What Matters and for Which Firms for Corporate Governance in Emerging Markets?
Evidence from Brazil (and other BRIK Countries)

Bernard S. Black
Northwestern University, LawSchool and KelloggSchool of Management

Antonio Gledson de Carvalho
FundacaoGetulioVargasSchool of Business at Sao Paulo

ÉricaGorga
FundacaoGetulioVargasLawSchool at Sao Paulo

What Matters and for Which Firms for Corporate Governance in Emerging Markets?

Evidence from Brazil (and other BRIK Countries)

Bernard S. Black[*]
Northwestern University
Law School and Kellogg School of Management

Antonio Gledson de Carvalho
Fundacao Getulio Vargas
School of Business at Sao Paulo

Érica Gorga
Fundacao Getulio Vargas
Law School at Sao Paulo

Abstract.   A central issue in corporate governance research is the extent to which "good" governance practices are universal (one size mostly fits all) or instead depend on country and firm characteristics. We report evidence that supports the second view. We first conduct a case study of Brazil, in which we survey Brazilian firms' governance practices at year-end 2004, construct a corporate governance index, and show that the index, as well as subindices for ownership structure, board procedure, and minority shareholder rights, predict higher lagged Tobin's *q*. In contrast to other studies, greater board independence predicts *lower* Tobin's q. Firm characteristics also matter: governance predicts market value for nonmanufacturing (but not manufacturing) firms, small (but not large) firms, and high-growth (but not low-growth) firms. We then extend prior studies of India, Korea, and Russia, and compare those countries to Brazil, to assess which aspects of governance matter in which countries, and for which types of firms. Our "multi-country" results suggest that country characteristics strongly influence both which aspects of governance predict firm market value, and at which firms that association is found. They support a flexible approach to governance, with ample room for firm choice.

Keywords: Brazil, Korea, India, Russia, corporate governance, boards of directors, minority shareholders

JEL codes: G18, G30, G34, G39, K22, K29

1 – Introduction

Capital market development has been linked to improved resource allocation (Wurgler, 2000) and economic growth (e.g., Levine and Zervos, 1998). In turn, capital market development has been related to protection of minority investors (e.g., La Porta et al., 1997, 1998a and 1998b; and Gleaser, Johnson and Shleifer, 2001). A number of articles also link firm-level corporate governance practices to firm value (e.g., Durnev and Kim, 2005; Black, Jang and Kim, 2006a). Overall these studies support the importance of firm-level corporate governance, especially in countries with weak legal protections for investors (e.g., Klapper and Love, 2004).

How to improve corporate governance, however, is not clear. There are different approaches with distinct consequences. One approach treats legal rules as central. Good governance is achieved principally through rules that protect minority investors. (Examples of this approach include the Sarbanes-Oxley Act in the U.S.; New York Stock Exchange listing rules (requiring, for example, a majority of independent directors and an audit committee composed entirely of independent directors), and the OECD principles of corporate governance (OECD, 2004). This approach can be effective if many corporate governance practices are universal, so that a common set of rules can be applied to a broad spectrum of countries, and a broad spectrum of firms within each country. In contrast, if good corporate governance is often "local" – varying across countries, and across firms within a country, a more flexible approach will often be appropriate. Examples of this approach include comply or explain rules, such as the UK Combined Code on Corporate Governance (Financial Reporting Council, 2006), and multiple governance stock exchange listing tiers, exemplified by the Brazilian stock exchange, Bovespa, discussed below.

There is, by now, substantial evidence that one size does not *always* fit all firms in all countries. Optimal governance likely differs between developed and emerging markets (e.g., Bebchuk and Hamdani, 2009), and potentially also between different emerging markets (Durnev and Fauver, 2007). Within a given country, optimal governance may depend on firm characteristics (e.g., Arcot and Bruno, 2006; Bruno and Claessens, 2007; Mulherin, 2005; Demsetz and Lehn, 1985). But we still know relatively little about the *extent* to which broad corporate governance principles can be applied across countries, or

2

across firms within a country. If there is sufficient commonality, it could make sense to adopt "across the board" rules, both within and across countries, even if they do not perfectly fit every firm or every country. After all, there is also evidence that adoption of mandatory rules can be beneficial in some instances (e.g., Black, Jang, and Kim, 2006a, on Korea; Atanasov, Black, Ciccotello and Gyoshev, 2010, on Bulgaria).

We address two principal questions. For both, we first study Brazil, then extend our analysis to the other BRIK countries, and evaluate our results in light of other existing studies. For both, we focus on emerging markets. The additional differences that surely exist between developed and emerging markets are outside our scope.

Question 1: Which corporate governance rules are likely to be beneficial in emerging markets? One can readily compile a list of items that plausibly reflect good corporate governance and test whether, combined into an index, they predict firm market value (or performance). One can also test whether specific aspects of overall corporate governance (for example, board independence, disclosure, an audit committee, or cross-listing in the U.S.) predicts firm market value on average, over many firms in many countries. These approaches are useful, but have important limits. Most centrally, they tell us little about which practices matter, for which firms and in which countries.

One core problem is that different aspects of corporate governance are correlated. Thus, if one measures the overall predictive power of a list of governance measures, one does not know which elements drive the overall power. For instance: Gompers, Ishii, and Metrick (2003) develop for the U.S. a corporate governance index based on twenty-four provisions (G-index) and show that it predicts firm value. But Bebchuk, Cohen, and Ferrell (2009) report that only six of these provisions fully drive the Gompers–Ishii–Metrick results. A related problem arises for studies that focus on a particular subset of governance measures. One then faces a classic omitted variables problem – one does not know whether the subset is truly important, or merely proxies for omitted aspects of governance. For example, a number of corporate governance studies rely on a 2002 survey by Standard and Poor's, which covers only disclosure. To overcome this problem, one needs a broad index that capture multiple aspects of corporate governance. One can then test the relevance of each aspect, controlling for the others.

Moreover, what matters in corporate governance may vary from country to country, in ways not well captured by multi-country indices. As Bebchuk and Weisbach (2011) point out, the Gompers, Ishii, and Metrick (2003) and Bebchuk, Cohen, and Ferrell (2009) indices principally measure take-over defenses, which are of limited relevance in countries in which most firms have controlling shareholders. The RiskMetrics (formerly ISS) measure focuses on features that are common in the US but often not found in other capital markets (Bebchuk and Hamdani, 2009). Variation across countries in ownership patterns and background legal rules limits what one can learn by assessing whether a particular governance measure or index matters on average across all countries. One needs to examine individual country results (a step often not taken in cross-country studies), to determine whether the results are driven by a subset, perhaps a small one, of the studied countries, and to which countries they apply.

A third concern for cross-country studies is that the available indices are limited. The S&P index (e.g., Durnev and Kim, 2005) covers only disclosure, and is available only for 2002. The Credit Lyonnais Securities Asia index (Durnev and Kim, 2005; Klapper and Love, 2004) includes subjective elements and is available only for 2001. The RiskMetrics (formerly ISS) index covers only developed countries (e.g., Aggarwal et al., 2009).[1]

Summing up, to identify what matters in corporate governance, in which countries, one needs a broad index that is (i) tailored to the nuances of particular countries; yet (ii) has sufficient commonality across countries to permit cautious generalization. One then needs to assess both the predictive power of the overall index, and the importance of different aspects of governance, controlling for other aspects of governance.

Question 2: What aspects of corporate governance matter to which firms? A second, often understudied question involves which firms can benefit from which aspects of corporate governance. A number of hypotheses have been suggested in prior work. *Firm size.* Large firms could need "better" (more formal) governance to respond to their more complex operations. They could have greater potential for agency costs due to greater financial resources or less concentrated ownership. Conversely, small firms might

---

[1] Morey et al. (2009) use a proprietary index from Alliance Bernstein. The index has many subjective elements and Alliance Bernstein does not allow them to disclose individual elements.

face greater information asymmetry and accompanying agency costs. Investors could also be more attentive to how governance affects value at larger firms. Smaller firms, with lower institutional ownership could "fly under the radar." (Black, Jang and Kim, 2006). To assess these possibilities, one must begin with a dataset that includes both large and small firms, yet the principal cross-country datasets that cover emerging markets cover only the largest firms in each country. *Profitability.* Highly profitable firms could need less "external" governance, or could have lesser need for external funds and therefore less need to improve governance to attract investors (Durnev and Kim, 2005; Black, Jang and Kim 2006b). *Growth:* Faster growing firms need external capital to sustain growth, and therefore might choose better governance to attract investors (Doidge, Karolyi and Stulz, 2004; Durnev and Kim, 2005; Bennedsen, Nielsen and Nielsen, 2011). They also might have greater need for governance, as suggested by Hutchinson and Gul (2004). *Asset tangibility (manufacturing):* Firms which have substantial tangible assets are more amenable to external oversight, including creditor monitoring. They may therefore have less need for "equity" governance, and benefit less from governance than other firms (Klapper and Love, 2004). Moreover, many corporate governance studies examine only manufacturing firms (e.g., Bertrand, Mehta and Mullainathan, 2002), leaving open the question whether one would obtain similar results for other firms. This discussion suggests that to address what aspects of governance matter to whom, one needs a broad sample of firms in each country.

In this article we seek to address these two questions, using in-depth hand collected data on corporate governance practices in Brazil, and then extending prior studies of Russia, India, and Korea. These "BRIK" countries together comprise the four major "BRIC" emerging markets, plus Korea but minus China, which is unique due to government control of most major firms.[2] Together, they provide a representative sample of the results one might expect in moderately developed, emerging markets. The BRIK countries differ in many ways, including different legal traditions, language, culture, geographic location, and

---

[2] See, for example, Cheung, Jiang, Limpaphayom, and Lu (2010). State-controlled firms may need different governance than privately controlled firms.

important background legal rules (for example, use of non-voting shares). This increases the credibility of the pattern we find or, more often, fail to find.

We seek here to find a middle ground between single-country studies, from which it is hard to generalize; and studies covering many countries, from which it is hard to determine what matters in which countries or to which firms. For each country, we build broad indices covering six distinct aspects of corporate governance: board structure, board procedures, disclosure, ownership structure, related party transactions and minority shareholders rights. These indices differ in some details across these countries to reflect local laws, but share substantial common features.

Brazil is an important country to study for several reasons. It is one of the largest emerging market economies. Private benefits of control have historically been high and legal rules and firm-level governance have been weak.[3] Weak legal rules leave more room for firm-level governance to vary in economically significant ways (Durnev and Kim, 2005). At the same time, firm-level governance has been rapidly changing. Finally, prior research on firm-level governance in Brazil has been limited. We are aware of three other articles that study the relation between corporate governance and firm value in Brazil – Carvalhal-da-Silva and Leal (2005), Leal and Carvalhal-da-Silva (2007) and a contemporaneous study by Braga-Alves and Shastri (2011). All use limited governance indices, based solely on public information. The first two studies did not find a robust association between firm-level governance and market value. Braga-Alves and Shastri find a positive association, but their methodology raises concerns. They include government controlled firms and subsidiaries of foreign companies in their sample;[4] their governance index includes only 6 elements, several of which are problematic;[5] they use limited control

---

[3] Dyck and Zingales (2004) study the premium paid for control blocks in 39 countries; of these, Brazil has the highest average premium, at 65% of the trading value of the shares. Nenova (2003) estimates that Brazil has a relatively high value of control, at 23% of firm value, and low scores on international measures of investor rights, corporate law enforcement, and disclosure.

[4] We exclude these firms. For subsidiaries of foreign firms, the subsidiary's governance is nearly meaningless, and tells us nothing about the overall governance of Brazilian firms with majority control by Brazilians. For firms with majority state control, optimal governance is potentially quite different than for other firms.

[5] Their index assumes larger boards reflect better governance, but prior research suggests the opposite (Eisenberg, Sundgren, and Wells, 1998; Yermack, 1996); neglects board independence; considers director

6

variables; and they do not report which elements or which types of firms drive their results. Thus, their study suffers from the weaknesses discussed above.

We first demonstrate an economically important relationship between a broad Brazil Corporate Governance Index (*BCGI*) and lagged firm market value. We rely on hand-collected data from an early 2005 survey of Brazilian firms covering 2004 corporate governance practices. This allows us to go beyond public information in constructing our indices. A worst to best change in the index predicts almost a doubling in Tobin's *q*, from 1.16 to 2.13. We then assess which aspects of governance explain this overall association, by regressing Tobin's *q* against each of our six subindices, controlling for the remainder of the overall index. The overall index results derive mostly from subindices for ownership, board procedure, and minority shareholder rights. A disclosure subindex is significant by itself but loses significance when we control for the rest of *BCGI*, confirming the real-world importance of the omitted variable problem.

Board structure, especially board independence, is widely seen as a central aspect of corporate governance. In contrast to the principal cross-country study of board independence (Dahya, Dimitrov and McConnell, 2008) and country studies of Korea (Black and Kim, 2011; Choi, Park and Yoo, 2007), we find in Brazil a significant *negative* association between board independence and firm market value. Thus, our results highlight the dangers in generalizing too readily concerning what matters in corporate governance.

We then investigate for what types of firms the overall index, and each subindex, predicts higher firm value. We study the four broad firm characteristics discussed above: size, profitability, growth rate, and manufacturing versus non-manufacturing firms. We find a significant association between *BCGI* and market value for nonmanufacturing (but not manufacturing) firms, small (but not large) firms, and high-growth (but not low-growth) firms.

Next we compare Brazil to the other BRIK countries. We obtain and then extend datasets for each other country (see Black, Jang and Kim, 2006, for Korea;

---

terms and staggered boards (of limited relevance for firms with a controlling shareholder); and IFRS or U.S. GAAP financial statements (this is correlated to U.S. cross-listing, so could predict firm value for reasons besides disclosure, see Litvak, 2010). Compare Leal and Carvalhal-da-Silva (2007), who find that their index predicts firm market value, but this result vanishes if they remove elements related to cross-listing.

Balasubramanian, Black, and Khanna, 2010, for India; Black, Love and Rachinsky, 2006, for Russia). The governance indices in each country are similar, but reflect the rules and data limitations in each country. We find both common themes and differences across the BRIK countries. Across all four countries, governance predicts higher market value in small firms and high-profitability firms. The result for small firms is an important new finding – these firms are not included in the available multicountry indices, and thus are not part of the datasets for other multicountry studies. The result for high-profitability firms suggests that one cannot simply leave good managers alone, to run their businesses. A smaller gap between voting rights and cash flow rights predicts higher market value in Brazil and Korea, the two countries where we have this measure. Turning to differences, board independence predicts higher market value in Korea, lower market value in Brazil, and is insignificant in India. We also find major differences across countries on for which firms governance predicts higher market value. Overall, our results provide some common themes, but also underscore how much we do not yet know about what matters for corporate governance in emerging markets.

This paper proceeds as follows. Section 2 discusses data. Section 3 describe the governance indices. Section 4 develops our methodology. Section 5 examines which aspects of governance predict firm market value, for which firms, in Brazil. Section 6 compares our Brazil results to the other BRIK countries. Section 7 concludes.

2 – Sample, Governance Survey and Other Data Sources

In this section we describe our Brazil sample and data. An appendix provides similar information for the other BRIK countries. Our results are based primarily on an extensive survey distributed in January 2005 to all firms listed on Bovespa (2005 Brazil CG Survey), covering year-end 2004 corporate governance practices. We received 116 replies to the survey, including 88 from privately controlled firms (*Brazilian private firms*), and the rest from firms with majority control by the state or a foreign parent company.Black, De Carvalho and Gorga (2009) provide details on the survey and responses.[6]

---

[6] Black, De Carvalho and Gledson (2010) provide a more compact overview of Brazilian governance and our survey results, intended for a non-Brazil audience.

We focus here on Brazilian private firms. These 88 respondents comprise 61% of the market capitalization of all Brazilian private firms. The percentage response rate was 34% (66/194) for private firms with at least somewhat active trading (trading on 26 or more days during 2004); and 28% for all private firms (88/313). Thus, our sample is reasonably representative of Brazilian private firms, with a tilt toward larger firms.

We obtain enough information to construct the index for 84 of the 88 responding private firms. For our regression analysis, we exclude 12 financial firms, 5 firms without sufficient data to construct Tobin's q, and one firm with missing data for control variables. This leaves a usable sample of 66 firms. These firms represent 50% of private, non-financial firms by market capitalization. The sample size is limited but, as will be seen, sufficient for us to obtain statistically strong results in many cases.

In 2000, Bovespa introduced several optional *higher* listing levels, with stricter governance standards than the regular listing: Level 1, Level 2, and Novo Mercado ("new market") (Bovespa, 2006). We summarize these rules in Black, De Carvalho and Gorga (2009). However, most new listings on Novo Mercado and Level 2 post-date the period we study (De Carvalho and Pennacchi, 2011). Of our sample firms, 17 were listed on Bovespa Level 1 (slightly higher standards than the regular listing), two were listed on Level 2, and four on Novo Mercado. We include the principal Levels 1 and 2 and Novo Mercado requirements are elements of our governance index.

We use several additional data sources. The list of publicly traded companies, their market capitalization, and listing level comes from Bovespa, at www.bovespa.com.br/principal.asp. We obtain financial data from the Brazilian financial database Economatica, at www.economatica.com, and basic company information from annual reports, available from InfoInvest at www.infoinvest.com.br. Information on cross-listing exchanges, levels, and dates is provided by Kate Litvak (see Litvak, 2007), based on the databases maintained by Bank of New York, at www.adrbny.com, Citibank, at wwss.citissb.com/adr/www/brokers/index.htm, CVM, at www.cvm.gov.br, Deutsche Bank, at www.adr.db.com, and JP Morgan, at www.adr.com.

3 – Corporate Governance Index and Subindices

We describe here our Brazil Corporate Governance Index (*BCGI*). We choose the Brazilian index, subindices, and elements to be comparable to the India and Korea indices. The appendix provides additional details on the indices for the other BRIK countries. The *BCGI* index is composed of six subindices, which in turn reflect 41 firm attributes that are often believed to correspond to good governance, on which we have reasonably complete data, reasonable variation across firms, and sufficient difference from another index element to justify inclusion. We do not examine governance attributes required by Brazilian law, for which there will little variation across firms, and limited ability to detect noncompliance through a survey. Most elements are dichotomous (coded as "1" if a firm has the attribute and "0" otherwise). We normalize continuous variables to run from 0 to 1. Table 1 describes the subindices and their components, and provides summary data on the 66 firms used in our regressions. Our subindices are:

Board Structure (7 elements). Board independence is often considered to be a core element of corporate governance (e.g., OECD, 2004; Dahya, Dimitrov and McConnell, 2008) The existence of an audit committee, staffed principally or entirely by independent directors, can help to ensure the integrity of financial reporting (e.g., Klein, 2002). In Brazil, the "fiscal board" plays a role in oversight of financial reporting similar to an audit committee, so our governance index considers this institution as well.[7] We divide board structure subindex into two sub-subindices: *board independence* (4 elements, focusing on director independence and separation of the posts of CEO and board chairman) and *audit committee and fiscal board* (3 elements, focusing on the existence of the audit committee and fiscal board, and whether these organs include a minority shareholder representative).

Ownership Structure (5 elements). A "wedge" between cash flow rights and voting rights can provide incentives for self-dealing, and predicts lower firm value (Claessens, Djankov, Fan, and Lang, 2002). Several mechanisms can be used to create such a wedge.

---

[7] The fiscal board is elected by shareholders and must include a representative chosen by minority shareholders. The members of the fiscal board report individually at the annual shareholder meeting on whether they approve the company's financial statements. For Brazilian companies that cross-list in the U.S., which would otherwise be required to have an audit committee under the Sarbanes-Oxley law, the U.S. Securities and Exchange Commission considers the fiscal board to be an acceptable substitute.

Many Brazilian firms do so by using dual-class structures, with insiders retaining voting common shares and outsiders holding primarily preferred shares, thus creating a wedge between the voting and economic rights of the controllers.[8] Measures of this wedge are often included in an overall corporate governance index (e.g., Black, Jang, and Kim, 2006a). Our ownership structure subindex includes the proportion of nonvoting shares in a firm's overall capital; the fractional ownership of voting shares by the largest shareholder; the wedge between this person's voting and economic rights; whether the control group is small (and hence more likely to be cohesive); and whether there are large outside blockholders who can monitor the controller.

Board Procedure (6 elements). Assessments of board procedures are a common component of broad governance indices. From prior studies, their association with firm value remains an open question (e.g., Black, Kim, Jang, and Park, 2011). A firm's internal procedures are a third common aspect of corporate governance. Our index assesses whether a board meets at least 4 times per year, whether it regularly evaluates the CEO and other executives, whether board members receive materials in advance of board meetings, and whether the firm has a bylaw governing the board and a code of ethics.

Disclosure (12 elements). Prior research finds that disclosure is associated with higher firm market value (e.g., Durnev and Kim, 2005). We extract from the survey 12 elements of disclosure as to which there is reasonable variation across firms. These include, among other things, whether the firm prepares financial statements that comply with a set of international accounting standards; prepares English language financial statements; provides financial disclosures, such as a statement of cash flows, that are common in other countries but not required in Brazil; posts financial statements on a company web site; discloses major shareholders; discloses related party transactions.

Related Party Transactions (4 elements): Related party transactions are an important governance issue in many emerging markets (e.g., Bae, Kang and Kim, 2002; Atanasov et al., 2010). However, from prior studies, it is unclear whether governance indices can capture the risk that these transactions pose to firm market value (e.g.,

---

[8] Valadares and Leal (2000) and Leal, Carvalhal-da-Silva and Valadares (2000) find a high concentration of voting power in Brazilian firms, largely due to issuance of preferred shares.

11

Balasubramanian, Black and Khanna, 2010). We extract from the survey 4 elements relating to the existence of related party transactions and approval procedures for these transactions.

Minority Shareholder Rights (7 elements): There is evidence that takeout rights are an important protection for minority shareholders in Brazil.[9] We extract from the survey 7 elements involving takeout rights on a sale of control and freezeout rights at prices exceeding the legal minimum; shareholder rights for election of directors; a procedure for arbitration of disputes with shareholder; preemptive rights; and minimum free float of 25% of outstanding shares.

Our elements and subindices reflect measures that would likely be important in emerging markets. These often differ from elements that would be appropriate in developed markets. For example, if one compares our 41 elements to the 24 elements in the Gompers, Ishii and Metrick (2003) index, there are only three common elements: classified board of directors, dual-class common stock, and take-out rights.

Within each subindex, we give equal weight to each element. Thus, to compute Disclosure Index, we sum all 12 elements, and then divide this sum by the maximum score achieved by any firm. Thus, each subindex takes values between 0 and 1. If a firm has a missing value for a particular element, we use its average score for the nonmissing values to compute each index.[10]

To calculate the overall *BCGI* score, we sum the subindex scores and divide by 6 (the number of subindices). Since each subindex effectively runs from 0 to 1, this produces roughly equal weights the subindices. *BCGI* values range from 0.32 to 0.81. Figure 1 provides a histogram showing these scores for the 66 firms we use in our regressions. The *BCGI* scores show substantial variation and are reasonably symmetrically distributed.

---

[9] Nenova (2005) and Carvalhal-da-Silva and Subramanyam (2007) report conflicting results on how 1997 and 2000changes in Brazilian takeout rights affected the market value of the shares affected by the changes. Bennedsen, Nielsen and Nielsen (2007), report that some Brazilian firms voluntarily provide additional takeout rights to shareholders in connection with equity offerings.

[10] More specifically, if a firm has missing values for some element of a particular index, we calculate the sum of the nonmissing elements and then multiply this sum by the total number of elements in the index divided by the number of nonmissing elements.

Table 2 provides further data on *BCGI* and its component subindices and sub-subindices. Panel A provides summary statistics. There is substantial spread on each index and subindex, and for *BCGI* as a whole. The mean (median) firm has a raw score of 20.4 (20.0) on the 41 elements. Panel B provides Pearson correlation coefficients between *BCGI* and its subindices. *BCGI* correlates positively with each subindex; with correlation coefficients from 0.14 to 0.77. However, some of this correlation is by construction, and arises because each subindex forms part of *BCGI*. To adjust for this, we report in the second row the correlation between each subindex and the complement to that subindex, defined as the average of the other five subindices. The correlation remains fairly high for disclosure at 0.50, but is moderate at 0.28-0.32 for Board Structure, Board Procedure, and Minority Shareholder Rights subindices, and is small for the Ownership and Related Party subindices. The inter-subindex correlations are generally positive but moderate. Thus, except for Disclosure Subindex, colinearity between subindices is limited.

4 – Methodology

Our principal dependent variable is the natural logarithm of Tobin's q (*ln*(Tobin's q)). Tobin's q is a standard dependent variable in governance-to-value studies. Other things equal, if governance affects firm market value, this should be reflected in Tobin's q. We take logs to reduce the influence of high-q outlier firms, but obtain similar results if we do not take logs. We regress ln(Tobin's q) on our governance indexes and a set of control variables. We use three different econometric models. The first model has the following specification:

$$\ln Q_{i,t} = \beta_0 + \beta_1 \mathbf{X_i} + \beta_2 CGI_i + \varepsilon_{i,t}, \qquad \text{Model 1}$$

where:

$lnQ_{i,t}$ is the natural logarithm of Tobin's q for firm i at time t ;

$\mathbf{X_i}$ is a vector of firm characteristics;

CGI_i is a governance index for firm i ; and

$\varepsilon_{i,t}$ is an error term.

Many studies uses this or similar models to examine the effect of corporate governance on value and also the effect of specific aspects of corporate governance, such as board structure (e.g., Dahya, Dimitrov and McConnell, 2008) or disclosure (e.g., Durnev

and Kim, 2005). A concern with this approach is that aspects of governance are often correlated. The coefficient on a subindex in Model 1 could reflect the effect of another omitted subindex (omitted variable bias). Therefore, while appropriate to estimate the relationship between a broad governance index and firm market value, Model 1 is deficient in assessing which aspects of governance matter. We therefore use Model 2 when assessing the relevance of each subindex. It includes both a particular subindex and its complement (the equally weighted average of the other five subindices):

$$\ln Q_{i,t} = \beta_0 + \mathbf{\beta_1 X_i} + \beta_2 CGI_i + \beta_3 CGI_i^{comp} + \varepsilon_{i,t}, \qquad \text{Model 2}$$

where

CGI_i^{comp} is the complement of sub-index CGI_i.

Finally, we use Model 3 to assess for which type of firms there is an association between governance and market value:

$$\ln Q_{i,t} = \beta_0 + \mathbf{\beta_1 X_i} + \beta_2 CGI_i + \beta_3 \left(CGI_i \times DSS_i \right) + \beta_4 DSS_i + \beta_5 CGI_i^{comp} + \varepsilon_{i,t}, \qquad \text{Model 3}$$

where

DSS_i is a subsample dummy which equals 1 if a firm belongs to a given subsample (such as manufacturing firms) and 0 otherwise.[11]

We estimate Models 1, 2 and 3 separately. For robustness purposes, we use three estimation procedures for each model. The first estimation procedure uses a quasi-panel data structure, with one time period for independent variables two for the lagged dependent variable, and firm random effects. Corporate governance indices are measured at year end 2004 and the financial variables are averaged over 2001 to 2005. Tobin's q is measured at year-end 2005 and 2006. In the second, we pool observations of Tobin's q for both 2005 and 2006. In both approaches, we use year dummies and firm clusters. In the third procedure, we use ordinary least squares with robust standard errors, and use the mean of Tobin's q for 2005 and 2006 as the dependent variable. To reduce the likelihood of reverse causation, in which firm value predicts governance, in all three procedures, we look forward in time by measuring governance in 2004 and Tobin's q at year-end 2005 and 2006.

---

[11] When running model 3 for the full *BCGI* index, we omit the index complement.

4.1 – Control Variables

Many firm characteristics are potentially associated with both Tobin's q and governance. We therefore include an extensive set of control variables, within the limits of Brazilian financial reporting, to address the resulting potential for omitted variable bias. Unless otherwise stated, variables were averaged over 2001-2004, or the available period if shorter. Table 3 defines the principal financial and other non-governance variables used in this paper, and provides summary statistics. Our principal control variables are as follows. All are commonly used in other corporate governance studies. *Firm size:* we use *ln*(assets) to control for the effect of firm size on Tobin's q; *Firm age*: we include years listed as of 2004 as a proxy for firm age, because younger firms are likely to be faster-growing and perhaps more intangible asset-intensive, which can lead to higher Tobin's q; *Leverage*: We include leverage (measured as debt/assets, winsorized at 1.00) because leverage can influence Tobin's q by providing tax benefits and reducing free cash flow problems. Leverage is also mechanically related to Tobin's q, since both variables use the same denominator;[12] *Growth prospects and profitability:* Tobin's q is related to a firm's growth prospects and current profitability. We control for growth prospects using sales growth, and for profitability using both net income/assets and *EBIT*/sales; *Capital intensity:* we control for capital intensity using PPE/sales; *Liquidity*: we include share turnover (traded shares/total shares) as a measure of share liquidity, since share prices may be higher for firms with more liquid shares; *Inside ownership*: we include ownership by the largest shareholder as of 2004 as a measure of insider ownership; *Voting parity:* this variable controls for the firm's use of nonvoting preferred shares. It equals 0 if the firm issues the legal minimum of 1/3 common shares, and scales to 1 for a firm which issues only common shares as of 2004; *Industry:* since both board structure and Tobin's q may reflect industry factors, we include industry dummies; and *ADR dummy*: many large Brazilian firms cross-list their shares in the U.S., usually on the New York Stock Exchange or the NASDAQ National Market as of 2004. This variable can proxy for foreign investor interest, liquidity, and enhanced disclosure.

---

[12] In unreported robustness checks, we add board size as a control variable (this variable is insignificant), and replace firm age with ln(firm age) as a control variable. Results are similar to those we report.

4.2–Methodological concerns

Our Brazil study, like much of the corporate governance literature, uses cross-sectional data for governance and has no good instruments, so we can assess correlation, but not causation. However, we can say a bit about the likelihood that our results provide decent guides to causation. First, looking forward in time from the measurement dates for the governance index and the control variables to dates for Tobin's q limits the potential for reverse causation, in which Tobin's q predicts governance. Moreover, Black and Kim (2010) find only fairly weak evidence of reverse causation in Korea. The optimal differences flavor of endogeneity, with firms optimally choosing their governance to meet firm-specific needs is more likely to be a serious concern if observable firm financial and ownership characteristics are strong predictors of firm-level governance choices. However, Black, Jang and Kim (2006b) report that firm characteristics, other than firm size, weakly predict Korean firms' governance choices; Balasubramanian, Black and Khanna (2010) find a weak association in India between firm characteristics and governance. These results suggest that the optimal differences flavor of endogeneity may be a limited concern.

A second concern is that we do not know what "good governance" consists of, and our index surely measures it with error. Weak results could mean that there is little association between governance and firm market value, or simply that our indices do not measure governance very well.

A further concern is that firm market value is based on trading prices for noncontrolling shares, and does not capture private benefits of control. Governance could affect market value gains either by affecting total firm value or the division of this value between insiders and outsiders. We cannot distinguish between these two broad channels.

5 – Empirical Results for Brazil

5.1 – Corporate Governance and Value

We begin by assessing the univariate association between firm-level corporate governance and firm market value. Figure 2 provides a scatter plot of *BCGI* against pooled values of ln(Tobin's q) for 2005 and 2006, plus a regression line from a simple pooled OLS regression of Tobin's q on *BCGI* plus a constant term. There is a visually apparent correlation between the two. The simple correlation is 0.29 and the regression coefficient is

1.30 ($t = 2.84$).The correlation is economically significant. A worst (0.32) to best (0.81) change in *BCGI* predicts an increase in Tobin's *q* from 1.16 to 2.13.

In Table 4, we turn to multivariate analysis, and regress *ln*(Tobin's *q*) against *BCGI* and control variables, using Model 1. Regression 1 presents results with firm random effects. The coefficient on *BCGI* is 1.28 – essentially the same as the univariate result – and is statistically significant at the 1% level. Regression 2 reports pooled OLS results and Regression 3 reports results with the mean of Tobin's *q* in both years as the dependent variable. The results from all three specifications are very similar. For conciseness, in subsequent tables, we present results only for firm random effects regressions, but confirm that all three specifications give similar results.

Several control variables are statistically significant. Of particular note: older firms present lower Tobin's *q*. More profitable and more leveraged firms have higher Tobin's *q*.

5.2 – What Matters for Corporate Governance in Brazil

We examine in Table 5 which aspects of governance are associated with firm value. Column 1 in Table 5 represents eight regressions estimated using Model 1 (one regression for each subindex or sub-subindex taken separately) in a firm random effects regression. We suppress the coefficients on the control variables. The Ownership, Board Procedure, Disclosure and Shareholder Rights subindices all take positive coefficients that are statistically significant at the 1% or 5%. Board Structure Subindex is not statistically significant.

As noted before, subindices are correlated with each other. Therefore, the estimates in Column 1 may be biased due to omitting other aspects of governance. To address this bias, we use two similar procedures, reported in columns 2 to 4. Columns 2 and 3 present two regressions based on Model 1, but including all subindices as separate variables in a single regression. Column 4 presents eight regressions based on Model 2, each reporting the coefficient on the subindex (Column 4a) and its complement (Column 4b). Board Structure Subindex becomes negative and statistically significant at the 1% (Column 2) and 5% (Column 4a) levels, while Disclosure Subindex loses statistical significance. The other subindices which were significant in Column 1 retain statistical significance, although their coefficients bounce around a bit.

17

These results highlight the need to use an overall index to assess the importance of governance, and to control for the rest of the overall index when assessing a particular aspect of governance. Consider, for example, the cross-country study by Dahya, Dimitrov and McConnell (2008), who find a positive association between board independence and firm market value, but do not control for other aspects of corporate governance. If board independence is correlated with the rest of a broad index, as in Brazil (see Table 2), the rest of the index is an omitted variable. Our Brazil results suggest that this omitted variable could explain the association that they find between board independence and firm value.

Consider also the S&P transparency and disclosure index, which many studies use as a measure of governance (e.g., Durnev and Kim, 2005; Doidge, Karolyi and Stulz, 2007), and report that this index predicts higher firm market value. In Brazil, we obtain similar results for a disclosure subindex alone, but this subindex loses significance when we control for the rest of an overall index. Thus, failing to control for the rest of an overall index could either suppress significance that would be found with this control (as we find for board structure), or lead to spurious significance (as we find for disclosure).

To further examine what aspects of board structure drive the unexpected negative coefficient on Board Structure Subindex, we break this Subindex into two sub-subindices – Board Independence, and Audit Committee and Fiscal Board. We report these results in Columns 3 and 4. Board Independence takes a significant *negative* coefficient, and largely drives the overall results for board structure. To assess robustness, we examine a continuous measure of board independence, the proportion of independent directors. This variable also takes a negative coefficient, and is significant in some specifications, depending on how we control for the rest of *BCGI*. A dummy variable that equals 1 for the 19 firms with three or more independent directors, and 0 otherwise, is negative and reliably significant, controlling for board size and the rest of *BCGI*. Thus, the negative coefficient on board independence is not sensitive to how we measure board independence.

5.3 − To Whom Corporate Governance Matters in Brazil

In this section we assess whether the association between governance and firm market value varies with firm characteristics. We focus on four characteristics: *industry sector* (manufacturing versus nonmanufacturing firms); *size* (large versus small firms); *growth* (faster versus slower-growing firms); and *profitability* (more versus less-profitable

firms). We discuss the theoretical justification for studying these characteristics in the introduction. For the industry dimension, our sample breaks into 45 manufacturing and 21 non-manufacturing firms. For the other three dimensions, we split the sample at the median, so each subsample includes 33 firms. Table 6 reports estimations of Model 3 (firm random effects specification). We report only the coefficient on governance for each subsample and the difference between the two subsamples.

Table 6, Column 1 reports the results for the overall index. *BCGI* is a significant predictor of Tobin's *q* for nonmanufacturing firms, but not manufacturing firms, for small firms but not large firms, and for high-growth but not low-growth firms. However, the difference between the two groups is not statistically significant for large versus small firms**.** There is no appreciable difference between the coefficient on *BCGI*for high versus low-profitability firms.

The remaining columns of Table 6 show results for subindices, from a regression based on Model 3. The cells need some explanation. Consider, for example, the row for manufacturing firms. Each cell in this row represents a separate regression using the *non-manufacturing dummy*. We report the coefficient β_2 in Model 3. This gives the impact of the relevant governance index or subindex on manufacturing firms, because the regression also includes an interaction between non-manufacturing dummy and the governance index or subindex. The coefficient β_3 on this interaction gives the incremental impact of governance on non-manufacturing firms. The row for non-manufacturing firms is similar but uses regressions with the manufacturing dummy. The "manufacturing minus nonmanufacturing" row gives the incremental impact for a manufacturing firm, from β_3 in a regression using the manufacturing dummy.

Board structure subindex is significant and negative for the full sample. For subsamples, it is usually negative, but is significant or marginally significant only for manufacturing firms and high-profitability firms. Ownership, in contrast, is reliably positive and is significant or marginally significant in most subsamples. Disclosure and Shareholder Rights subindices are important in explaining the stronger association between Tobin's *q* and *BCGI* for non-manufacturing firms and for high-growth firms. Board Procedure Subindex is associated with Tobin's *q* for small, but not for large firms.

Overall, our subsample results suggest that one should not place too much reliance

on the full-sample results, unless they are robust across subsamples. They provide reason to be cautious about relying on studies which do not examine subsamples, and even more so studies which are limited to, for example, large firms or manufacturing firms.

6 – Commonalities and Differences across the BRIK Countries

In this section, we compare our Brazilian results to those from Russia, India, and Korea, using generally similar indices. Appendix A describes the samples, indices and methodology we used for Russia, India, and Korea.

6.1 – Which Subindices Predict Firm Value?

In Table 7, we assess which aspects of firm-level governance are consistently important across the four BRIK countries. The left hand columns show results for the overall index and each subindex, substituted for the overall index in Model 1. The right hand columns show results with all subindices included as separate variables in the same regression; this approach is not feasible for Russia.[13] Control variables for each country are described in the Appendix. For each country, the overall index and each subindex were normalized to mean 1 and variance zero. Due to normalization, the coefficients for subindices for Brazil in Table 7 differ from Table 5, but the t-statistics are the same.

Consider first the left hand side of Table 7, and what is common for all countries. An overall index predicts Tobin's q in all four countries. For subindices included one at a time, almost all coefficients are positive, as are all statistically significant coefficients. Disclosure subindex is positive and significant or marginally significant in all four countries; minority shareholder rights subindex is positive and significant in all three countries with this subindex; ownership structure subindex is positive and significant in the two countries with this subindex; board procedure subindex is positive and significant in Brazil and Korea and positive in India. At the same time, board structure subindex is mixed, with significant positive coefficients in India and Korea, but an insignificant negative coefficient in Brazil. Related party transactions are insignificant, with mixed sign, in the two countries with this subindex, Brazil and India.

---

[13] In robustness checks, we obtain similar results for subindices if we include the subindex in a regression together with its index complement, similar to the last two columns of Table 6.

The commonalities suggested by these results weaken when we include all subindices together in the same regression, to address omitted variable bias form including them one at a time. Ownership structure subindex remains significant and positive in the available countries, Brazil and Korea. Minority shareholder rights remain significant in Brazil and India, and remain positive but lose significance in Korea. Disclosure is now remains positive in all three countries, but is significant only in Korea. Board procedure remains significant only in Brazil. And board structure remains significant and positive in Korea, but is significant and negative in Brazil and insignificant in India.

We conclude that one needs to control for a broad set of governance characteristics when assessing a partial set. Failing to do so can lead to misleading inferences. The findings of predictive value for board independence in Dahya, Dimitrov and McConnell (2008) and disclosure in Durnev and Kim (2005) must be considered suspect.

6.2 – Overall Assessment of Subindices

In this section, we combine our Brazil, India, Korea and Russia results with those from other studies, to assess what is currently known and unknown about the impact of different aspects of governance on firm market value. We seek to identify governance aspects with evidence of commonality across countries, and aspects with differences.

Board structure. In Brazil, we find that board independence is significantly and negatively associated with Tobin's q. In Turkey, Ararat, Orbay and Yurtoglu (2010) also report a negative association between independent directors and Tobin's q. In contrast, Black and Kim (2011) and Choi, Park and Yoo (2007) report evidence that outside directors can be valuable in Korea. For India, Black and Khanna (2007) and Dharmapala and Khanna (2009) find evidence that India's Clause 49 reforms, which largely involved board structure, enhanced firm value.

Why might board independence be negatively associated with market value in Brazil and Turkey? One might suspect that some nominally independent directors are not independent in fact, and firms appoint these directors to provide cover for self-dealing. However, in Brazil, at most firms with an independent director, at least one independent director is elected by minority shareholders under Brazilian rules. In unreported regressions, Element Sh2 (is one or more directors elected by minority shareholders), is

positive but insignificant. So the non-independence of some nominally independent directors cannot be the whole story.

Perhaps one or two independent directors -- a pattern common in both Brazil and Turkey -- can't do much. Consistent with this, Black and Kim (2011) find that increasing the proportion of outside directors from the legal floor of 25% to 49% is not associated with higher Tobin's q – yet getting to 50% has a value effect.[14] However, this too cannot explain the Brazil results – we find a significant negative coefficient on a dummy variable for three or more independent directors. The value added by independent directors remains controversial in developed markets as well (e.g., Wintoki, Linck, and Netter, 2009).

Reverse causation is also possible. Perhaps outside shareholders push for outside directors at companies with more self-dealing. Oversight by these directors might reduce self-dealing, but not by enough to reverse the negative association between independence and level of self-dealing. We cannot assess this possibility without a good measure of self-dealing risk, which is not available.

Ownership structure and "wedge". An ownership structure measure, which measures the wedge between cash flow and voting rights, predicts firm market value in Brazil and Korea (a small wedge predict higher market value). This is consistent with time series evidence from Korea (Black, Kim, Jang and Park, 2011), and cross-country evidence (Claessens, Djankov, Fan and Lang, 2002). Thus, these results are likely to be common across countries.

Disclosure. We obtain strong results for disclosure subindex without controlling for the rest of governance, but these results weaken with this control. Among other studies, Black, Kim, Jang and Park (2011) find a significant positive coefficient on disclosure in time series with firm fixed effects for Korea, as do Cheung, Connelly, Limpaphayom and Zhou (2007) in cross-section for Hong Kong, but Black (2001) finds that disclosure is insignificant when one controls for the rest of an overall index. Durnev and Kim (2005; multi-country) find a predictive effect of disclosure, but do not control for the rest of governance. Overall, it seems fair to say is that disclosure predicts higher firm market

---

[14] Results available from the authors on request; not presented in the final version of this article. Choi, Park and Yoo (2007) find that a continuous measure of board independence predicts firm market value, but significance vanishes with firm fixed effects.

value if one does not control for the rest of governance, and *probably* still does so after controlling for the rest of governance.

Shareholder rights. Shareholder rights subindex predicts higher market value in Brazil and India, and is positive but insignificant in Korea. Other evidence on similar subindices is mixed. Cheung, Jiang, Limpaphayom and Lu (2010) find a positive effect for mainland China, but Cheung, Connelly, Limpaphayom and Zhou (2007, Hong Kong) and Black, Kim, Jang and Park (2011, Korea) find an insignificant negative coefficient with firm fixed effects. These mixed results could arise because a shareholder rights subindex bundles important rights, such as takeout rights (Nenova, 2005; Bennedsen et al., 2011), with other less important measures,

Related party transactions. In both Brazil and India, a measure of control over related party transactions is insignificant. But Black, Love and Rachinsky (2006) find a positive coefficient on a similar measure for Russia,[15] and self-dealing risk is highly significant in Black's (2001) earlier study of Russia. Our weak results in Brazil and India may reflect the difficulty in measuring the effectiveness of self-dealing controls.

Board procedure. We find a significant positive coefficient on Board Procedure Subindex in Brazil, but a near zero coefficient in India and Korea. Black, Kim, Jang and Park (2011) also find an insignificant coefficient on board procedure in Korea using panel data with firm fixed effects (a methodology different from ours). Overall, evidence that board procedure predicts firm market value is thin, and Brazil may be an outlier. These mixed results support concerns voiced by others about the value of commercial governance indices, which rely heavily on procedure measures (e.g., Bhagat, Bolton and Romano, 2008; Daines, Gow and Larcker, 2010).

6.3 – What Firms Characteristics Matter?

We turn next to commonalities and differences across countries for subsamples. We use the same subsamples we used for Brazil in Table 6. We rely on Model 3. Subsample

---

[15] See Black, Love and Rachinsky (2006), Table 1 (Brunswick index). This result is for a subindex of one of the overall Russian indices, there was no good way to present this within Table 7.

break points are determined separately for each country; thus a large firm in country X might be small if transplanted to country Y.[16] Table 8 shows our results.

Manufacturing versus non-manufacturing firms. In the first regression set, governance predicts Tobin's *q* more strongly for non-manufacturing firms in Brazil, Korea, and Russia, but for manufacturing firms in India. We cannot think of an obvious explanation for these differences. They suggest the need for more research, to understand which aspect of governance are valuable for which firms. Perhaps, our division of firms into manufacturing or not is simply too crude to capture the relevant differences between firms.

Large versus small firms. In the second regression set, governance predicts market value for small firms in all four countries, but for large firms only in Korea and Russia. The association between governance and firm market value for small firms across all countries is an important new result. Multicountry studies typically cover only the largest firms in each country. Moreover, one worry for mandatory corporate governance rules, and to a lesser extent for voluntary governance codes that apply to all firms, is that practices that are appropriate for large firms could be ill-suited for smaller firms, or have costs for smaller firms that exceed their benefits. Our results suggest that smaller firms can benefit from the governance measures captured in our indices.

One possible explanation is that these firms face greater information asymmetry between investors and firms. A second is that for smaller firms, outside investors have lesser incentives and ability to monitor the firm. Both factors could make internal governance more valuable.

High- versus low-growth. In the third regression set, governance is more strongly associated with firm market value for high-growth firms in Brazil, but for low-growth firms in Korea and Russia. Again, we lack ready explanations for these differences. A possible confounder, which could explain the mixed results, is the potential for reverse causation – high-growth firms which need external capital may improve governance in order to obtain that capital (Durnev and Kim, 2005; Bennedsen, Nielsen, and Nielsen, 2011).

---

[16] For Russia, we cannot examine the differences between manufacturing and non-manufacturing firms because we lack a good source for industry data.

High- versus low-profitability. In the fourth regression set, governance predicts market value for high-profitability firms across all four countries. This too is an important new result. One might think that governance matters more for poorly performing firms, and good managers should be left alone to run their firms. Our data suggests that this view is too simple.There are several possible explanations. Good managers may benefit from monitoring, good governance may reduce the potential for managers or controllers to divert profits, and good governance may improve the firm's ability to hire good managers.

7 – Conclusion

This article examines which aspects of governance matter and for which type of firms. We first conduct a case study of Brazil. We then assess commonalities and differences across four major emerging markets – Brazil, India, Korea, and Russia. For Brazil, we find an economically important relationship between an overall governance index and firm market value: a worst to best change in the index predicts almost a doubling in Tobin's *q*. Subindices for ownership, board procedure, and minority shareholder rights predict Tobin's q; while subindices for disclosure and related party transactions are insignificant. Strikingly we find a negative association between board structure, especially board independence, and market value. We find a significant association between corporate governance and market value for nonmanufacturing (but not manufacturing) firms, small (but not large) firms, and high-growth (but not low-growth) firms.

Across the BRIK countries, we find both important commonalities and differences. Across countries, governance predicts higher market value in small firms and high-profitability firms. The small firm result is important because small firms are often unstudied. The result for high-profitability firms suggests that governance is at least as important for good performers as for poorly performing firms. A smaller wedge between voting rights and cash flow rights predicts higher market value in Brazil and Korea, the two countries where we have this measure. Board structure (independence): predicts higher market value in Korea, lower market value in Brazil, and is insignificant in India.

Our analysis underscores the limits of broad cross-country analysis in assessing which aspects of corporate governance matter, for which firms. Use of a common index across many countries narrows the governance aspects and control variables that can be

considered, making omitted variable biases likely. Moreover; an average effect across many countries doesn't tell us for which countries, and which firms, the aspect matters.

Turning to policy implications, our results are not inconsistent with some mandatory minimum rules adding value. But in large part, they cast doubt on the wisdom of high regulatory minima, and on the extent to which different countries should adopt the same rules. Moreover, even if there are useful mandatory rules to be found, one can have little confidence as to what they are.

An often better approach, our results suggest, will be to provide regulatory flexibility, coupled with sufficient disclosure so that investors can assess a company's governance choices. That flexibility could come through a comply-or-explain governance code, or as in Brazil, through firms choosing among different governance levels offered by the stock exchange. Overall, our results underscore how little we know about what matters for corporate governance in emerging markets and the core firm and country characteristics that predict when governance matters.

8 – References

Aggarwal, Reena, Isil Erel, Rene M. Stulz, and Rohan Williamson (2009), "Differences in Governance Practices Between U.S. and Foreign Firms: Measurement, Causes, and Consequences," 22 *Review of Financial Studies* 3131-3169.

Ararat, Melsa, Hakan Orbay, and B. Burcin Yurtoglu (2010), "The Effects of Board Independence in Controlled Firms: Evidence from Turkey", working paper.

Arcot, Sridhar R. and Bruno, Valentina Giulia (2006), "One Size Does Not Fit All, After All: Evidence from Corporate Governance," *working paper*, at http://ssrn.com/abstract=887947.

Atanasov, Vladimir, Bernard Black, Conrad Ciccotello & Stanley Gyoshev, "How Does Law Affect Finance? An Examination of Equity Tunneling in Bulgaria", 96 *Journal of Financial Economics* 155-173 (2010).

Bae, Kee-Hong, Jon-Koo Kang, and Jin-Mo Kim, "Tunneling or Value Added? Evidence from Mergers by Korean Business Groups", 57 *Journal of Finance* 2695-2740 (2002).

Balasubramanian, N., Bernard Black, and Vikramaditya Khanna (2010). "Firm-Level Corporate Governance in Emerging Markets: A Case Study of India," 11 *Emerging Markets Review* 319-340.

Bebchuk, Lucian, Alma Cohen, and Allen Ferrell (2009), "What Matters in Corporate Governance?", 22 *Review of Financial Studies* 783-827.

Bebchuk, Lucian Arye, and Assaf Hamdani (2009), "The Elusive Quest for Global Governance Standards", 157 *University of Pennsylvania Law Review* 1263-1316.

Bebchuk, Lucian Arye, Reinier Kraakman and George G. Triantis (2000), "Stock Pyramids, Cross-Ownership, and Dual Class Equity: The Mechanism and Agency Costs of Separating

Control from Cash-Flow Rights", in Randall K. Morck., editor, *Concentrated Corporate Ownership* (University of Chicago Press), 295-318.

Bennedsen, Morten, Kasper Meisner Nielsen and Thomas Vester Nielsen (2011), "Private Contracting and Corporate Governance: Evidence from the Provision of Tag-Along Rights in Brazil," *Journal of Corporate Finance*, forthcoming.

Bertrand, Marianne, Paras Mehta and Sendhil Mullainathan (2002), "Ferreting Out Tunneling: An Application to Indian Business Groups," 117 *Quarterly Journal of Economics* 121-148.

Bhagat, Sanjai, Brian Bolton, and Roberta Romano (2008), "The Promise and Perils of Corporate Governance Indices", *Columbia Law Review*, vol. 108, 1803-1882.

Black, Bernard (2001), "The Corporate Governance Behavior and Market Value of Russian Firms,"2 *Emerging Markets Review* 89-108.

Black, Bernard, Antonio Gledson de Carvalho, and Erica Gorga (2009), "The Corporate Governance of Privately Controlled Brazilian Firms," *Revista Brasileira de Finanças*, vol. 7, 358-428, working paper at http://ssrn.com/abstract=1003059.

Black, Bernard, Antonio Gledson de Carvalho, and Erica Gorga (2010), "Corporate Governance in Brazil", 11 *Emerging Markets Review*, vol. 11, 21-38 (2010).

Black, Bernard, Hasung Jang and Woochan Kim (2006a), "Does Corporate Governance Affect Firms' Market Values? Evidence from Korea," *Journal of Law, Economics and Organization*, vol. 22, 366-413.

Bernard Black, Hasung Jang &Woochan Kim (2006b), "Predicting Firms' Corporate Governance Choices: Evidence from Korea," *Journal of Corporate Finance*, vol. 12, 660-691.

Black, Bernard, and Vikramaditya Khanna (2007), "Can Corporate Governance Reforms Increase Firms' Market Values? Event Study Evidence from India," *Journal of Empirical Legal Studies*, vol. 4, 749-796.

Black, Bernard, and Woochan Kim (2011), "The Effect of Board Structure on Firm Value: A Multiple Identification Strategies Approach Using Korean Data", *Journal of Financial Economics*, forthcoming, working *paper* at http://ssrn.com/abstract=968287.

Black, Bernard, Woochan Kim, Hasung Jang and Kyung-Suh Park (2011), "How Corporate Governance Affects Firm Value: Evidence on Channels from Korea," *working paper,* at http://ssrn.com/abstract=844744

Black, Bernard, Inessa Love and Andrei Rachinsky (2006), "Corporate Governance Indices and Firms' Market Values: Time-Series Evidence from Russia," *Emerging Markets Review*, vol. 7, 361-379.

Bovespa, 2006. *Listing Rules*. Available at http://www.bovespa.com.br/Principal.asp (in Portuguese).

Braga-Alves, Marcus V., and Kuldeep Shastri (2011), "Corporate Governance, Valuation and Performance: Evidence from a Voluntary Market Reform in Brazil", *Financial Management*, forthcoming.

Bruno, Valentina G., and Stijn Claessens (2007), "Corporate Governance and Regulation: Can There Be Too much of a Good Thing?", working paper, at http://ssrn.com/abstract=956329.

Carvalhal-da-Silva, Andre Luiz, and Ricardo P.C. Leal (2005), "Corporate Governance Index, Firm Valuation and Performance in Brazil," *Revista Brasileira de Finanças*, vol. 3, 1-18.

Carvalhal-da-Silva, Andre Luis, and Avanidyar Subramanyam, 2007. Dual-Class Premium, Corporate Governance, and the Mandatory Bid Rule: Evidence from the Brazilian Stock Market," *Journal of Corporate Finance*, vol. 13, 1-24.

Cheung, Steven Yan-Leung, J. Thomas Connelly, Piman Limpaphayom, and Lynda Zhou (2007), Do investors really value corporate governance? Evidence from the Hong Kong market," *Journal of International Financial Management and Accounting*, vol. 18, 86-122.

Cheung, Steven Yan-Leung, Ping Jiang, Piman Limpaphayom, and Tong Lu (2009), Corporate Governance in China: A Step Forward, xx European Financial Management, vol. 16, 94-123 (2010).

Choi, Jongmoo Jay, Sae Won Park, and Sean Sehyun Yoo (2007), "The Value of Outside Directors: Evidence from Corporate Governance Reform from Korea," *Journal of Financial and Quantitative Analysis*, vol. 42, 941-962.

Claessens, Stijn, Simeon Djankov, Joseph Fan, and Larry Lang (2002), "Disentangling the Incentive and Entrenchment Effects of Large Shareholdings," *Journal of Finance*, vol. 57, 2741-2771.

Connelly, J. Thomas, Piman Limpaphayom, and Nandu J. Nagarajan (2008), "Form Versus Substance: The Effect of Family Influence and Corporate Governance Practices on Firm Value in Thailand," *working paper*, University of Pittsburgh.

Dahya, Jay, Orlin Dimitrov, and John J. McConnell (2008), "Dominant Shareholders, Corporate Boards, and Corporate Value: A Cross-Country Analysis," *Journal of Financial Economics*, vol. 87, 73-100.

Daines, Robert, Ian Gow, and David Larcker (2009), Rating the Ratings: How Good are Commercial Governance Ratings?, working paper, at http://ssrn.com/abstract=1152093.

De Carvalho, Antonio Gledson, and George G. Pennacchi (2011), "Can a Stock Exchange Improve Corporate Behavior? Evidence from Firm's Migration to Premium Listings in Brazil", *Journal of Corporate Finance*, forthcoming, at http://ssrn.com/abstract=678282.

Demsetz, Harold, and Kenneth Lehn (1985), "The Structure of Corporate Ownership: Causes and Consequences", 93 *Journal of Political Economy* 1155-1177.

Dharmapala, Dhammika, and Vikramaditya Khanna (2009), "Corporate Governance, Enforcement, and Firm Value: Evidence from India", at http://ssrn.com/abstract=1105732.

Doidge, Craig, G. Andrew Karolyi, and Rene Stulz (2004), "Why Are Foreign Firms that List in the U.S. Worth More?", 71 *Journal of Financial Economics* 205-238.

Doidge, Craig, G. Andrew Karolyi and Rene M. Stulz (2007), "Why Do Countries Matter So Much for Corporate Governance," *Journal of Financial Economics*, vol. 86, 1-39.

Durnev, Artyom, and E. Han Kim (2005), "To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation," *Journal of Finance,* vol. 60, 1461-1493.

Durnev, Artyom, and Larry Fauver (2007), "Stealing from Thieves: Firm Governance and Performance When States are Predatory," *working paper* at http://ssrn.com/abstract=970969.

Dyck, Alexander I.J.,, and Luigi Zingales (2004), "Private Benefits of Control: An International Comparison," *Journal of Finance*, vol. 59, 537-600.

Eisenberg, Theodore, Stefan Sundgren and Martin T. Wells (1998), "Larger Board Size and Decreasing Firm Value in Small Firms", 48 *Journal of Financial Economics* 35-54.

Financial Reporting Council (U.K.) (2006),*Combined Code of Corporate Governance*, at http://www.frc.org.uk/corporate/combinedcode.cfm.

Gleaser Edward, Simon Johnson, and Andrei Shleifer (2001), "Coase Versus the Coasians," *Quarterly Journal of Economics*, vol. 108, 853-899.

Gompers, Paul, Joy Ishii, and Andrew Metrick (2009), "Corporate Governance and Equity Prices", 118 *Quarterly Journal of Economics* 107-155.

Klapper, Leora F., and Inessa Love (2004), "Corporate Governance, Investor Protection and Performance in Emerging Markets," *Journal of Corporate Finance,* vol. 10, 703-728.

Klein, April (2002), Audit Committee, Board of Director Characteristics, and Earnings Management, 33 *Journal of Accounting and Economics* 375-400.

La Porta, Rafael, Florencio Lopez-de-Silanes and Andrei Shleifer (1998), "Corporate Ownership Around the World," *Journal of Finance, vol.* 54, 717- 738.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny (1997), "Legal Determinants of External Finance," *Journal of Finance*, vol. 52, 1131-1150.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny (1998), "Law and Finance," *Journal of Political Economy*, vol. 106, 1113-1155.

Leal, Ricardo P.C., and Andre L. Carvalhal-da-Silva, "Corporate Governance and Value in Brazil (and in Chile)," in Florencio Lopez-de-Silanes and Alberto Chong, editors, *Investor Protection and Corporate Governance – Firm Level Evidence Across Latin America* xxx-yyy (2007), also available as Inter-American Development Bank Research Network Working Paper #R-514 (2005) at http://www.iadb.org/res/pub_desc.cfm?pub_id=R-514.

Leal, Ricardo P. C., Andre Luis Carvalhal-da-Silva and Sylvia Mourthe Valadares (2000), "Ownership, Control and Corporate Valuation of Brazilian Companies," *Proceedings of the Latin American Corporate Governance Roundtable*, São Paulo.

Levine, Ross, and Sara Zervos (1998), "Stock Markets, Banks, and Economic Growth,"*American Economic Review*, vol. 88, 537-558.

Litvak, Kate (2007), "The Impact of the Sarbanes-Oxley Act on Non-US Companies Cross-Listed in the US," *Journal of Corporate Finance,* vol. 13, pp. 195-228.

Litvak, Kate (2009), "The Relationship among U.S. Securities Laws, Cross-Listing Premia, and Trading Volume", working paper, at http://ssrn.com/abstract=1443590.

Mahoney, Paul (1997), "The Exchange as Regulator," *Virginia Law Review*, vol. 83, 1453-1500.

Morey, Matthew, Aron Gottesman, Edward Baker and Ben Godridge, "Does Better Corporate Governance Result in Higher Valuations in Emerging Markets? Another Examination Using a New Data Set", *Journal of Banking and Finance*, vol. 33, 254-262.

Nenova, Tatiana (2003),"The Value of Corporate Votes and Control Benefits: A Cross-Country Analysis," *Journal of Financial Economics*, vol. 68, 325-351.

Nenova, Tatiana (2005),"Control Values and Changes in Corporate Law in Brazil," *Latin American Business Review*, vol. 6, 1-37.

OECD (Organisation for Economic Co-operation and Development) (2004), *Principles of Corporate Governance*.

Romano, Roberta (2009), "Does the Sarbanes-Oxley Act Have a Future?", *Yale Journal on Regulation*, vol. 26, 229-339.

Valadares, Sylvia Mourthe, and Ricardo P. C. Leal (2000), "Ownership and Control Structure of Brazilian Companies," *Abante*, vol. 3(1), 29-56. Also available at http://ssrn.com/abstract=213409.

Wintoki, M. Babajide, James S. Linck and Jeffry M. Netter (2009), "Endogeneity and the Dynamics of Corporate Governance," *working paper* at http://ssrn.com/abstract=970986.

Wurgler, Jeffrey (2000), "Financial Markets and the Allocation of Capital,"*Journal of Financial Economics*, vol. 58, 187-214.

Yermack, David (1996), "Higher Market Valuation of Companies with a Small Board of Directors", 40 *Journal of Financial Economics* 185-211.

Appendix A: Data, Indices and Methodology for Russia, India and Korea

A.1 –Datasets

For Korea and India we begin with the hand collected datasets and corporate governance indices described in Black, Jang and Kim (2006) and Balasubramanian, Black and Khanna (2010), respectively. We collect additional data on control variables to permit the analyses in this study. For Russia corporate governance scores are based on corporate governance indices prepared by others, as described in Black, Love and Rachinsky (2006). Our datasets comprise 99 firms in Russia, 250 in India and 495 in Korea. For India, we have cross-sectional governance data for 2006; for Korea, we have cross-sectional governance data for 2001; for Russia, we have time-series data for 1999-2005.

A.2 –Indices

The Brazilian, Indian and Korean indices were constructed following the same general approach. All three indices include subindices for board structure, board procedure, disclosure, and shareholder rights. We lack the data to construct an ownership structure subindex for India or a related party transactions subindex for Korea. The elements of each subindex are similar, but vary due to differences in legal rules, local customs, and available data. Some examples:

(1) In Brazil common and preferred carry different rights. The Brazilian index takes into consideration the rights of each class of shares. In contrast, non-voting shares are not allowed in India or Korea, and are allowed only under "grandfathering" rules for selected firms in Russia.

(2) Brazilian law has unusual takeout rights, with different rules for common and preferred shares.

(3) India requires firms to have either 33% independent directors plus an independent board chair, or 50% outside directors; Korea requires all public companies to have 25% outside directors; Brazil has no similar rules.

(4) Brazil uses a fiscal board to accomplish much of what an audit committee might achieve in other countries.

These differences create some issues of comparability for our study.

The Russian index is a composite from six indices compiled by others, available for different firms at different times. The underlying subindices do not map well onto the Brazil, India, and Korea subindices, except for disclosure. The Russian index is described in Black, Love and Rachinsky (2006).

A.3– Methodology

Details on the India, Korea, and Russia country studies are set forth in the respective papers on each country. In brief, the Korea and India studies use OLS with robust standard errors and Tobin's q measured at the year end following the governance measurement date (2001 in Korea, 2006 in India; the Russia study uses panel data with firm fixed effects over 1999-2005. To make indices comparable across countries, we normalize each index and subindex to mean 0 and variance 1.[17] We use ln(Tobin's q) as the dependent variable for all countries; whether Tobin's q is logged or not varies in the initial studies. We follow the original study on when to measure Tobin's q (relative to when one measures governance) and whether to exclude or winsorize outliers.

The Table below lists control variables by country. These variables are defined similarly to Brazil (see Table 3) except as indicated. The original studies provide more precise variable definitions, including measurement periods and winsorization. There is substantial overlap among the control variables used in each country. The more limited controls in Russia and, to a lesser extent, Brazil, largely reflect data availability. Also, not every variable makes sense in every country. For example, the ratio of preferred shares to common shares is meaningful only in Brazil; the other countries have one share, one vote structures. Business group membership is relevant only in India and Korea. And in Brazil MCSI membership substantially overlaps with ADR dummy.

---

[17] This normalization affects coefficients but not *t*-statistics. In the original studies, the Russian indices were normalized; the India and Korea indices were not. The *t*-statistics and (normalization aside) coefficients in Tables 7 and 8 are close to those reported in the individual studies; explanations for the differences are available from the authors on request.

Control variable	Brazil	India	Korea	Russia
Ln(assets)	yes	yes	yes	yes
Ln(years listed)	not logged	yes	yes	–
Debt/assets	yes	debt/equity	debt/equity	yes
Sales growth	yes	yes	yes	yes
Net income/assets	yes	–	–	yes
EBIT/sales	yes	yes	yes	–
PPE/sales	yes	yes	yes	–
Share turnover	yes	yes	yes	–
Insider ownership	yes	yes	yes	–
Voting/common shares	yes	–	–	–
ADR dummy	yes	yes	yes	–
Industry dummies	yes	yes	yes	–
R&D/sales	–	yes	yes	–
Advertising/sales	–	yes	yes	–
Exports/sales	–	yes	yes	–
Capex/PPE	–	yes	yes	–
Market share	–	yes	yes	–
Foreign ownership	–	yes	yes	–
Business group dummy	–	yes	yes	–
MSCI index dummy	–	yes	yes	yes
bank dummy	Sample excludes financial institutions		yes	–

Table 1. Corporate Governance Index: Elements and Summary Statistics

Description and summary statistics for elements of Brazil Corporate Governance Index (*BCGI*). Sample consists of 66 private, nonfinancial Brazilian private firms which responded to the Brazil CG Survey 2005 and have sufficient financial data to compute Tobin's *q* for 2005 or 2006. All variables except Ow1-Ow4 are coded as 1 for yes; 0 for no; Ow1-Ow4 take values between 0 and 1.

Label	Variable	Mean
Board Structure Index		
Board independence subindex		
BdIn.1	Board includes one or more independent directors	0.73
BdIn.2	Board has at least 30% independent directors	0.47
BdIn.3	Board has at least 50% independent directors	0.20
BdIn.4	CEO is NOT chairman of the board	0.71
Audit committee and fiscal board subindex		
BdCm.1	Audit committee exists	0.14
BdCm.2	Permanent or near-permanent fiscal board exists	0.68
BdCm3	Company has either permanent fiscal board or audit committee which includes minority shareholder representative	0.47
Ownership Structure Index		
Ow.1	Fraction of common shares held by largest shareholder	0.60
Ow.2	1.5*((common shares/(total shares)-1/3) (under Brazilian law the ratio of common/total shares must be $\geq$ 1/3; this formula ensures that the attainable values of this element spans(0,1))	0.34
Ow.3	(1 − (% of voting shares held by largest owner)/(% of total shares held by largest owner))	0.14
Ow.4	(((no. of members of control group, winsorized at 11) -1)/10). Number of members of shareholder agreement, if any; otherwise, number of 5% shareholders who together hold 50% of common shares, or 11 (if all together own < 50%)	0.21
Ow.5	firm has an outside 5% institutional investor	0.08
Board Procedure Index		
Pr.1	firm had > 4 physical board meetings in last year	0.80
Pr.2	firm has system to evaluate CEO performance	0.38
Pr.3	firm has system to evaluate other executives	0.41
Pr.4	board receives materials in advance of meeting	0.95
Pr.5	firm has code of ethics	0.58
Pr.6	specific bylaw to govern board	0.56
Disclosure Index		
Di.1	related party transactions disclosed to shareholders	0.67
Di.2	management has regular meetings with analysts	0.61
Di.3	firm discloses direct and indirect 5% holders	0.41
Di.4	firm discloses annual agenda of corporate events	0.42
Di.5	English language financial statements	0.48
Di.6	financial statements include statement of cash flows	0.64
Di.7	quarterly financial statements are consolidated	0.85
Di.8	Financial statements in IAS or US GAAP	0.30
Di.9	MD&A discussion in financial statements	0.83
Di.10	annual financial statements on firm website	0.70
Di.11	quarterly financial statements on firm website	0.62
Di.12	auditor does not provide non-audit services	0.80

Table 1. Corporate Governance Index: Elements and Summary Statistics (continued)

Label	Variable	Mean
Related Party Index		
Rt.1	Firm does not have loans to insiders, significant sales to or purchases from insiders, or rent real property to or from insiders	0.83
Rt.2	Board must approve conflict of interest transaction with controller	0.70
Rt.3	Non-interested directors must approve conflict of interest transaction with controller	0.12
Rt.4	Shareholders must approve conflict of interest transaction with controller	0.12
Minority Shareholder Rights Index		
Sh.1	annual election of all directors	0.39
Sh.2	minority shareholders elect a director	0.47
Sh.3	freezeout offer to minority shareholders based on shares' economic value	0.15
Sh.4	takeout rights on sale of control exceed legal minimum	0.32
Sh.5	arbitration of disputes with shareholders	0.07
Sh.6	Firm has no authorized capital or provides preemptive rights	0.80
Sh.7	free float ≥ 25% of total shares	0.65

Figure 1. Distribution of BCGI

Histogram of Brazil Corporate Governance Index (*BCGI*). Sample consists of 66 private, non-financial firms which responded to the Brazil CG Survey 2005 and have sufficient financial data to compute Tobin's q for 2005 or 2006. Mean is 0.51, median is 0.50, and standard deviation is 0.11.
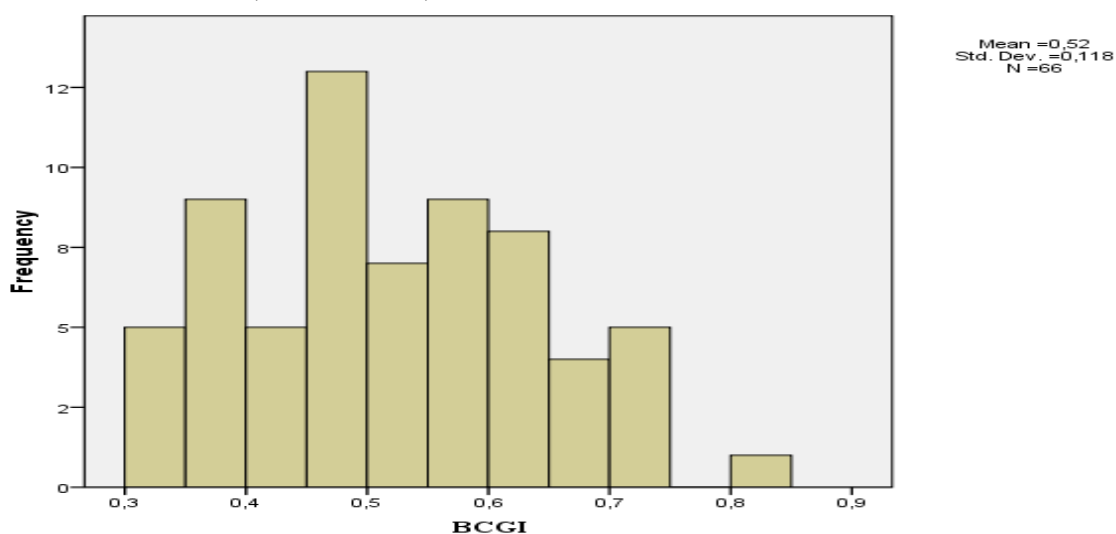
Table 2. Summary Information for Governance Index

Panel A. Descriptive statistics for overall Brazil Corporate Governance Index (BCGI) and its bubindices (before normalization). Sample consists of 66 private, nonfinancial firms which responded to the Brazil CG Survey 2005 and have sufficient financial data to compute Tobin's q for 2005 or 2006.

	Mean	Std. Dev.	Min.	Max.
Board Structure Index	0.48	0.22	0.00	1.00
Board Independence	0.53	0.29	0.00	1.00
Audit Committee and Fiscal Board	0.48	0.22	0.00	1.00
Ownership Structure Index	0.51	0.16	0.18	1.00
Board Procedure Index	0.61	0.25	0.17	1.00
Disclosure Index	0.61	0.27	0.17	1.00
Related Party Index	0.44	0.17	0.00	1.00
Minority Shareholder Rights Index	0.41	0.21	0.00	1.00
Non-normalized sum of elements	20.41	5.53	11.05	30.88
***BCGI* (sum of subindices/6)**	0.51	0.11	0.33	0.80

Panel B. Correlations among Brazil Corporate Governance Index (BCGI) and subindices. Significant results (at 5% or better) are shown in **boldface**.

	BCGI	BS	OW	PR	DI	RP	SH
BCGI	1	**0.59**	**0.31**	**0.61**	**0.77**	0.14	**0.56**
Subindex complement		**0.32**	0.07	**0.29**	**0.50**	-0.11	**0.28**
Board Structure (BS)		1	-0.09	**0.24**	**0.31**	-0.15	**0.38**
Ownership Structure (OW)			1	0.08	0.01	0.22	0.03
Board Procedure (PR)				1	**0.51**	-0.10	-0.09
Disclosure (DI)					1	-0.16	**0.40**
Related Party (RP)						1	-0.03
Minority Shareholder Rights (SH)							1

Table 3. Nongovernance Variables

Description and summary statistics of nongovernance variables. Sample consists of 66 private, nonfinancial firms which responded to the Brazil CG Survey 2005 and have sufficient financial data to compute Tobin's q for 2005 or 2006 (128 total observations). All variables were measured at year-end values and, unless stated, averaged over the 2001-2004 period.

Panel A. Variable definitions

Tobin's q	Computed as (book value of debt + market value of common and preferred shares)/(book value of assets)
Assets	Total assets in millions of Brazilian Reais.
Leverage	Total liabilities/(total assets), winsorized at 1
Years listed	Number of years since original listing (as of 2006)
Sales growth	Arithmetic average growth
PPE/sales	Ratio of property, plant and equipment to sales.
Net income/assets	Ratio of net income to assets, winsorized at 0
EBIT/sales	Ratio of earnings before income and taxes to sales, winsorized at 0.
Share turnover	Common + preferred shares traded/(common + preferred shares)
Ownership	Percentage share ownership by largest shareholder. (as of 2004)
Voting parity	1.5*((common shares)/(common shares + preferred shares)-1/3) – as of 2004
ADR dummy	1 if firm has issued ADRs in the US; 0 otherwise., as of 2004
Industry dummy variables	8 industry dummies, plus residual *other* category for total of 9 groups.

Panel B. Summary Statistics

Variable	Mean	Median	Std. Dev.	Minimum	Maximum
Tobin's q	1.41	1.25	1.82	0.65	8.86
Ln(**Tobin's q**)	0.34	0.23	0.60	-0.43	2.18
Ln(assets)	13.8	13.7	1.61	9.47	17.36
Leverage	0.31	0.30	0.26	0.00	1.07
Years listed (as of 2004)	23.9	25.0	13.7	2.00	63.0
Sales growth	0.23	0.21	0.11	0.03	0.62
PPE/sales	0.47	0.33	0.42	0.00	1.83
Net income/assets	0.09	0.06	0.13	0.00	0.62
EBIT/sales	0.12	0.09	0.10	0.00	0.59
Share turnover	0.17	0.11	0.22	0.00	1.31
Ownership	0.61	0.62	0.27	0.10	1.00
Voting parity	0.49	0.57	0.24	0.00	1.00
ADR dummy	0.26	–	0.44	0.00	1.00

Figure 2. Brazil Corporate Governance Index (BCGI) and Tobin's q

Scatter plot of *BCGI* versus pooled values of ln(Tobin's *q*) from year-ends 2005 and 2006. Sample is 128 year-firm observation of 66 firms.
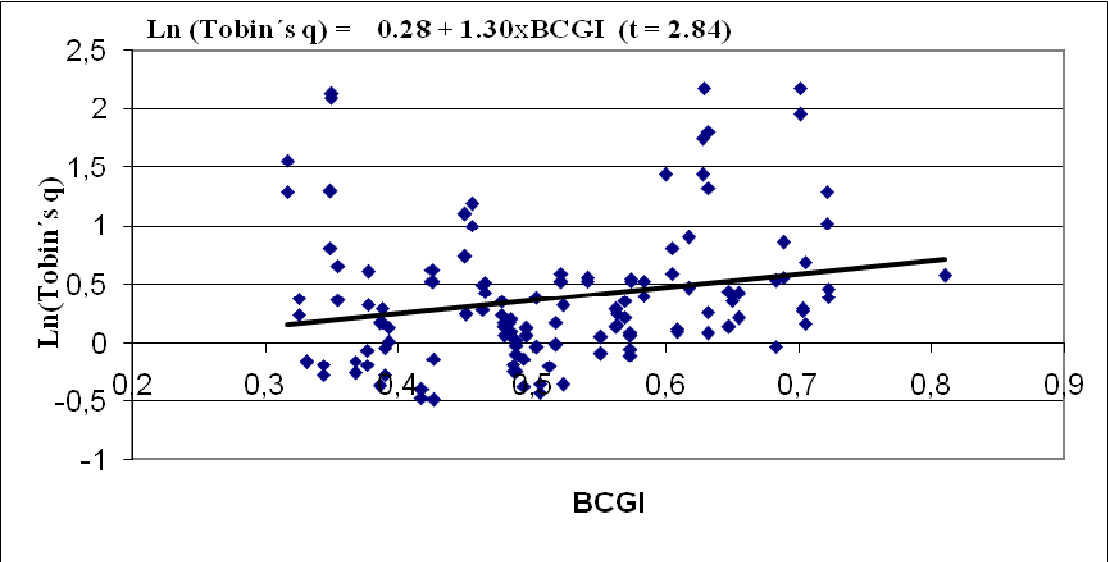
Table 4. Governance to Value: Brazil Corporate Governance Index

Regressions of *ln*(Tobin's *q*) on Brazil Corporate Governance Index (*BCGI*) and control variables. *Tobin's q*, measured at year-ends 2005 and 2006 (Regressions 1 and 2) or its average over those years (Regression 3) equals book value of debt plus market value of common and preferred shares divided by book value of assets; *Assets*: total assets in millions of Brazilian Reais; *Leverage*: Total liabilities divided by total assets, winsorized at 1; *Years listed*: years since original listing, as of 2006; *Sales Growth*: arithmetic sales growth rate; *PPE/sales*: ratio of property, plant and equipment to sales; *EBIT/Sales*: Ratio of earnings before income and taxes to sales, winsorized at 0; *Share turnover*: number of common and preferred shares traded divided by total number of common and preferred shares; *Voting parity*: 1.5*[(number of common shares)/(number of common shares plus preferred shares)-1/3], as of 2004; *ADR dummy*: dummy variable for cross-listing in the US, as of 2004; and *Industry dummy*: dummy for 9 industries. Unless stated, variables are averaged over 2001-2004. Statistics-*t* (in parentheses) use firm clusters (Regressions 1 and 2) or White's heteroskedasticity-consistent standard errors (Regression 3). R^2 is overall for random effects and adjusted for other regressions. *, **, and *** indicate significance levels at 10%, 5%, and 1% levels (in **boldface**).

Dependent variable	*Ln*(Tobin's *q*)					
	Econometric method					
	Firm random effects		Pooled OLS		Mean of 2005 and 2006	
	(1)		(2)		(3)	
Overall Index (*BCGI*)	**1.28**	***	**1.16**	**	**1.28**	**
	(2.77)		(2.59)		(2.56)	
Ln(assets)	-0.03		-0.03		-0.04	
	(0.75)		(0.63)		(0.76)	
Leverage	**0.54**	**	**0.56**	**	**0.54**	**
	(2.24)		(2.24)		(2.04)	
Years listed	**-0.010**	**	**-0.011**	**	**-0.010**	**
	(2.18)		(2.28)		(2.02)	
Sales growth	0.16		0.17		0.17	
	(0.38)		(0.39)		(0.36)	
Net income/assets	**2.53**	***	**2.51**	***	**2.45**	***
	(5.10)		(4.97)		(4.49)	
EBIT/sales	**0.96**	**	**0.98**	**	**0.93**	**
	(2.30)		(2.37)		(2.05)	
PPE/sales	0.14		0.14		0.16	
	(0.85)		(0.80)		(0.83)	
Share turnover	-0.30		-0.29		-0.28	
	(-1.25)		(1.22)		(1.05)	
Ownership	0.04		0.05		0.04	
	(0.28)		(0.31)		(0.22)	
Voting/common shares	**0.44**	*	**0.42**	*	**0.45**	*
	(1.81)		(1.76)		(1.67)	
ADR dummy	0.02		0.02		0.03	
	(0.14)		(0.10)		(0.14)	
Intercept and industry dummies	Yes		Yes		Yes	
Firm clusters, year dummies	Yes		yes		n.a.	
Number of observations	128		128		66	
Number of firms	66		66		66	
Overall R^2	0.75		0.75		0.79	

Table 5. Effect of Subindices

Firm random effects regressions of *ln*(Tobin's *q*) on Brazil Corporate Governance subindices and control variables. Column 1 represents 8 regressions, each including one subindex at a time. Columns 2 and 3 report one regression each including all subindices. Column 4 represents 8 regressions containing each subindex and its complement (the average of the other subindices). *Tobin's q*, measured at year-ends 2005 and 2006 (Regressions 1 and 2) or its average over those years (Regression 3) equals book value of debt plus market value of common and preferred shares divided by book value of assets; *Assets*: total assets in millions of Brazilian Reais; *Leverage*: Total liabilities divided by total assets, winsorized at 1; *Years listed*: years since original listing, as of 2006; *Sales Growth*: arithmetic sales growth rate; *PPE/sales*: ratio of property, plant and equipment to sales; *EBIT/Sales*: Ratio of earnings before income and taxes to sales, winsorized at 0; *Share turnover*: number of common and preferred shares traded divided by total number of common and preferred shares; *Voting parity*: 1.5*[(number of common shares)/(number of common shares plus preferred shares)-1/3], as of 2004; *ADR dummy*: dummy variable for cross-listing in the US, as of 2004; and *Industry dummy*: dummy for 9 industries. Unless stated, variables are averaged over 2001-2004. Statistics-*t* (in parentheses) obtained using firm clusters. *, **, and *** indicate significance levels at 10%, 5%, and 1% levels (in boldface).

Dependent variable	Ln(Tobin's q)				
Specification	Subindices one at a time	All subindices together		Subindex	Index complement
Column	(1)	(2)	(3)	(4a)	(4b)
Board Structure	-0.32	**-0.60 ***		**-0.53 **	**1.68 ***
	(1.11)	(2.62)		(1.99)	(4.58)
Board Independence sub-subindex	-0.18		**-0.37 ***	-0.17	**1.15 **
	(1.07)		(2.56)	(1.10)	(2.47)
Audit Committee and Fiscal Board sub-subindex	-0.43		-0.21	-0.04	**1.06 ***
	(0.21)		(1.15)	(0.21)	(2.58)
Ownership Structure	**0.79 ***	**0.53 **	**0.53 **	**0.74 ***	**0.72 *
	(2.90)	(2.50)	(2.56)	(2.67)	(1.73)
Board Procedure	**0.46 **	**0.62 ***	**0.61 ***	**0.39 **	**0.81 **
	(2.47)	(3.65)	(3.55)	(2.18)	(2.01)
Disclosure	**0.42 **	0.02	0.01	0.25	**0.99 *
	(2.09)	(0.10)	(0.07)	(1.16)	(1.92)
Related Party	-0.19	-0.34	-0.35	-0.15	**1.18 ***
	(0.54)	(1.23)	(1.32)	(0.50)	(2.96)
Minority Shareholder Rights	**0.48 **	**0.58 ***	**0.59 ***	**0.39 **	**0.85 *
	(2.35)	(3.12)	(3.26)	(1.97)	(1.77)
Control variables	yes	Yes	yes	Yes	
Intercept, year and industry dummies	yes	Yes	yes	yes	
Number of observations	128	128	128	128	
Number of firms	66	66	66	66	
Overall R^2	–	0.80	0.80	–	

Table 6. What Matters in Corporate Governance for Which Firms?

Firm random effects regressions of *ln*(Tobin's *q*) on Brazil Corporate Governance indices interacted with firm's characteristics dummies and control variables (coefficients omitted). For manufacturing row, column (1) reports coefficient on *BCGI*,from regression (based on Model (3)) that also includes non-manufacturing dummy, interaction between *BCGI* and non-manufacturing dummy, and control variables. Column (2) is similar, regression also includes index complement and its interaction with non-manufacturing dummy. Rows for other subsamples are similar. The "manufacturing minus nonmanufacturing" row reports coefficient on interaction between governance and manufacturing dummy, from regression used for non-manufacturing row. Regression equations for other subsamples and subindices are similar. *Tobin's q*, measured at year-ends 2005 and 2006 (Regressions 1 and 2) or its average over those years (Regression 3) equals book value of debt plus market value of common and preferred shares divided by book value of assets; *Assets*: total assets in millions of Brazilian Reais; *Leverage*: Total liabilities divided by total assets, winsorized at 1; *Years listed*: years since original listing, as of 2006; *Sales Growth*: arithmetic sales growth rate; *PPE/sales*: ratio of property, plant and equipment to sales; *EBIT/Sales*: Ratio of earnings before income and taxes to sales, winsorized at 0; *Share turnover*: number of common and preferred shares traded divided by total number of common and preferred shares; *Voting parity*: 1.5*[(number of common shares)/(number of common shares plus preferred shares)-1/3], as of 2004; *ADR dummy*: dummy variable for cross-listing in the US, as of 2004; and *Industry dummy*: dummy for 9 industries. Unless stated, variables are averaged over 2001-2004. Sample includes 45 manufacturing and 21 non-manufacturing firms. Sample splits for size, growth and profitability are at median. Statistics-*t* (in parentheses) use firm clusters. *, **, and *** indicate significance levels at 10%, 5%, and 1% levels (in **boldface**).

Dependent variable	Ln(Tobin's q)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	BCGI	Board structure	Ownership	Board procedure	Disclosure	Related party	Shareholder rights
Full Sample	**1.22***	**-0.61***	**0.50**	**0.64***	0.07	-0.25	**0.57***
	(2.75)	(2.69)	(2.42)	(3.65)	(0.34)	(1.03)	(3.10)
Manufacturing firms	0.75	**-0.61*	**0.57**	0.33	-0.01	0.04	0.00
	(0.99)	(1.82)	(1.99)	(1.45)	(0.04)	(0.14)	(0.01)
Nonmanufacturing firms	**2.37***	0.03	**0.94**	0.42	**0.86 ***	-0.80	**1.32 ***
	(4.18)	(0.09)	(2.54)	(1.22)	(2.59)	(1.55)	(4.83)
(manufacturing minus nonmanufacturing)	**-1.63*	-0.64	-0.37	-0.09	**-0.87 **	0.84	-1.32 ***
	(1.72)	(1.31)	(-0.84)	(0.20)	(2.06)	(1.33)	(3.49)
Large firms	0.79	-0.59	**0.63**	-0.07	-0.25	-0.05	0.39
	(1.11)	(1.19)	(1.84)	(0.25)	(0.72)	(0.17)	(1.33)
Small firms	**2.06***	**-0.45*	**0.91**	**0.69***	0.41	-0.29	0.33
	(2.83)	(1.67)	(2.17)	(3.25)	(1.36)	(0.49)	(1.30)
(large minus small)	-1.26	-0.14	-0.28	**-0.76**	-0.66	0.24	0.06
	(1.17)	(0.23)	(0.52)	(2.10)	(1.58)	(0.35)	(0.13)
High-growth firms	**2.18***	-0.39	**0.87***	0.44	**0.72 ***	0.13	**0.57 **
	(3.02)	(0.85)	(2.58)	(1.48)	(2.78)	(0.29)	(1.94)
Low-growth firms	0.46	-0.54	0.43	0.32	-0.08	-0.25	0.14
	(0.71)	(1.92)	(0.90)	(1.44)	(0.34)	(0.63)	(0.57)
(high-minus low-growth)	**1.72**	0.15	0.44	0.12	**0.80 ***	0.38	0.43
	(1.85)	(0.85)	(0.74)	(0.33)	(2.42)	(0.69)	(1.04)
High-profitability firms (	**1.19*	**-0.74**	**1.01**	0.40	0.19	-0.50	0.41
	(1.72)	(2.30)	(2.30)	(1.43)	(0.68)	(0.86)	(1.43)
Low-profitability firms	**1.30**	-0.42	**0.59*	**0.38*	0.30	-0.02	0.33
	(2.11)	(1.46)	(1.88)	(1.65)	(1.25)	(0.08)	(1.20)
(high- minus low-profitability)	-0.11	**-0.32**	0.42	0.02	-0.11	-0.48	0.08
	(0.12)	(2.30)	(0.85)	(0.05)	(0.41)	(0.86)	(1.43)
No. of observations	128	128	128	128	128	128	128
No of firms	66	66	66	66	66	66	66

Table 7. What Matters in Corporate Governance across Countries

Brazil: Firm random effects regressions of *ln*(Tobin's *q*) on normalized corporate governance indices and subindices as shown. **India and Korea**: *OLS* regressions. **Russia**: Firm-index fixed effects regressions. **All countries**: Governance index and subindices are normalized to mean = 0, σ = 1, control variables and sample are as in original study. See appendix for control variables in each country.. t-statistics based on White's heteroskedasticity-consistent standard errors (for Brazil, firm clusters; for Russia, firm-index clusters) are in parentheses. *, **, and *** indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 10% level) in **boldface**.

Dependent variable	Ln(Tobin's *q*)						
Country	Russia	Brazil	India	Korea	Brazil	India	Korea
Overall Governance Index	**0.067*****	**0.141*****	**0.104*****	**0.0974*****			
	(2.75)	(2.77)	(3.02)	(6.39)			
Subindices	One at a time				Together, as separate variables		
Board Structure		-0.072	**0.074****	**0.057*****	**-0.133*****	0.0342	**0.039*****
		(1.11)	(2.03)	(3.66)	(2.62)	(0.88)	(2.90)
Ownership Structure		**0.128*****		**0.054*****	**0.085****		**0.046*****
		(2.90)		(4.23)	(2.50)		(3.93)
Board Procedure		**0.113****	0.0432	**0.043*****	**0.1532*****	-0.001	0.006
		(2.47)	(1.21)	(3.08)	(3.65)	(0.03)	(0.46)
Disclosure	**0.071****	**0.114****	**0.073***	**0.0318*****	0.0055	0.0625	**0.0267*****
	(2.21)	(2.09)	(1.87)	(3.62)	(0.10)	(1.49)	(3.06)
Related Party Transactions		-0.0335	0.021		-0.0573	0.0177	
		(0.54)	(0.60)		(1.23)	(0.51)	
Minority Shareholder Rights		**0.1027****	**0.065****	**0.0346*****	**0.1247*****	**0.0846****	0.0144
		(2.35)	(1.99)	(3.16)	(3.12)	(2.46)	(1.40)
Control variables	see Appendix for details				see Appendix for details		
No. of observations	964	128	250	495	128	250	485
No of firms	99	66	250	495	66	250	485

Table 8. Corporate Governance for Subsamples Across Countries

Brazil: Firm random effects regressions of *ln*(Tobin's *q*) on normalized corporate governance indices and subindices as shown. **India and Korea:***OLS* regressions. **Russia:** Firm-index fixed effects regressions. All countries: Governance index and subindices are normalized to mean = 0, σ = 1, control variables and sample are as in original study. See appendix for control variables in each country. "Manufacturing firms" regression includes corporate governance index, non-manufacturing dummy, interaction between corporate governance index and non-manufacturing dummy, and control variables; "Non-Manufacturing Firms" regression includes non-manufacturing dummy, corporate governance index, and its interaction with non-manufacturing dummy; regressions for each country otherwise use same specification as in Table 7. Regression equations for other subsamples and subindices are similar. Russia regression includes year dummies. Sample includes 45 (21) manufacturing (nonmanufacturing firms) in Brazil; 348 (147) in Korea, 151 (145) in India; and 106 (834) in Russia. Subsamples for size, growth, and profitability are split at the country median. First row repeats overall index results from Table 7. *t*-statistics based on White's heteroskedasticity-consistent standard errors (for Brazil, firm clusters;for Russia, firm-index clusters), are in parentheses. *, **, and *** indicate significance levels at 10%, 5%, and 1% levels (results in **boldface**).

Set		**Brazil**	**India**	**Korea**	**Russia**
	Full Sample	**0.1408***	**0.104***	**0.097***	**0.067***
		(2.77)	(3.02)	(6.39)	(2.75)
1	Manufacturing firms	0.083	**0.155***	**0.099***	-0.014
		(0.99)	(3.70)	(5.26)	(0.23)
	Non-manufacturing firms	**0.262***	0.024	**0.094***	**0.076***
		(4.18)	(0.45)	**(4.87)**	**(2.95)**
	(manufacturing minus nonmanufacturing)	**-0.180***	**0.131***	0.005	-0.090
		(1.72)	(2.03)	(0.20)	(1.31)
2	Large firms	0.088	0.037	**0.113***	**0.087***
		(1.11)	(0.72)	**(6.23)**	**(3.09)**
	Small firms	**0.228***	**0.163***	**0.079***	0.034
		(2.83)	(3.48)	(2.83)	(1.29)
	(large minus small)	-0.14	**-0.127***	0.034	**0.053***
		(1.17)	(1.84)	(1.05)	(1.71)
3	High-growth firms	**0.241***	**0.126***	**0.081***	0.026
		(3.02)	(2.49)	(4.91)	(1.25)
	Low-growth firms	0.051	**0.082***	**0.126***	**0.097***
		(0.71)	(1.88)	(5.77)	(3.37)
	(high- minus low-growth)	**0.190***	0.044	**-0.045***	**-0.071***
		(1.85)	(0.67)	(2.00)	(2.76)
4	High-profitability firms	**0.143***	**0.160***	**0.086***	**0.050***
		(2.64)	(3.72)	(4.72)	(2.17)
	Low-profitability firms	0.136	0.030	**0.110***	**0.092***
		(1.53)	(0.63)	(5.52)	(2.94)
	(high- minus low-profitability)	0.007	**0.130***	-0.024	**-0.042***
		(0.08)	(2.15)	(1.00)	(1.76)
	Control variables	See Appendix for details			
	No of observations	128	250	495	964
	No. .of firms	66	250	495	99