they fail to curb the dominant shareholder’s actions, outside directors will demand upfront assurances that they will have the power to monitor effectively.

Of course, the appropriate benchmark for judging whether a board has the power to reduce diversion of resources is not whether a strong board can monitor the dominant shareholder perfectly. The benchmark is whether the board can reduce diversion of resources relative to a weak board in otherwise identical circumstances.

As regards the demand by dominant shareholders for a strong board, such a demand is most likely to arise when the dominant shareholder wishes to sell shares either on personal account or through his firm. Consistent with the idea that better governance at the firm level is associated with the demand for capital, DK (2005) find a positive correlation between the “need for funds” and CLSA scores. Similarly, RW (2002) find that firms that cross-list their stock on US exchanges increase their equity issues following listing and that this increase is greatest for cross-listings from countries with weak legal shareholder protection.

How strong boards curtail a dominant shareholder’s ability to divert is difficult to identify precisely. Presumably, if they do so, it is through an ongoing process of monitoring and control. However, one way in which dominant shareholders are alleged to divert is through related party transactions. In such transactions, the dominant shareholder arranges a deal between two companies in which he holds a controlling interest. He arranges the deal so as to provide favorable terms to the firm in which he has a larger percentage equity ownership and disadvantageous terms to the firm in which he holds a smaller ownership position. Perhaps a board composed of directors independent of the dominant shareholder can reduce such disadvantageous transactions.

Given the potentially pivotal role of the board in assuring higher quality governance and given competing arguments regarding the valuation effects of a strong board, we set out to examine whether firm value is higher in firms with a dominant shareholder that have stronger boards and whether the relation between firm value and board structure is different in countries with low versus high levels of legal shareholder protection. That is, we are asking whether a dominant shareholder who desires to increase the market value of his firm could do so by appointing more independent directors and whether such a decision has more effect in a country that provides weak as opposed to strong legal protection for shareholders.

As corollary issues, we also investigate whether the directors in our sample appear to have human capital at risk, whether there is a correlation between the proportion of the board made up of independent directors and

³Similar arguments apply to cross-listings. According to Nasdaq data, several hundred foreign firms delisted over the period 2000–2004.

the propensity of the firm to issue equity, whether the occurrence of RPTs is correlated with the proportion of the board composed of independent directors, and whether the market value of firms with RPTs is different from the market value of other firms.

3. Sampling procedure and data

In this section we describe the way in which the sample is constructed and describe the data and data sources.

3.1. Firms and dominant shareholders

We assemble data on share ownership and boards of directors as of 2002 for firms from the 22 countries listed in Table 1.⁴ These are the countries for which we have been able to locate data on both variables.⁵

Our first task is to identify firms with a dominant shareholder where a dominant shareholder is one who can significantly influence selection of the firm's board. Thus, we search for the largest single owner of voting rights in each firm provided that the shareholder controls at least 10% of the firm's votes.

Further, we are interested in the firm's 'ultimate' shareholder so as to be able to identify directors affiliated with this ultimate owner. As has been widely documented, many publicly traded firms are controlled through pyramidal ownership structures. For that reason, we trace the ownership of voting rights through an ownership 'tree' to identify an ultimate owner. We consider a shareholder of Company A to be an ultimate owner when the shareholder is an individual or a family, a privately held operating company, a privately held financial firm, or a government. In addition, when the shares of Company A are owned by a publicly traded corporation, Company B, that has a shareholder with 10% or more voting rights in one of these categories, then that shareholder is considered to be the dominant shareholder of Companies A and B. If the shares in Company A are held by Company B and Company B has no dominant shareholder, then Company A is also considered to have no dominant shareholder. Once an ultimate dominant shareholder has been identified, we search to identify affiliations between that shareholder and members of the firm's board.

To assemble our sample, for each country, we use Worldscope to identify the 70 largest publicly traded industrial companies in terms of equity market capitalization as of December 2002.⁶ Worldscope does not list 70 such firms for South Korea, Mexico, and South Africa. For these countries, we have 29, 40, and 56 firms, respectively, resulting in an initial sample of 1,455 firms.

For each firm, for which data are available as of year-end 2002, we extract the identity and percentage voting rights of each shareholder who holds more than 10% of the voting rights outstanding from the sources listed in Appendix A. The sources are listed in the order in which they have been used to collate ownership information by country. That is, if data for a firm are available in the first source listed, we use that source. If not, we move to the next source, and so on, until we gather data for each sample firm. If data are not available for year-end 2002, we move to year-end 2001. We are able to find ownership data for all but 23 firms.

As we noted, in the first step, we identify all shareholders with ownership of at least 10% of the firm's voting rights. In firms with more than one such shareholder, we check to determine whether two or more of these blocks are affiliated such that their combined ownership of voting rights exceeds that of the largest single shareholder. If so, these blocks are combined to comprise the single largest shareholder.⁷

⁴The countries are mostly economically developed. To the extent that shareholder protection fosters economic development, the countries in our sample have less dispersion on this dimension than a broader sample and, as such, the tests could be biased against the finding of any effect of board composition on corporate value.

⁵The key factor limiting our analysis to companies from 22 countries listed in Table 1 are data on board members. In 14 additional countries, we are able to locate ownership data for the 70 largest companies but are unable to find information on board membership.

⁶We exclude financial institutions and utilities, specifically standard industrial classification codes 49, 60, 61, 62, 63, 65, and 67.

⁷In addition, there are three instances in which we identify at least one dominant shareholder, but for the purposes of our analyses we deem these firms to be widely held. First, in the case of a tie between the voting rights of two different ultimate owners, we consider the firm to be widely held. Second, if, because of cross-holdings, a firm is its own largest holder, we consider the firm to be widely held. Third, we consider a firm to be widely held if a financial institution holds a significant percentage of the equity of the firm as a trustee for its employees' 401K plan. These three situations occur in six firms.

Table 1

Dominant shareholders by type

This table classifies dominant shareholders by type by country for a sample of 782 publicly traded firms with a dominant shareholder from 22 countries. A firm has a dominant shareholder if an individual, family, privately held operating firm, privately held financial firm, or government owns at least 10% of the voting rights in the firm.

Country (D)	Firms with a dominant shareholder (1)	Type of dominant shareholder			
		Individual or family (2)	Privately held operating firm (3)	Privately held financial firm (4)	Government (5)
Australia	21	7	3	10	1
Belgium	52	26	22	3	1
Brazil	49	8	30	4	7
Canada	36	27	7	1	1
Denmark	51	18	13	18	2
Finland	39	11	15	1	12
France	39	19	9	1	10
Germany	30	13	9	0	8
Greece	52	36	9	1	6
Hong Kong	55	18	27	8	2
India	45	14	9	7	15
Italy	56	36	10	3	7
Japan	10	5	0	0	5
Malaysia	55	15	22	6	12
Mexico	25	19	5	1	0
Netherlands	27	9	7	6	5
South Africa	22	7	8	6	1
South Korea	20	11	5	1	3
Spain	26	11	7	2	6
Sweden	37	20	8	6	3
UK	19	7	0	11	1
US	16	10	1	5	0
Total	782	347	226	101	108

Using this search procedure, we determine that 1,055 of the firms in our initial sample have an ultimate dominant shareholder who controls at least 10% of the firm's voting rights. Of these, 216 are widely held firms and, thus, the corresponding sample firms are also considered to be widely held. With these deleted, our sample is narrowed to 839 firms with an ultimate dominant shareholder.

Of course, voting rights are not the same as ownership rights and, as shown by LLS (1999), CDL (2000), and FL (2002), the share of voting rights held by dominant shareholders often exceeds their proportionate claim on cash flows. CDL (2002) report that the value discount in firms with a dominant shareholder is greater the larger is the difference between his proportionate voting and cash flow rights. For each of the 839 firms in our sample, we also determine the fraction of cash flow rights owned by the dominant shareholder by taking the fraction of cash flow rights held by the dominant shareholder and multiplying that fraction by the fraction of shares owned in each firm in the ownership tree. Thus, if the ultimate dominant shareholder is the Smythe family that owns 50% of the shares in Company C and Company C owns 12% of the shares in Company B who owns 18% of the cash flow rights and 30% of the voting rights of Company A, we designate the Smythe family as controlling 30% of the voting rights of Company A and owning 1.08% $[(0.50 \times 0.12 \times 0.18) \times (100)]$ of the cash flow rights.

3.2. Affiliated directors

Having identified firms with dominant shareholders, we identify directors who are affiliated with them. We consider a director to be affiliated with the dominant shareholder when (1) he is the dominant shareholder, (2)

he has the same family name as the dominant shareholder, (3) he is an employee of the firm, (4) he is an employee of any company or subsidiary of any company that is positioned above the sample firm in the ownership tree (if there is one), (5) he is an employee of another firm in which the dominant shareholder has at least a 10% ownership position regardless of whether the second firm is in the ownership tree, (6) he is a politician or employee of a government agency when the dominant shareholder is a government, or (7) his primary employer is domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner.⁸ Directors who are not identified as being affiliated with the dominant shareholder are designated as independent.

To make a determination of whether a director is affiliated, we collect his name and certain ‘biographical’ information including the name of his primary employer, the names of other publicly traded and privately held firms for which the director is an employee, and the names of government committees or bodies of which the director is an employee. As described in Appendix B, we use Bloomberg, Reuters, stock exchange yearbooks, corporate websites, and direct correspondence with firms to gather these data.

From the bio information, we determine whether a director is affiliated with the dominant shareholder according to the seven criteria above. The percentage of the board made up of independent directors is the number of nonaffiliated directors divided by the size of the board (times one hundred).

3.3. Legal system

The quality of legal protection afforded to minority shareholders is often viewed as being made up of two elements: (1) statutory provisions (i.e., *de jure* protection) and (2) the degree to which the statutes are enforced (i.e., *de facto* protection). Following Almeida and Wolfenzon (2005), DKS (2004a), DK (2005), and Wurgler (2000), we use the product of two indices as our primary proxy for the quality of legal environment. They are the Anti-director Rights index of LLSV (1998), which ranges from 0 to 6, and the Law and Order enforcement index from the *International Country Risk Guide*, rebalanced to range from 0 to 10. Anti-director and Law and Order index values are for year-end 2003. We refer to this product as LEGAL.

3.4. Tobin's Q and other financial data

Our primary dependent variable is Q measured as the book value of assets minus the book value of equity plus the market value of equity divided by the book value of assets. We calculate these ratios as of the end of years 2002, 2003, and 2004. For 712 firms, financial statement data for calculation of Q (and other variables) are from Datastream. For the remaining 87 firms, data are from Worldscope. We trim the top and bottom 1% of the sample ranked by Q s, which leaves our sample with 782 firms and 7,942 directors. Of these directors, 4,172 are deemed independent.

We use the Securities Data Corporation (SDC) equity issuance database to identify seasoned equity issues of at least \$10 million by sample firms any time over January 2002–December 2004. We chose a time period contemporaneous with and extending beyond our board data with the idea that a dominant shareholder is more likely to choose an independent board at the time of or in anticipation of raising capital in the future. SDC provides equity issuance data for all 22 countries in our sample. We find 262 seasoned equity offerings (SEOs) by 198 of the sample firms. Of these, 40 are rights issues by 40 firms leaving 222 nonrights issues by 158 firms. We use a 1/0 indicator variable, SEO, to identify firms that issued equity.

Control variables used in the analysis include one-digit standard industrial classification (SIC) codes, annual sales for 2002 or 2003 (labeled SALES), the geometric average of sales growth over 2001–2003 (labeled GROWTH), intangible assets as a fraction of total assets (labeled INTANG), and variance of stock returns calculated with monthly returns over 2001–2002 (labeled VAR). Tobin's Q is often thought of as reflecting a firm's future investment or growth opportunities. The control variables are meant to control for differences in growth opportunities across firms.

We also include in certain regressions a 1/0 indicator to identify firms whose shares are traded either as a direct listing on a US stock exchange or as an American Depositary Receipt (ADR). This variable is from the Bank of New York and JP Morgan ADR/Cross-listing databases and is meant to capture the possibility that

⁸By far, the vast majority of employee directors are managers. The exception is Germany wherein boards are required to include labor representatives.

cross-listing on a US exchange improves governance and increases firm value. The sample contains 232 such firms. We refer to this variable as CROSS-LIST. We also include an indicator for whether the firm operates in multiple business segments (labeled DIVERSE), as determined by two-digit SIC codes. And, finally, the number of years that the firm has been listed on a stock exchange is used as a proxy for firm age (labeled FIRM-AGE).

3.5. Some descriptive statistics

Table 1 gives the number of firms by country with a dominant shareholder. Because of the method used to gather data, we have the largest firms (by equity market capitalization) in each country, but we do not have an equal number of firms from each country. For example, the US is vastly underrepresented. This occurs because, among the 70 largest US firms, there are only 16 with a dominant shareholder. Similarly, Japan is underrepresented because its largest corporations are owned in a keiretsu structure whereby the dominant shareholder is widely held. The number of firms by country ranges from 10 in Japan to 56 in Italy.

Table 1 also gives the type of dominant shareholder by country. Of the dominant shareholders, 347 are individuals or families, 226 are privately held operating or holding companies, 101 are privately held financial institutions, and 108 are governments.

Table 2 gives the number of affiliated directors by type in each country. Some directors are considered affiliated by several criteria. For example, a family member might also be an employee of another firm controlled by the dominant shareholder. In Table 2, we enter each director only once by his or her 'primary' affiliation where primacy is determined by the list in Subsection 3.2 and the order in the table.

Table 3 presents further descriptive information for the sample firms by country. Column 1 gives the number of firms. Column 2 gives LEGAL, which ranges from 3.3 in Mexico to 50 in Canada, the US, and the UK.⁹

Column 3 gives the mean percentage of independent directors, INDDIR%, by country. This figure ranges from 75.0% in the US to 38.0% in Japan. As shown in Columns 4 and 5, there is substantial variation in board composition across firms within countries. For example, the minimum and maximum percentages of independent directors are 45.5% and 93.3% in the US, while they are 0.0% and 100% in France, Germany, and Brazil. Column 6 gives the mean percentage of independent directors in each country that serve on multiple boards.

Columns 7–9 give mean, minimum, and maximum board sizes. There is considerable variation in board sizes both across and within countries.

The table also gives the mean percentage voting rights (Column 10) and cash flow rights (Column 11) of the dominant shareholder. In each country, the mean percentage voting rights of the dominant shareholder exceeds his mean percentage cash flow rights with a spread between the two of 0.6% in Mexico up to a spread of 18.6% in Italy. Column 12 gives the number of firms that issued equity during 2002–2004.

The final set of data in Table 3 is the mean, minimum, and maximum Q for firms in each country. Across countries, mean Q ranges from 0.95 in South Korea to 2.07 in Australia. As with other variables, Q s show considerable within country variation. For example, Q s range from 1.03 to 5.29 in Australia and from 0.74 to 6.67 in India.

4. Board composition and equity issuance

We now investigate whether SEOs are a determinant of board composition. We focus on SEOs that do not include rights offers. According to our argument, the dominant shareholder is more likely to appoint an independent board when he wishes to issue equity to outside investors. Arguably, a rights offering reduces this incentive because the dominant shareholder can and, apparently, intends to preserve his ownership position in a rights offering, but less so in a nonrights offering.

As a first pass, we split the sample into firms that issue equity and those that do not and calculate the mean and median percentage of independent directors, INDDIR%, for the two samples. The mean (median) of

⁹The individual components of the indices are available from the authors.

Table 2

Affiliated directors by type of affiliation in firms with a dominant shareholder

This table gives data on affiliated directors by country for a sample of 782 publicly traded firms with a dominant shareholder from 22 countries. A firm has a dominant shareholder if an individual, family, privately held firm, or government controls at least 10% of the voting rights in the firm. A director is considered affiliated with the dominant shareholder if he or she is the dominant shareholder, has the same family name as the dominant shareholder, is an employee of the firm, is an employee of a company or subsidiary above the firm in the ownership tree, is an employee of another firm in which the dominant shareholder owns at least 10% of the firm's voting shares, is a politician or government employee when the dominant shareholder is a government, and his or her primary employer is domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner.

Country	Firms with a dominant shareholder (1)	Affiliated director								Independent director (10)
		Directors (2)	Director is the dominant shareholder (3)	Director has the same family name as the dominant shareholder (4)	Director is an employee of the firm (5)	Director is an employee of a firm above the sample firm in the ownership tree (6)	Director is an employee in another firm in which the dominant shareholder owns at least 10% of voting rights (7)	Director is a politician or government employee and dominant shareholder is a government (8)	Director's primary employer is domiciled in the same country as the dominant shareholder and the dominant shareholder is a foreigner (9)	
Australia	21	177	10	3	32	8	4	2	2	116
Belgium	52	460	31	12	149	25	9	1	5	228
Brazil	49	422	33	8	80	28	8	19	3	241
Canada	36	423	26	7	87	12	5	1	2	283
Denmark	51	419	33	14	141	23	14	3	6	185
Finland	39	258	26	4	33	2	3	18	1	171
France	39	453	25	2	113	25	9	16	3	260
Germany	30	445	21	2	110	19	16	21	0	256
Greece	52	427	38	14	79	54	5	14	2	221
Hong Kong	55	616	46	21	202	78	27	3	4	235
India	45	507	34	18	119	75	8	20	1	232
Italy	56	606	40	16	116	58	14	14	0	348
Japan	10	142	6	6	35	28	5	7	1	54
Malaysia	55	469	40	12	110	52	10	19	3	223
Mexico	25	305	21	5	76	29	7	0	2	165
Netherlands	27	272	9	4	88	23	7	4	4	133
South Africa	22	219	14	6	59	38	5	2	2	93
South Korea	20	179	6	17	31	34	3	4	2	82
Spain	26	308	20	5	73	22	6	9	1	172
Sweden	37	406	26	19	119	29	16	4	1	192
UK	19	237	10	4	61	17	4	1	2	138
US	16	192	9	5	17	13	3	0	1	144
Total	782	7,942	524	204	1,930	692	188	182	48	4,172

Table 3

Descriptive statistics on firms with a dominant shareholder

This table gives statistics by country for a sample of 782 publicly traded firms with a dominant shareholder from 22 countries. A firm has a dominant shareholder if an individual, family, privately held firm, or government owns at least 10% of the voting rights in the firm. LEGAL is the product of the Anti-director Rights index measuring de jure investor protection from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and the Law and Order index measuring de facto investor protection from icrgonline.com. Percentage independent directors is calculated as the number of independent directors divided by board size. A director is considered independent if that board member is not the dominant shareholder, does not have the same family name as the dominant shareholder, is not an employee of the firm, is not an employee in a company or subsidiary above the firm in the ownership tree, is not an employee in any other firm in which the dominant shareholder has at least 10% voting shares, is a not a politician or government employee when the dominant shareholder is a government, and does not have his or her primary employer domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner. Board size is the number of directors on the firm's board. Tobin's Q is the average 2002–2003 of (book value of assets–book value of equity + market value of equity) divided by (the book value of assets) and truncated at 1% and 99%. Percentage cash flow and voting rights of the dominant shareholder are computed as per Appendix A.

Country	Firms (1)	LEGAL (2)	Percentage independent directors			Mean percentage independent directors on multiple boards (6)	Board size			Mean percentage voting rights of dominant shareholder (10)	Mean percentage cash flow rights of dominant shareholder (11)	Firms issuing equity (12)	Tobin's Q		
			Mean (3)	Min (4)	Max (5)		Mean (7)	Min (8)	Max (9)				Mean (13)	Min (14)	Max (15)
Australia	21	40	65.5	33.0	90.0	74	8.5	3	14	35.3	26.4	8	2.07	1.03	5.29
Belgium	52	15	49.6	0.00	90.0	81	8.8	2	20	46.6	29.9	16	1.47	0.71	3.31
Brazil	49	7.5	57.1	0.00	100	70	8.4	3	16	54.0	49.7	16	1.03	0.40	2.91
Canada	36	50	66.9	13.3	100	57	11.8	6	17	46.2	33.7	12	1.90	1.07	6.21
Denmark	51	20	44.2	11.1	85.7	69	7.9	3	13	33.1	31.2	8	1.34	0.76	6.38
Finland	39	40	66.3	20.0	100	78	6.6	3	11	37.7	29.9	6	1.47	0.77	4.04
France	39	22.5	57.4	0.00	100	72	11.6	3	21	44.6	32.5	10	1.70	0.91	6.67
Germany	30	16.7	57.5	0.00	100	66	14.8	3	22	49.8	37.4	5	1.66	0.89	4.12
Greece	52	10	51.8	0.00	90.9	63	8.2	3	16	48.1	42.7	13	1.88	0.59	5.06
Hong Kong	55	15	38.1	0.00	72.2	61	10.2	5	24	43.6	39.3	16	1.07	0.45	4.11
India	45	20	45.8	0.00	80.0	73	11.0	3	19	50.5	46.8	8	1.89	0.74	6.67
Italy	56	10	57.4	0.00	91.7	69	10.8	5	20	53.5	34.9	15	1.54	0.74	4.30
Japan	10	25	38.0	0.00	71.4	78	14.0	7	30	40.1	26.0	2	1.96	1.00	6.44
Malaysia	55	15	47.5	0.00	77.8	88	8.4	5	15	42.5	39.1	12	1.39	0.52	3.72
Mexico	25	3.3	54.1	25.0	80.0	67	11.9	4	18	55.7	55.1	10	1.15	0.77	2.16
Netherlands	27	20	48.9	0.00	80.0	71	10.1	4	24	30.4	27.9	6	1.50	0.62	3.48
South Africa	22	33.3	42.5	22.2	71.4	73	9.7	5	17	37.3	35.2	6	1.32	0.71	2.44
South Korea	20	16.7	45.8	0.00	70.0	84	8.9	5	17	36.6	23.3	4	0.95	0.62	1.32
Spain	26	30	55.8	14.3	100	75	11.8	6	18	38.5	30.7	7	1.54	0.79	5.68
Sweden	37	30	47.3	14.3	83.3	68	10.3	5	16	29.7	28.1	8	1.36	0.59	5.12
UK	19	50	58.2	0.00	93.3	67	11.9	7	16	20.6	16.9	4	1.39	0.78	2.64
US	16	50	75.0	45.5	93.3	69	12.0	8	15	21.0	17.3	6	1.07	0.60	1.57

Table 4

Regressions of INDDIR% on seasoned equity offering (SEO) and control variables

This table gives coefficients and *p*-values for random country effects regressions with percentage independent directors as the dependent variable for 782 industrial firms with a dominant shareholder from 22 countries. A firm has a dominant shareholder if an individual, family, privately held firm, or government owns at least 10% of its voting rights. Percentage independent directors, INDDIR%, is the number of independent directors divided by board size. A director is considered independent if he or she is not the dominant shareholder, does not have the same family name as the dominant shareholder, is not an employee of the firm, is not an employee of a firm above the firm in the ownership tree, is not an employee in another firm in which the dominant shareholder owns at least of the 10% voting rights, is a not a politician or government employee when the dominant shareholder is a government, and does not have his or her primary employer domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner. LEGAL is the product of the Anti-director Rights index and the Law and Order index as of 2003 in which Anti-director Rights index measures de jure investor protection (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998) and Law and Order index measures de facto investor protection from icrgonline.com. Tobin's *Q* is the average 2002–2003 or 2003–2004 of (book value of assets–book value of equity + market value of equity) divided by (the book value of assets). Percentage cash flow (CF) rights are computed as per Appendix A. Ln (SALES) is the natural log of sales for 2003. INTANG is the ratio of intangible-to-total assets as of year-end 2003. GROWTH is sales growth measured over 2002–2003. SEO is a 1/0 indicator for whether the firm issued equity over 2002–2004. DIVERSE is an indicator for firms with multiple business segments as measured by two-digit standard industrial classification codes. FIRM-AGE is the number of years listed on a stock exchange. VAR is the variance of stock returns calculated with monthly returns over 2001–2002. Coefficients are in the columns. *P*-values are in parentheses.

Coefficients from country random effects models: dependent variable = percentage independent directors		
Independent variable	(1)	(2)
Intercept	40.811 (0.00)	40.991 (0.00)
LEGAL	0.438 (0.00)	0.440 (0.00)
SEO	4.999 (0.00)	
SEO (including rights issues)		4.989 (0.00)
ln (board size)	7.101 (0.00)	6.948 (0.00)
CROSS-LIST	1.143 (0.54)	1.175 (0.53)
CF rights	−0.041 (0.56)	−0.042 (0.55)
CF rights*LEGAL	−0.002 (0.45)	−0.002 (0.47)
ln (SALES)	−1.025 (0.07)	−1.019 (0.07)
INTANG	−3.812 (0.85)	−3.881 (0.84)
GROWTH	−0.015 (0.44)	−0.015 (0.44)
VAR	7.572 (0.66)	8.437 (0.62)
DIVERSE	−0.970 (0.56)	−0.966 (0.56)
FIRM-AGE	−0.010 (0.62)	−0.010 (0.63)
Industry indicators	Yes	Yes
Sample size	742	782
Number of countries	22	22
Adjusted <i>R</i> ²	0.1106	0.1122

INDDIR% for the firms that issued equity is 56.1% (56.3%) while the mean (median) of INDDIR% for the nonissuing firms is 50.2% (50.0%). With *p*-values <0.01, the differences between the means and medians of 5.9% and 6.3% are statistically significant. When these statistics are calculated including rights offerings, the means and medians are essentially unchanged as is the level of statistical significance of their difference. These results are consistent with the idea that dominant shareholders are more likely to appoint independent boards when they wish to raise equity capital.

We now examine the relation between SEO and INDDIR% with a multivariate analysis by estimating a random country effects regression in which the dependent variable is INDDIR% and the key independent variable is the 1/0 indicator for SEO. The other independent variables are LEGAL, ln (board size), CROSS-LIST, DIVERSE, ln (SALES), the dominant shareholder's percentage cash flow rights, an interaction term of percentage cash flow rights multiplied by LEGAL, GROWTH, INTANG, VAR, FIRM-AGE, and industry indicators. The independent variables are meant to capture other factors that appear to be determinants of board composition (Boone, Field, Karpoff, and Raheja, 2006; CDN, 2006; Lehn, Patro, Zhao, 2005; and Linck, Netter, and Yang, 2007).

The results of this regression are reported in the first column of Table 4. The coefficient of SEO is positive and statistically significant (*p*-value <0.01) as are the coefficients of LEGAL (*p*-value <0.01) and ln (board

size) (p -value < 0.01). The second regression includes firms with rights offerings. The coefficients are essentially the same as in Column 1. Thus, the results of the multivariate analysis are consistent with the argument that demand for equity capital is a determinant of board composition in firms with a dominant shareholder.

5. Board composition and Tobin’s Q : univariate analysis

Our examination of board membership suggests that there is a robust market for independent directors in that 71% of the independent directors in our sample sit on the boards of more than one firm. Our analysis of board composition indicates that the demand for equity financing is a determinant of board composition such that firms that issue equity have more independent directors. These two analyses establish the foundation for our investigation of whether Q ratios across firms are systematically related to board composition. We now turn to that investigation.

Table 5 presents univariate statistical analyses. Panel A gives mean and median Q s according to LEGAL. Countries are classified into three groups with the eight countries having $LEGAL \geq 30$ in Group 1, the five countries with $30 > LEGAL \geq 20$ in Group 2, and the nine countries with $LEGAL < 20$ in Group 3. The groups are not equal because 22 is not divisible by three and two countries have equal LEGAL scores.

Consistent with DK (2005), LLSV (2002), and others, Q s vary systematically across levels of shareholder legal protection with higher protection associated with higher Q s. The mean Q of 1.58 for Group 1 is significantly greater than the mean Q of 1.38 in Group 3 (p -value = 0.01). The test of medians supports the test of means (p -value < 0.01). Stronger country-level legal shareholder protection is associated with higher firm values.

Panel B of Table 5 gives mean and median Q s when the sample of firms is split into three groups according to the percentage of independent directors. Firms with $INDDIR\% > 66.7\%$ comprise Group 1, firms with $INDDIR\%$ of 33.3% to 66.7% comprise Group 2, and firms with $INDDIR < 33.3\%$ comprise Group 3. Mean and median Q s increase monotonically with the increase in the percentage of independent directors and the differences in means and medians between Groups 1 and 3 are statistically significant (p -values < 0.01).

Table 5
Tobin’s Q across LEGAL and INDDIR%

This table reports the mean and median Tobin’s Q s for 782 firms with a dominant shareholder from 22 countries classified according to the country’s level of investor protection and percentage of independent directors. A firm has a dominant shareholder if an individual, family, privately held firm, or government controls at least 10% of the voting rights in the firm. LEGAL is the product of the Anti-director Rights index and the Law and Order index as of 2003 in which Anti-director Rights index measures de jure investor protection (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998) and Law and Order index measures de facto investor protection from icrgonline.com. Percentage independent directors, INDDIR%, is calculated as the number of independent directors divided by board size. A director is considered independent if that board member is not the dominant shareholder, does not have the same family name as the dominant shareholder, is not an employee of the firm, is not an employee in a company or subsidiary above the firm in the ownership tree, is not an employee in any other firm in which the dominant shareholder has at least 10% voting shares, is not a politician or government employee when the dominant shareholder is a government, and does not have his or her primary employer domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner. P -values for one-sided tests are in parentheses.

	Sample size	Tobin’s Q	
		Mean (1)	Median (2)
<i>Panel A. Tobin’s Q classified by investor rights index LEGAL</i>			
LEGAL ≥ 30	216 (8 countries)	1.58	1.27
$20 \leq LEGAL < 30$	172 (5 countries)	1.58	1.21
LEGAL < 20	394 (9 countries)	1.38	1.10
Difference in mean Q s between LEGAL ≥ 30 and LEGAL < 20		0.20 (0.01)	0.17 (0.00)
<i>Panel B. Tobin’s Q classified by percentage independent directors</i>			
Percentage independent directors ≥ 66.7	233	1.57	1.23
$33.3 < \text{Percentage independent directors} < 66.7$	387	1.49	1.13
Percentage independent directors ≤ 33.3	162	1.32	1.12
Difference in mean Q s between top and bottom group		0.25 (0.00)	0.11 (0.00)

6. Board composition and Tobin's Q : multivariate analysis

The univariate statistics suggest that stronger boards are associated with higher market values. In this section we examine that relation with a multivariate regression analysis. We use a country random effects specification.

6.1. Base case regressions

Column 1 of Table 6 presents the results of what can be thought of as our base case regression. The dependent variable is the Q ratio where Q is calculated as the average of the year-end 2002 and 2003 market-to-book value ratios for each firm. The independent variables include LEGAL, CROSS-LIST, the dominant shareholder's percentage cash flow rights, an interaction term of percentage cash flow rights multiplied by LEGAL, \ln (SALES) for the fiscal year-end 2003, GROWTH, the ratio of INTANG, DIVERSE, VAR, and indicators for one-digit industry SIC code for each firm. Unless indicated otherwise, we include each of these independent variables in our subsequent regressions.

The regression in Column 1 includes neither our key independent variable, INDDIR% nor board size. Rather, this regression asks whether the results of prior studies are robust in our data.

Consistent with prior studies, the coefficient of LEGAL is positive and significant (p -value = 0.01). Further, consistent with LLSV (2002), the coefficient of dominant shareholder's cash flow rights is positive with a p -value of 0.10, while the coefficient of the interaction of cash flow rights and LEGAL is negative with a p -value of 0.10. In subsequent regressions, these results are essentially unchanged except that, in some specifications, the p -value of LEGAL creeps upward and reaches as high as 0.10 in one specification. Thus, in firms with a dominant shareholder, firm value is positively correlated with the country level of legal shareholder protection and with the fraction of cash flow rights held by the dominant shareholder and negatively correlated with the interaction of these terms. The implication is that firm value is higher in countries with stronger shareholder legal protection and is higher when the dominant shareholder has a larger cash flow ownership position. However, the two factors are not additive.

The coefficient of CROSS-LIST is positive, but the p -value is 0.19. In later specifications, the p -values for this variable range from 0.10 to 0.58. This result differs from DKS (2004a), but their sample includes nearly five thousand observations. The coefficient of CROSS-LIST in our regression is a bit smaller than in theirs, but the major difference is the size of the standard errors. We cannot conclude that cross-listing on a US exchange does not increase firm value.

Of the control variables, the only one that is statistically significant is \ln (SALES) (p -value < 0.01). Consistent with DK (2005), the coefficient is negative indicating that Q decreases as firm 'size' increases. This result is also robust to each of our later specifications.

The regression in Column 2 of Table 6 is a minor variation on the regression in Column 1 such that Column 2 can also be thought of as a base case regression. The only difference is that the dependent variable, Q , in Column 2 is the average of the 2003–2004 firm market-to-book values. We use this lag specification because we subsequently are concerned with the possible endogeneity of Q and INDDIR%. One simple way to address this concern is to lag Q relative to the point in time at which the composition of the board is determined.

Suffice it to say that the results in Column 2 are essentially the same as those in Column 1 except that the p -value of LEGAL increases from 0.01 to 0.06.

6.2. Percentage independent directors

We now estimate regressions with our two board variables, (INDDIR% and board size), included as independent variables. In Columns 3–5, we estimate regressions with various specifications of INDDIR% along with \ln (board size).

Column 3 is a linear specification of INDDIR%. The coefficient of INDDIR% is positive and statistically significant (p -value = 0.01), while the coefficient of \ln (board size) is negative with a p -value of 0.10. The regression in Column 4 uses a quadratic specification of INDDIR%. The coefficient of the linear term is positive with a p -value of 0.09, while the coefficient of the squared term is negative with a p -value of 0.25. In

Table 6
Regressions of Tobin's Q on LEGAL, INDDIR%, board size, and control variables

This table reports the coefficients and p -values for random country effects regressions using Tobin's Q as the dependent variable for 782 industrial firms with a dominant shareholder from 22 countries. A firm has a dominant shareholder if an individual, family, privately held firm, or government owns at least 10% of the voting rights. LEGAL is the product of the Anti-director Rights index and the Law and Order index as of 2003 in which Anti-director Rights index measures de jure investor protection (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998) and Law and Order index measures de facto investor protection from icrgonline.com. Percentage independent directors, INDDIR%, is the number of independent directors divided by board size. A director is considered independent if that board member is not the dominant shareholder, does not have the same family name as the dominant shareholder, is not an employee of the firm, is not an employee in a company or subsidiary above the firm in the ownership tree, is not an employee in another firm in which the dominant shareholder owns at least 10% of the voting shares, is a not a politician or government employee when the dominant shareholder is a government, and does not have his or her primary employer domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner. Tobin's Q is the average 2002–2003 or 2003–2004 of (book value of assets–book value of equity + market value of equity) divided by (the book value of assets). CROSS-LIST is an indicator to identify whether a foreign stock is listed on a US exchange. CF = cash flow. Ln (SALES) is the natural log of sales for 2003. INTANG is the ratio of intangible-to-total assets as of year-end 2003. GROWTH is sales growth measured over 2002–2003. DIVERSE is an indicator for firms with multiple business segments as measured by two-digit standard industrial classification codes. VAR is the variance of stock returns calculated with monthly returns over 2001–2002. Coefficients are in the columns. P -values are in parentheses.

Independent variable	Coefficients of country random effects regression models: Dependent variable = Tobin's Q							
	Q 2002/2003 (1)	Q 2003/2004 (2)	Q 2002/2003 (3)	Q 2002/2003 (4)	Q 2002/2003 (5)	Q 2002/2003 (6)	Q 2002/2003 (7)	Q 2003/2004 (8)
Intercept	2.849 (0.00)	3.143 (0.00)	2.747 (0.00)	2.416 (0.00)	2.370 (0.00)	2.209 (0.00)	2.476 (0.00)	2.791 (0.00)
LEGAL	0.014 (0.01)	0.011 (0.06)	0.011 (0.03)	0.010 (0.03)	0.012 (0.03)			0.011 (0.10)
Anti-director Rights index						0.150 (0.03)		
Origin of legal system							0.179 (0.22)	
INDDIR%			0.004 (0.01)	0.009 (0.09)				
INDDIR% ²				−0.001 (0.25)				
ln (INDDIR%)					0.185 (0.02)	0.187 (0.01)	0.197 (0.01)	0.134 (0.05)
ln (board size)			−0.149 (0.10)	−0.147 (0.10)	−0.195 (0.05)	−0.202 (0.05)	−0.206 (0.05)	−0.106 (0.26)
CROSS-LIST	0.101 (0.19)	0.040 (0.58)	0.100 (0.19)	0.079 (0.30)	0.132 (0.10)	0.114 (0.14)	0.105 (0.18)	0.056 (0.45)
CF rights	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	0.003 (0.14)	0.004 (0.10)	0.008 (0.06)	0.003 (0.16)	0.005 (0.08)
CF rights*LEGAL	−0.001 (0.10)	−0.001 (0.12)	−0.001 (0.14)	−0.001 (0.19)	−0.001 (0.10)			−0.001 (0.16)
CF rights*Anti-director Rights index						−0.003 (0.07)		
CF rights*Origin of legal system							−0.005 (0.13)	
ln (SALES)	−0.132 (0.00)	−0.153 (0.00)	−0.112 (0.00)	−0.102 (0.00)	−0.116 (0.00)	−0.114 (0.00)	−0.108 (0.00)	−0.147 (0.00)
INTANG	0.563 (0.50)	0.987 (0.20)	0.516 (0.54)	0.466 (0.58)	0.365 (0.66)	0.413 (0.62)	0.436 (0.60)	0.815 (0.29)
GROWTH	0.000 (0.41)	0.000 (0.65)	0.001 (0.20)	0.001 (0.47)	0.000 (0.37)	0.000 (0.39)	0.000 (0.32)	0.000 (0.62)
VAR	−0.550 (0.45)	−0.989 (0.14)	−0.677 (0.35)	−0.862 (0.24)	−0.546 (0.46)	−0.529 (0.47)	−0.604 (0.41)	−0.925 (0.17)
DIVERSE	−0.012 (0.85)	−0.004 (0.95)	−0.011 (0.87)	−0.010 (0.88)	−0.015 (0.83)	−0.017 (0.80)	−0.022 (0.75)	−0.007 (0.91)
Industry indicators	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample size	782	782	782	782	770	770	770	770
Adjusted R^2	0.0866	0.1168	0.0985	0.1023	0.1102	0.1043	0.1010	0.1243

addition, the adjusted R^2 is mildly higher with the quadratic specification suggesting a positive, but nonlinear, relation between Q and the percentage of independent directors. The coefficient of \ln (board size) continues to be negative with a p -value of 0.10.

The regression in Column 5 uses the specification of \ln (INDDIR%). We drop the 12 firms with zero independent directors because $\ln(0)$ is undefined. The coefficient of \ln (INDDIR%) is positive and statistically significant (p -value = 0.02) while the coefficient of \ln (board size) is negative and significant (p -value = 0.05). Further the adjusted R^2 increases relative to the linear and quadratic specifications. For that reason, we use the log specification in our subsequent analyses. (We also replicate every regression that we estimate later with the linear and quadratic specifications and the results are essentially unchanged.) The implication of Columns 4 and 5 is that firm value increases at a decreasing rate as the percentage of independent directors increases in firms with a dominant shareholder.

For their measure of country-level legal shareholder protection, LLSV (2002) use two different specifications. The first is their Anti-director Rights index; the second is the origin of the country's legal system (either common law or civil code). In Regression 6, we replace LEGAL with the Anti-director Rights index (updated to 2003) and we replace the interaction of cash flow rights with LEGAL by the interaction of cash flow rights with the Anti-director Rights index. Consistent with LLSV (2002), the coefficient of the Anti-director Rights index is positive with a p -value of 0.03 and the coefficient of interaction term is negative with a p -value of 0.07. In Column 7, we replace LEGAL with an indicator equal to one in countries that have a common law origin and zero for all other countries and we interact the dominant shareholder's percentage cash flow rights with the indicator. Contrary to LLSV (2002), the coefficient of legal origin is not significant (p -value = 0.22). In both Regressions 6 and 7, the coefficient of \ln (INDDIR%) continues to be positive and statistically significant (p -values = 0.01) and the coefficient of \ln (board size) continues to be negative and statistically significant (p -values = 0.05).

One concern with our analysis is that board composition and Q are endogenously determined. One simple approach to addressing endogeneity is to lag the dependent variable relative to the determination of the key independent variables. In the final regression of Table 6, we use lag Q calculated as the average of year-end 2003–2004 market-to-book ratios and board composition as of year-end 2002 along with LEGAL and our other variables from Regression 1. In this specification, the p -value for LEGAL slips to 0.10. The p -value of \ln (INDDIR%) is 0.05. The coefficient of \ln (board size) is still negative but the p -value is 0.26.

The answer to the first question that we pose at the outset is affirmative. In firms with a dominant shareholder, the documented value discount can be offset, at least in part, by a dominant shareholder appointing an independent board.

6.3. Percentage independent directors when legal protection is weak

The second question that we pose at the outset is whether board composition has a differential effect in countries with strong versus weak levels of legal shareholder protection. It can be argued that a strong board is likely to be more valuable in a country with weak legal shareholder protection because the potential for value added therein is greater given that shareholders are already protected in countries with strong legal environments. Contrarily, it can be argued that a strong board would have little effect in a country with weak legal protection because the board is fundamentally at the mercy of the dominant shareholder in the absence of a protective legal environment. Under this argument, a strong board might be more valuable in a country with a stronger legal environment where the board might have greater leverage through the legal system. The regressions presented in Table 7 address these arguments.

In particular, we estimate Regression 5 of Table 6 for countries with different levels of LEGAL. In parallel with the groupings in the univariate analysis of Table 5, we estimate the regression separately for the nine countries with LEGAL < 20 (i.e., low protection countries) and the eight countries with LEGAL \geq 30 (i.e., high shareholder protection countries). The results are given in Columns 1 and 2 of Table 7.

As shown in Column 1, the coefficient of \ln (INDDIR%) is positive and statistically significant in the low protection sample (p -value < 0.01). As shown in Column 2, the coefficient is close to zero with a p -value of 0.55 in the high protection sample. Further, the coefficient of \ln (INDDIR%) in the low protection group is significantly greater than the coefficient in the high protection group (p -value < 0.01).

Table 7

Regressions of Tobin's Q on $\ln(\text{INDDIR}\%)$ and control variables for samples classified by LEGAL

This table gives coefficients and p -values for random country effects regressions with Tobin's Q as the dependent variable for different subsamples of 770 industrial firms with a dominant shareholder from 22 countries classified by LEGAL. A firm has a dominant shareholder if an individual, family, privately held firm, or government owns at least 10% of the voting rights. LEGAL is the product of the Anti-director Rights index and the Law and Order index as of 2003 in which Anti-director Rights index measures de jure investor protection from (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998) and Law and Order index measures de facto investor protection from icrgonline.com. Percentage independent directors, INDDIR%, is the number of independent directors divided by board size times one hundred. A director is considered independent if that board member is not the dominant shareholder, does not have the same family name as the dominant shareholder, is not an employee of the firm, is not an employee in a firm above the firm in the ownership tree, is not an employee in another firm in which the dominant shareholder owns at least 10% of the voting rights, is not a politician or government employee when the dominant shareholder is a government, and does not have his or her primary employer domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner. Tobin's Q is the average 2002–2003 of (book value of assets–book value of equity + market value of equity) divided by (the book value of assets). Percentage cash flow (CF) rights are computed as per Appendix A. $\ln(\text{SALES})$ is the natural log of sales for 2003. INTANG is the ratio of intangible-to-total assets as of year-end 2003. GROWTH is sales growth measured over 2002–2003. DIVERSE is a 1/0 indicator for whether the firm has multiple business segments as measured by two-digit standard industrial classification codes. VAR is the variance of stock returns calculated with monthly returns over 2001–2002. P -values are in parentheses.

Independent variable	Coefficients from country random effects models: Dependent variable = Tobin's Q 2002/2003			
	LEGAL < 20 (1)	LEGAL \geq 30 (2)	LEGAL \leq 20 (3)	LEGAL > 20 (4)
Intercept	1.094 (0.07)	3.054 (0.00)	1.087 (0.06)	3.094 (0.00)
LEGAL	–0.019 (0.44)	0.015 (0.22)	–0.005 (0.76)	0.005 (0.60)
$\ln(\text{INDDIR}\%)$	0.276 (0.00)	0.087 (0.55)	0.339 (0.00)	0.116 (0.21)
$\ln(\text{board size})$	–0.074 (0.55)	0.057 (0.76)	–0.063 (0.60)	–0.210 (0.26)
CROSS-LIST	0.142 (0.10)	–0.031 (0.82)	0.139 (0.10)	0.012 (0.93)
CF rights	–0.004 (0.55)	–0.009 (0.49)	–0.004 (0.40)	0.009 (0.41)
CF rights*LEGAL	0.000 (0.39)	0.000 (0.75)	0.001 (0.11)	–0.001 (0.23)
$\ln(\text{SALES})$	–0.049 (0.10)	–0.164 (0.00)	–0.074 (0.01)	–0.135 (0.01)
INTANG	1.784 (0.14)	–1.806 (0.14)	1.940 (0.08)	–1.761 (0.21)
GROWTH	0.000 (0.56)	0.007 (0.01)	0.000 (0.40)	0.007 (0.03)
VAR	–1.136 (0.10)	1.421 (0.67)	–0.987 (0.18)	4.144 (0.25)
DIVERSE	0.060 (0.52)	–0.058 (0.62)	–0.003 (0.97)	0.031 (0.80)
Industry indicators	Yes	Yes	Yes	Yes
Sample size	381	216	508	262
Number of countries	9	8	12	10
Adjusted R^2	0.1211	0.2414	0.1201	0.2032

The median value of LEGAL is 20. As a further test, we estimate the regression with firms from the 12 countries with LEGAL \leq 20 and with firms from the ten countries with LEGAL > 20. The results of these regressions are given in Columns 3 and 4. The coefficients of $\ln(\text{INDDIR}\%)$ and their p -values in these two columns are essentially the same as those of Columns 1 and 2.

Thus, the tests in Table 7 indicate that a strong board is more important in offsetting the value discount associated with a dominant shareholder in a country with weak legal protection for shareholders. This suggests that a dominant shareholder who is so inclined could offset, at least in part, the value reduction associated with weak legal shareholder protection by appointing a strong board and this effect appears to be more consequential in countries with weaker legal protection for shareholders.

7. Related party transactions

Our results, thus, bring us to our final question of how independent directors curb the dominant shareholder's diversion of corporate resources. Presumably, they do so by means of ongoing monitoring and control. If so, identification of discrete actions by the board are difficult to observe. However, one of the ways in which dominant shareholders are alleged to divert resources to themselves is by tunneling resources through

RPTs (Bae, Kang, and Kim, 2002; Bertrand, Mehta, and Mullainathan, BMM, 2002; Cheung, Jing, Rau, and Stouraitis, 2007; FJM, 2003; Joh, 2003; Johnson, La Porta, Lopez-de-Silanes, and Shleifer, 2000).

In such transactions, the dominant shareholder of the publicly traded firm, Company X, arranges deals between Company X and another company, Company Z, in which he also has a dominant position, but the dominant shareholder owns a larger fraction of the cash flow rights of Company Z than of Company X. By arranging deals on terms that are advantageous to Company Z and disadvantageous to Company X, the dominant shareholder diverts resources from the shareholders of Company X to those of Company Z. Because of his larger percentage ownership of cash flows in Company Z, the dominant shareholder gains at the expense of minority shareholders in Company X.

If dominant shareholders use such devices to divert resources, independent directors can reduce diversion by monitoring the terms of such transactions. Presumably, if independent directors reduce diversion through RPTs, we would find that RPTs occur less frequently in firms with more independent directors and, when they do occur, they are on better terms than in firms with mostly affiliated directors. Were the data available, we could compare the terms of RPTs in firms with dominant shareholders that have independent boards with those that do not. Unfortunately, we cannot observe the terms of RPTs. We can, however, observe their frequency because each of the countries in our sample requires disclosure of RPTs through periodic filings (DLLS, 2007).

We adopt the classification scheme of DLLS (2007) and BMM (2002) who consider five types of dealings to be RPTs: (1) acquisition by the sample firm of assets and/or stock from the dominant shareholder or from any other firm affiliated with the dominant shareholder, (2) asset sales by the sample firm to the dominant shareholder or any other firm affiliated with the dominant shareholder, (3) asset swaps between the sample firm and the dominant shareholder or any other firm affiliated with the dominant shareholder, (4) debt and/or loan relief from the sample firm to the dominant shareholder or any other firm affiliated with the dominant shareholder, and (5) sale and/or purchase of merchandise from and/or to the sample firm from and/or to the dominant shareholder or any other firm affiliated with the dominant shareholder.

To identify firms with RPTs, we extract periodic filings by our sample firms from the Edgar International and Mergent databases for the year 2002. Periodic filings (i.e., annual, quarterly, and interim reports) are available for 442 firms in Edgar International and for 209 firms in Mergent. For those firms without filings in the databases, we search stock exchange and company websites for the information. From this search we obtain filings for a further 103 firms. Thus, our search yields periodic filings for 754 of the 782 sample firms. Our search of the periodic filings identifies 148 firms with one or more RPT disclosure for 2002.

As a preliminary look at the data, we split the sample into firms with an RPT and those without one and calculate the mean (median) of INDDIR% for the two samples. For firms that report an RPT, the mean (median) of INDDIR% is 49.4% (45.5%). For firms that do not report an RPT, the mean (median) of INDDIR% is 53.2% (52.6%). The difference in means is 3.8% with a p -value of 0.14 and the difference in medians is 7.1% with a p -value of 0.03. Thus, the differences go in the “right” direction, but the levels of significance are mixed.

To control for other factors that could affect the occurrence of RPTs, we estimate a logit regression in which the dependent variable is a 1/0 indicator for the occurrence of an RPT and the key independent variable is \ln (INDDIR%). The other independent variables are LEGAL, \ln (board size), CROSS-LIST, the dominant shareholder’s percentage cash flow rights, an interaction term of percentage cash flow rights and LEGAL, \ln (SALES), GROWTH, INTANG, VAR, DIVERSE, and industry indicators. The results of this regression are reported in the first column of Table 8. The coefficient of \ln (INDDIR%) is negative and statistically significant (p -value = 0.05). The implication is that more independent directors reduce the likelihood of an RPT. To the extent that RPTs are a primary mechanism through which dominant shareholders divert resources to themselves from other shareholders, stronger boards appear to reduce such diversions.

In addition, if RPTs are a mechanism through which dominant shareholders divert resources, we should observe a negative relation between the occurrence of RPTs and Q : The absence of RPTs should mean higher firm values. To investigate that prediction, we estimate a country random effects regression in which the dependent variable is average Q for 2002–2003 and the key independent variable is RPT. The other independent variables are the same as in the first column of Table 8 except that we exclude the two board variables \ln (INDDIR%) and \ln (board size).

Table 8

Regressions of related party transaction (RPT), ln (INDDIR%), and Tobin's Q

This table gives coefficients and p -values for logit regressions with RPT as the dependent variable, and random country effects regressions with Tobin's Q as the dependent variable, for 742 industrial firms with a dominant shareholder from 22 countries. A firm has a dominant shareholder if an individual, family, privately held firm, or government owns at least 10% of its voting rights. Percentage independent directors, INDDIR%, is the number of independent directors divided by board size. A director is considered independent if he or she is not the dominant shareholder, does not have the same family name as the dominant shareholder, is not an employee of the firm, is not an employee of a firm above the firm in the ownership tree, is not an employee in another firm in which the dominant shareholder owns at least of the 10% voting rights, is a not a politician or government employee when the dominant shareholder is a government, and does not have his or her primary employer domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner. LEGAL is the product of the Anti-director Rights index and the Law and Order index as of 2003 in which Anti-director Rights index measures de jure investor protection (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998) and Law and Order index measures de facto investor protection from icrgonline.com. Tobin's Q is the average 2002–2003 or 2003–2004 of (book value of assets/book value of equity + market value of equity) divided by (the book value of assets). Percentage cash flow (CF) rights are computed as per Appendix A. RPT is a 0/1 indicator for firms that reported a RPT in periodic filings in 2002. A transaction is considered to be a RPT if the sample firm acquires assets or stock from the dominant shareholder or dominant shareholder-affiliated companies, sells assets to the dominant shareholder or dominant shareholder-affiliated companies, swaps assets with the dominant shareholder or dominant shareholder-affiliated companies, provides debt or loan relief to the dominant shareholder or dominant shareholder-affiliated companies, and supplies or purchases merchandise to or from the dominant shareholder or dominant shareholder-affiliated companies. Ln (SALES) is the natural log of sales for 2003. INTANG is the ratio of intangible-to-total assets as of year-end 2003. GROWTH is sales growth measured over 2002–2003. DIVERSE is a 1/0 indicator for whether the firm has multiple business segments as measured by two-digit standard industrial classification codes. VAR is the variance of stock returns calculated with monthly returns over 2001–2002. Coefficients are in the columns. P -values are in parentheses.

Independent variable	Dependent variable	
	Coefficients from Logit regression model: RPT (1)	Coefficients from country random effects regression model: Q 2002/ 2003 (2)
Intercept	−1.415 (0.24)	2.559 (0.00)
LEGAL	−0.082 (0.26)	0.016 (0.04)
RPT		−0.066 (0.06)
ln (INDDIR%)	−0.508 (0.05)	
ln (board size)	−0.049 (0.87)	
CROSS-LIST	−0.131 (0.58)	0.131 (0.09)
CF rights	0.011 (0.25)	0.005 (0.06)
CF rights*LEGAL	−0.001 (0.13)	−0.001 (0.10)
ln (SALES)	0.057 (0.41)	−0.120 (0.00)
INTANG	3.572 (0.10)	0.450 (0.59)
GROWTH	−0.001 (0.44)	0.001 (0.27)
VAR	−0.698 (0.72)	−0.518 (0.47)
DIVERSE	0.320 (0.09)	−0.037 (0.52)
Industry indicators	Yes	Yes
Sample size	742	742
Adjusted R^2	0.0598	0.1082

As shown in the second column of Table 8, the coefficient of RPT is negative with a p -value of 0.06, while the coefficient of LEGAL is positive with a p -value of 0.04. According to this regression, firm values are lower for firms that undertake RPTs even after controlling for the legal environment in which the firm operates.

The results in Table 8 are consistent with an interpretation that RPTs reduce firm value, that independent directors reduce the likelihood of RPTs occurring, and, as a consequence, that firm values are positively related with the proportion of the board made up of independent directors.

8. Tests of robustness

In this section, we take up the question of whether the results of our primary analysis of the relation between INDDIR% and Q are robust.

8.1. Endogeneity addressed with instrumental variables regressions

We begin by estimating a linear system of two equations with Q and INDDIR% as the endogenously determined variables. We use a two-stage least squares instrumental variable regression (2SIV).

In line with Demsetz and Villalonga (2001), DK (2005), and Lins (2003), we use the alpha and beta of the firm's stock returns as instruments for \ln (INDDIR%). When available, we use the alpha and beta from Worldscope as of 2002. When the data are not available in Worldscope, we estimate the firm's alpha and beta using ordinary least squares regressions and the 24 monthly returns over 2001–2002 from Datastream. In line with Campa and Kedia (2002), DK (2005), and HW (1991), we use prior year's variables as instruments for Q . Specifically, we use prior year's Q and the logarithm of prior year's sales. DK (2005) and Lins (2003) argue that industry indicators are also suitable instruments because they affect Q , but they do not affect corporate governance. We, therefore, also use one-digit SIC indicators as instruments for Q .

In the first stage of the 2SIV procedure, we regress average Q for 2002–2003 against the independent variables from Regression 5 of Table 6 along with the three instrumental variables and we regress \ln (INDDIR%) against the independent variables used in Regression 1 of Table 4 along with the two instrumental variables. We then use the predicted values from the first stage as regressors in the second stage along with the same independent variables used in the first stage excluding the instrumental variables. Results from the second stage of the estimation are reported in Table 9.

As shown in the first regression of Panel A, the coefficient of LEGAL is positive and significant as a predictor of \ln (INDDIR%) (p -value = 0.05). That is, firms in weak legal environments have fewer independent directors. The coefficient of \ln (board size) is positive and significant, indicating that larger boards have a higher percentage of independent directors. However, the coefficient of Q is not close to significant with a p -value of 0.58.

In the second regression of Panel A, in which the dependent variable is the predicted Tobin's Q for 2002–2003, the coefficient of \ln (INDDIR%) is positive and significant (p -value = 0.05). The coefficient of LEGAL continues to be positive but its p -value slips a bit (p -value = 0.09). The coefficient of \ln (board size) continues to be negative, but its p -value also slips (p -value = 0.12).

The third and fourth regressions of Table 9 are the same as the first two except that we use average Q from 2003–2004. The results of Regressions 3 and 4 are similar to those of Regressions 1 and 2. In sum, based on the 2SIV analysis, firm value is positively related to board composition and legal environment, but board composition does not appear to depend upon firm value. That is, causality appears to run in one direction only.

Panel B of Table 9 gives the results when the system is estimated separately for firms in countries with LEGAL < 20 and for those in countries with LEGAL \geq 30. The results here are similar to those of Table 7. In countries with weak legal protection for shareholders, the coefficient of \ln (INDDIR%) is positive and statistically significant (p -value = 0.04). In countries with strong shareholder protection, the coefficient of INDDIR% is also positive, but much smaller and not statistically different from zero (p -value = 0.16). In addition, the coefficients of INDDIR% from the two regressions are significantly different from each other (p -value = 0.01).

In short, the results in Table 9 provide some assurance that the relation in Tables 6 and 7 are not the result of reverse causality or endogeneity.

8.2. Fixed country effects

As an alternative to the random effects specifications in Tables 6 and 7, we estimate the regressions with country fixed effects. In the regressions that correspond to the last six in Table 6, the p -values of the coefficients of INDDIR% range from 0.02 to 0.06 in the first five regressions, while the p -value in the last regression is 0.10. In the four regressions that correspond to those in Table 7, the coefficients of INDDIR% are statistically significant in the set with LEGAL < 20 (p -values < 0.07) but are not close to significant in those with LEGAL \geq 30 (p -values > 0.36). In short, the results with country fixed effects are nearly identical to those with country random effects.

Table 9

Two-stage instrumental variables (2SIV) regressions of ln (INDDIR%) and Tobin's Q

This table reports the coefficients and *p*-values of simultaneous equations estimated by 2SIV for 770 industrial firms with a dominant shareholder from 22 countries. The dependent variables are INDDIR% and Tobin's Q. Tobin's Q is the average 2002–2003 or 2003–2004 of (book value of assets–book value of equity + market value of equity) divided by (the book value of assets). INDDIR% is the percentage of independent directors. A director is considered independent if that board member is not the dominant shareholder, does not have the same family name as the dominant shareholder, is not an employee of the firm, is not an employee in a company or subsidiary above the firm in the ownership tree, is not an employee in any other firm in which the dominant shareholder has at least 10% voting shares, is not a politician or government employee when the dominant shareholder is a government, and does not have his or her primary employer domiciled in the same country as the dominant shareholder when the dominant shareholder is a foreigner. The instruments for INDDIR% used in the first stage are the firm's market model alpha and beta (calculated using 24 monthly returns). The instruments for Tobin's Q are lag Q, logarithm of lag sales, and single-digit standard industrial classification (SIC) indicators. The coefficients on country indicator variables are included in the models but omitted from the table. A firm has a dominant shareholder if an individual, family, privately held firm, or government controls at least 10% of the voting rights in the firm. LEGAL is the product of the Anti-director Rights index and the Law and Order index as of 2003, in which Anti-director Rights index is an index measuring de jure investor protection from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and Law and Order index is an index measuring de facto investor protection from icrgonline.com. Percentage cash flow (CF) rights are computed as per Appendix A. Ln (SALES) is the natural log of sales for 2003. CROSS-LIST is an indicator to identify whether a foreign stock is listed on a US exchange. INTANG is the ratio of intangible-to-total assets as of year-end 2003. GROWTH is sales growth measured over 2002–2003. SEO is a 1/0 indicator for whether the firm issued equity over 2002–2004. DIVERSE is a 1/0 indicator for whether the firm has multiple business segments as measured by two-digit SIC codes. FIRM-AGE is the number of years listed on a stock exchange. VAR is the variance of stock returns calculated with monthly returns over 2001–2002. Coefficients are in the columns. *P*-values are in parentheses.

Panel A. Two-equation model estimated for all firms

Independent variable	Coefficients from second stage of 2SIV			
	Dependent variable		Dependent variable	
	ln (INDDIR%) (1)	Q 2002/2003 (2)	ln (INDDIR%) (3)	Q 2003/2004 (4)
Intercept	–0.517 (0.01)	3.167 (0.00)	–0.766 (0.00)	3.892 (0.00)
LEGAL	0.009 (0.05)	0.013 (0.09)	0.008 (0.07)	0.012 (0.10)
Tobin's Q	–0.011 (0.58)		0.048 (0.14)	
ln (INDDIR%)		0.389 (0.05)		0.371 (0.07)
ln (board size)	0.108 (0.04)	–0.160 (0.12)	0.124 (0.03)	–0.116 (0.29)
CROSS-LIST	0.086 (0.10)	0.091 (0.11)	0.072 (0.13)	0.090 (0.11)
CF rights	–0.001 (0.39)	0.003 (0.13)	–0.001 (0.44)	0.002 (0.20)
CF rights*LEGAL	–0.001 (0.84)	–0.001 (0.15)	–0.001 (0.86)	0.001 (0.74)
ln (SALES)	–0.033 (0.01)	–0.110 (0.00)	–0.032 (0.02)	–0.131 (0.00)
INTANG	0.111 (0.74)	–0.152 (0.87)	0.079 (0.82)	0.177 (0.88)
GROWTH	–0.001 (0.63)	0.001 (0.25)	–0.001 (0.70)	0.001 (0.48)
VAR	–0.002 (0.19)	–0.002 (0.07)	–0.002 (0.25)	–0.001 (0.53)
DIVERSE	–0.012 (0.62)	–0.021 (0.36)	–0.015 (0.56)	–0.064 (0.08)
SEO	0.159 (0.06)		0.128 (0.19)	
FIRM-AGE	–0.001 (0.79)		–0.002 (0.55)	
Industry indicators	No	Yes	No	Yes
Sample size	770	770	770	770
Adjusted R ²	0.1309	0.1116	0.1381	0.1468

Panel B. Two-equation models estimated separately for countries with LEGAL < 20 and for countries with LEGAL ≥ 30

Independent variable	Coefficients from second stage of 2SIV			
	Firms with LEGAL < 20: dependent variable		Firms with LEGAL ≥ 30: dependent variable	
	ln (INDDIR%) (1)	Q 2002/2003 (2)	ln (INDDIR%) (3)	Q 2002/2003 (4)
Intercept	0.311 (0.71)	2.014 (0.00)	–2.519 (0.00)	3.654 (0.00)
LEGAL	–0.062 (0.49)	0.005 (0.36)	0.071 (0.01)	0.013 (0.38)
Tobin's Q	–0.079 (0.41)		0.037 (0.74)	
ln (INDDIR%)		0.417 (0.04)		0.263 (0.16)

Table 9 (continued)

ln (board size)	0.128 (0.08)	−0.138 (0.26)	0.223 (0.05)	0.039 (0.82)
CROSS-LIST	0.088 (0.15)	−0.128 (0.24)	0.080 (0.22)	−0.008 (0.89)
CF rights	−0.001 (0.70)	0.003 (0.18)	−0.001 (0.64)	−0.001 (0.71)
CF rights*LEGAL	0.001 (0.51)	0.001 (0.45)	0.001 (0.69)	0.000 (0.84)
ln (SALES)	−0.036 (0.09)	−0.044 (0.06)	−0.060 (0.00)	−0.139 (0.00)
INTANG	0.051 (0.95)	1.318 (0.26)	0.306 (0.54)	−1.830 (0.12)
GROWTH	−0.000 (0.89)	0.001 (0.48)	−0.001 (0.42)	0.008 (0.01)
VAR	−0.002 (0.00)	−0.001 (0.28)	−0.000 (0.92)	−0.001 (0.94)
DIVERSE	−0.018 (0.62)	−0.047 (0.48)	−0.037 (0.60)	−0.072 (0.41)
SEO	0.170 (0.11)		0.128 (0.36)	
FIRM-AGE	−0.001 (0.84)		−0.001 (0.75)	
Industry indicators	No	Yes	No	Yes
Sample size	381	381	216	216
Number of countries	9	9	8	8
Adjusted R ²	0.1189	0.1028	0.1935	0.1982

8.3. Criterion for dominant shareholders

As our criterion for a dominant shareholder, we require that a shareholder controls more than 10% of the firm's votes. To consider what effect altering this criterion has on the results, we replicate the regressions of Tables 6 and 7 including only firms in which the dominant shareholder controls at least 15% of the votes. We then replicate the regressions using a 20% cut-off. The 15% cut-off reduces the sample by 103 firms, while the 20% cut-off reduces it by an additional 61 firms. In the regressions that correspond to those in Table 6, with both the 15% and the 20% cut-off, the coefficients of INDDIR% are all positive and each of the p -values is slightly smaller than its counterpart in Table 6.

In the regressions that correspond to those of Table 7, with both the 15% and the 20% cut-off, for those regressions that include countries with LEGAL < 20, the coefficients of INDDIR% are positive and statistically significant (p -values < 0.05). For those that include countries with LEGAL ≥ 30, the coefficients do not approach statistical significance (p -values > 0.49).

8.4. Second large shareholder

It could be that our results merely reflect the presence of a second large shareholder who either sits on or has a representative on the board (Bennedsen and Wolfenzon, 2000; Pagano and Roell, 1998). To test that possibility, we reestimate the regressions of Tables 6 and 7 except that we include an indicator for the 263 cases in which the firm has a second shareholder who owns at least 10% of the firm's votes.

In each of these regressions, the coefficient on INDDIR% is positive. In Regressions 3–7 of Table 6, the coefficients have p -values less than 0.05. In the final regression, the p -value is 0.10. The coefficient of the indicator for firms with a second major shareholder is positive in each regression with p -values that range from 0.10 to 0.27. In the four regressions that correspond to those in Table 7, the coefficients of INDDIR% are statistically significant in the set with LEGAL < 20 (p -value < 0.04) but are not close to significant in those with LEGAL ≥ 30 (p -values > 0.35). The coefficients of the indicator for a second large shareholder are positive with p -values of 0.11 and 0.08 in the set with LEGAL < 20 and 0.30 and 0.38 in those with LEGAL ≥ 30.

Thus, the significance of ln (INDDIR%) is not merely a manifestation of a second large shareholder who controls a number of board seats. However, in countries with weaker legal protection for shareholders, a second large shareholder unaffiliated with the dominant shareholder is associated with higher firm value.

8.5. Criteria for affiliated directors

We use an expansive definition of “affiliated” in our classification of affiliated and independent directors. The first four identifiers (as described in Section 3.2) are, perhaps, more straightforward and less arguable than

the last three. That is, if we have systematically misclassified directors as affiliated when they are not, it is more likely to be in Categories 5–7. To address this concern, we iteratively reestimate our key regression in Column 5 of Table 6 first reclassifying affiliated directors in Category 5 as independent, then reclassifying those in Category 6 as independent and, finally, reclassifying those in Category 7. The coefficients of $\ln(\text{INDDIR}\%)$ are positive in the three regressions with p -values of 0.05, 0.05, and 0.04.

8.6. Individual countries

It could be that our results are due to one or two countries and exclusion of those countries would overturn our conclusions. For each of the 16 countries with at least 25 firms in the sample, we estimate Regression 5 of Table 6. In 15 of the 16 regressions, the coefficient of $\ln(\text{INDDIR}\%)$ is positive. In only India does the coefficient have a p -value < 0.05 . We then drop India from the sample and reestimate the regressions of Tables 6 and 7 with all other firms. In each of these regressions, the coefficient on $\ln(\text{INDDIR}\%)$ is positive. In Regressions 3–7 of Table 6, the coefficients have p -values less than 0.06 while in the final regression the p -value is 0.12. In the four regressions that correspond to those in Table 7, the coefficients of $\text{INDDIR}\%$ in the set with $\text{LEGAL} < 20$ have p -values ≤ 0.05 . In those in the set with $\text{LEGAL} \geq 30$, the p -values are greater than 0.30.

8.7. Full sample including Q outliers

Our regressions use a trimmed sample in which we drop the 17 firms with Q s in the top and bottom 1% of the distribution so as to ensure that our results do not stem from outliers in our dependent variable. We also estimate each of the regressions in Tables 6 and 7 using the full set of 799 firms for which we have data. In five of the six regressions that correspond to those in Table 6, the p -values of $\text{INDDIR}\%$ are less than 0.05. In the sixth, the lagged regression, the p -value is 0.10. In the regressions that correspond to those of Table 7, for the two that encompass countries with $\text{LEGAL} < 20$, the coefficients of $\text{INDDIR}\%$ are positive with p -values < 0.01 . For those that include countries with $\text{LEGAL} \geq 30$, the coefficients are positive but do not approach statistical significance (p -values > 0.55). Thus, our results do not stem from the use of a trimmed sample.

8.8. Government-controlled firms

Unlike some prior studies that examine the role of dominant shareholders, we exclude firms whose dominant shareholder is a widely held firm. Our reasoning is that the theoretical models regarding the effect of a dominant shareholder are built on the presumption that a dominant shareholder diverts firm resources for personal consumption. It is difficult to envision what it means for a widely held firm to have personal consumption. But we do include firms in which the government is the dominant shareholder on the presumption that government implies a bureaucrat who could be able to divert resources for personal consumption. Still, it could be argued that governments no more consume than do widely held corporations.

Thus, we exclude firms whose dominant shareholder is a government. With this set of 673 firms, we reestimate each of the regressions of Tables 6 and 7. In the regressions that correspond to the last six in Table 6, the coefficients of $\text{INDDIR}\%$ are all positive with p -values that range from 0.05 to 0.11. In the four regressions that correspond to those in Table 7, the coefficients of $\text{INDDIR}\%$ are positive with p -values < 0.06 in countries with $\text{LEGAL} < 20$. In countries with $\text{LEGAL} \geq 30$ the coefficients are positive but have p -values > 0.57 .

8.9. A comparison with CLSA scores

DK (2005) and KL (2004) use CLSA scores in conducting their primary analyses of the effect of firm-specific governance on firm value. As we noted, board factors comprise a component of these scores. It could be argued that there is some other objective or subjective firm-specific aspect of the quality of governance that explains the connection between firm value and CLSA scores and that other factor just happens to be correlated with board composition. Thus, what we are observing is a spurious correlation between $\text{INDDIR}\%$ and firm value.

Desirably, we would conduct a competition between CLSA scores and INDDIR% to determine which has the most explanatory power for Q . Unfortunately, the CLSA scores are available only for emerging markets (primarily Southeast Asia), and we are able to find board composition for only five of the CLSA countries. In terms of firms, only 67 in our sample have CLSA scores (13, 15, 16, 5, and 18 from Brazil, Hong Kong, India, South Korea, and Malaysia, respectively). The lack of overlap in the two samples precludes an extensive head-to-head competition. In addition, Credit Lyonnais has discontinued this service, thus, the latest available CLSA scores are as of 2001.

Nevertheless, as a partial test, we estimate Regression 5 of Table 6 using only the 67 firms in our sample for which CLSA scores are available. The coefficient of $\ln(\text{INDDIR}\%)$ is positive with a p -value of 0.09. We then estimate the regression using the COMPOSITE CLSA score from DK (2005) in lieu of $\ln(\text{INDDIR}\%)$. The coefficient of COMPOSITE is positive, but the p -value is only 0.24. Based on this limited analysis, board composition overlaps with but captures some element of governance that is not encompassed by the CLSA scores. Given that CLSA has discontinued this service, board composition could convey whatever information is contained in the CLSA score and, thus, be a robust surrogate.¹⁰

9. Summary and conclusion

Our analysis of 799 firms with dominant shareholders from 22 countries finds a positive and statistically significant relation between firm value and the percentage of the board made up of directors not affiliated with the dominant shareholder. This relation is especially pronounced in countries with weak legal protection for shareholders. The implication is that a dominant shareholder, were he so inclined, could raise the value of his firm by appointing an ‘independent’ board, and this would be especially so in countries that provide weaker legal protection for shareholders.

But the increase in firm value is not without cost to the dominant shareholder. In particular, theoretical models that analyze the economics of firms controlled by a dominant shareholder predict a value discount in such firms and attribute the discount to diversion of corporate resources for personal use by the dominant shareholder. The cost to the dominant shareholder of a strong board is the loss of these perquisites of control. For the dominant shareholder, the question becomes one of trading off the personal value of these lost perquisites against the value increase in his shares. We argue that the value increase is especially valuable to the dominant shareholder if he expects to sell shares either from personal account or through the firm to raise capital.

In addition, we argue that independent directors who can be dismissed by the dominant shareholder have an incentive to monitor the dominant shareholder because failure to monitor could mean a loss in their human capital in terms of the lost opportunities for other board positions. Further, given the risk to their human capital, we argue that independent directors negotiate upfront assurances that they will have the power to monitor well. Thus, the power to monitor arises from the legal environment and by virtue of the pressures imposed by the market for independent directors.

Consistent with this line of reasoning, we report evidence of a robust market for independent directors in that 71% of the independent directors in our sample serve on multiple boards. We also find a positive and significant relation between the proportion of the board composed of directors not affiliated with the dominant shareholder and the likelihood of the firm to issue equity.

As a final analysis, we search for direct evidence of whether independent directors curb the actions of dominant shareholders by examining related party transactions (RPTs) between the dominant shareholder or an entity that he controls and the firm in our sample. We find a significant negative relation between the proportion of the board made up of independent directors and the likelihood of an RPT and a negative relation between Tobin’s Q and the occurrence of an RPT.

Thus, the data indicate that a dominant shareholder is more likely to appoint independent directors when his firm intends to issue equity, that there is an active market for independent directors around the world, that a higher proportion of independent directors is associated with a lower incidence of RPTs, that firms without

¹⁰We have been told by Credit Lyonnais that this service was discontinued, at least in part, because of the unhappiness of some clients with its scores.

RPTs have higher values than firms with RPTs, and that firm values are positively correlated with the proportion of independent directors comprising the board.

Throughout we emphasize that we are interested in the effect of board composition in firms with dominant shareholders. Our motivation is the observation that most publicly traded firms outside the US are controlled by a dominant shareholder. But some firms outside the US are widely held. The definition of an independent director in such firms would be different from the definition used here. In widely held firms where there is no dominant shareholder, the primary agency conflict is often thought of as being the conflict between management and shareholders rather than the conflict between a dominant shareholder and minority shareholders. Whether a strong board has a similar role in such firms is a further question to be explored.

A number of studies examine the connection between board composition and firm value in US firms. These include AK, 1996, 2001, BB (2002), and HW (1991, 2003). The consensus view from these studies is that no connection exists between board composition and firm value in the US. This conclusion is not inconsistent with ours. First, these studies do not focus on firms with a dominant shareholder. Second, the definition of an independent director in these studies differs from ours. Third, even in firms with a dominant shareholder, we find that the connection between board composition and value derives primarily from countries with low country-level legal protection, whereas, in countries with high legal protection, such as the US, board composition appears to have much less relation to firm value.

In conclusion, numerous questions about cross-country determinants of board composition remain unanswered. The key result of our study is that firm value is positively correlated with the fraction of directors unaffiliated with dominant shareholders especially in countries with weak legal protection for minority shareholders. The implication is that, were he so inclined, a dominant shareholder could increase the value of his firm by appointing a strong board, especially in countries with weak legal shareholder protection.

Appendix A

Equity ownership data sources from different countries are shown in Table A.1.

Table A.1

Data sources for the percentage of equity voting rights owned by the dominant shareholder in firms with a dominant shareholder from 22 countries

The table reports the sources in the order accessed to collate equity ownership information. For each of an initial 1,455 sample firms, we extract the identity and percentage of voting rights of each shareholder who holds $\geq 10\%$ of the outstanding voting rights. If such data are available in the first source listed, we use that source. If not, we move to the next source until we gather data for each firm. If data are unavailable for year-end 2002, we gather data from year-end 2001. If firms have two or more large shareholders, we examine block affiliation to determine whether combined ownership of voting rights exceeds the single largest shareholder. If so, these ownership stakes are combined to comprise the single largest shareholder. Using this procedure and moving up the ownership tree we establish that 1,055 firms had a dominant shareholder, where a dominant shareholder is an individual, a family, a company, or a government that controls at least 10% of the voting rights. The fraction of cash flow rights held by the dominant shareholder is determined by the fraction of cash flow rights held by the dominant shareholder in the sample firm multiplied by the fraction of voting rights in each firm in the ownership tree.

Country	Equity ownership data sources
Australia	Worldscope; major companies of the Far East and Australasia; www.ibisworld.com.au
Belgium	Worldscope; www.euronext.com ; major companies of Europe; Mergent International
Brazil	Worldscope; Bovespa; Edgar International; Bloomberg
Canada	Worldscope; Mergent International; FP survey of industrials; www.sedar.com ; Bloomberg
Denmark	Worldscope; Copenhagen Stock Exchange; major companies of Europe; Edgar International
Finland	Worldscope; major companies of Europe; Mergent International; www.huginonline.com ; company websites
France	Worldscope; www.euronext.com ; major companies of Europe; French company handbook; Bloomberg
Germany	Worldscope; major companies of Europe; Bundesaufsichtsamt für den Wertpapierhandel
Greece	Worldscope; major companies of Europe; Mergent International; Bloomberg; www.capitallink.com ; company websites
Hong Kong	Worldscope; Edgar International; Bloomberg; company websites
India	Worldscope; National Stock Exchange of India; Stock Exchange Board of India; Edgar International; Bloomberg
Italy	Worldscope; major companies of Europe; Bloomberg; www.consob.it ; company websites

Table A.1 (continued)

Country	Equity ownership data sources
Japan	Worldscope; Japan company handbook; Bloomberg; company websites
Malaysia	Worldscope; Bursa Malaysia; Kuala Lumpur Stock Exchange; Edgar International; Bloomberg; company websites
Mexico	Worldscope; Bolsa Mexicana de Valores; Mergent International; Edgar International; Bloomberg; company websites
Netherlands	Worldscope; major companies of Europe; Edgar International; Bloomberg; company websites
South Africa	Worldscope; Johannesburg Stock Exchange; Edgar International; Bloomberg
South Korea	Worldscope; Stock Market Division of the KRX; Bloomberg; company websites
Spain	Worldscope; major companies of Europe, Mergent International; Reuters; Bloomberg; www.cnmv.es ; company websites
Sweden	Worldscope; Edgar International; Bloomberg; company websites
UK	Worldscope; www.hemscott.co.uk ; Mergent International; Bloomberg; www.itruffle.com
USA	Worldscope; Securities and Exchange Commission filings

Appendix B

Data collection procedure for board rosters and directors' biographical data. For each firm in our sample, we search Bloomberg for board rosters and director biographical information as of year-end 2002. Bloomberg provides such information in a common format across firms. For 688 of the 839 firms in our sample, Bloomberg gives the board roster and, for 499 of these firms, Bloomberg gives the relevant bio information for every director. For 116 of the 688 firms, Bloomberg is missing bio information for some directors and for 74 of them Bloomberg gives no bio information. For the 151 firms for which Bloomberg does not give the board roster, we search Reuters for this information. We also use Reuters to obtain bio data on those firms with rosters on Bloomberg but for which Bloomberg is missing complete director biographies. The Bloomberg and Reuters searches yield rosters for 761 of the 839 firms in the sample and bio information on every director in 586 firms. For the remaining 253 firms with either missing rosters (78 firms) or partial or missing director bios (175 firms), we search stock exchange websites and scan the exchange yearbooks for this information. If such information is not available on the exchange website or yearbook, we contact the exchange directly for the relevant information. For 120 of the 253 firms, we obtain board rosters or director bios from a stock exchange source. Of the remaining 133 firms, board rosters are unavailable for 19 and bio information is unavailable or incomplete in the remainder. For these firms, we search to determine whether the company provides a board roster and director bios on its website. If not, we contact the company directly requesting this information. This search increases our sample with complete board information to 799 firms (rosters are unavailable for two firms, bio information is unavailable for seven, and bio information on one or more directors is incomplete in 31). The countries with the largest number of firms with incomplete board data are Malaysia with six and South Korea with seven. To maintain consistency in the collation of board data, we require that bio information taken from a stock exchange or a company provides the same level of detail as Bloomberg and Reuters. To determine whether a director is an employee in another firm controlled by the dominant shareholder, we enter each dominant shareholder's name into Bloomberg to identify other firms in which the dominant shareholder has a 10% or more ownership. We then cross-reference the names of these firms with the list of companies in which the directors in our sample are employed.

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