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# What Corporate Governance Elements Predict Firm Value: Evidence from Brazil

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## Abstract

We contribute to the evidence on the association between corporate governance and firm market value in emerging markets. We use data from an early 2005 survey of Brazilian firms to construct a corporate governance index, and show that the overall index and subindices for ownership, board procedure, and minority shareholder rights predict higher lagged Tobin's  $q$ . In contrast to other studies, we find a negative association between board independence and Tobin's  $q$ . There is a significant association between governance and market value manufacturing (but not nonmanufacturing) firms, large (but not small) firms, and high-growth (but not low-growth) firms. Our results suggest that country characteristics importantly influence which aspects of governance are associated with firm market value, and at which firms that association is found.

**Keywords:** Brazil, corporate governance, boards of directors, minority shareholders

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

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## 1 – Introduction

There are two broad approaches to evaluating how corporate governance affects firms' market value or performance, each with strengths and limitations. One approach relies on “broad but shallow” multi-country cross-sectional studies across many countries (for example, Aggarwal, Erel, Stulz and Williamson, 2006; Klapper and Love, 2004; Durnev and Kim, 2005; Doidge, Karolyi and Stulz, 2007). These studies potentially offer greater generalizability. At the same time, what matters in governance may well differ between developed and emerging markets, and most studies either mix the two or examine only developed markets. Moreover, for emerging markets, the available governance measures are limited, purely cross-sectional, cover only the largest firms in each country, and dated (2001 for the Credit Lyonnais Securities Asia survey; 2002 for the Standard and Poor's disclosure survey). The S&P survey is limited to disclosure, and the CLSA survey relies partly on analyst views, which could be affected by firm performance. Control variables, essential to address omitted variable bias, are limited, due to data availability.

The second approach, and the one we pursue, involves narrow-and-deep studies of particular, important countries. These studies sacrifice generalizability in exchange for ability to develop governance measures that are tailored to a particular country's laws, ability to focus on particular types of countries, broader coverage of firms within a country, stronger control variables, and, in some studies, access to panel data or to legal shocks that can provide identification. Generalizability can be addressed by examining results from a number of countries and looking for patterns – or the lack thereof. Published studies exist for Brazil (Carvalho-da-Silva and Leal, 2005; Leal and Carvalho-da-Silva, 2007); Hong Kong (Cheung, Connelly, Limpaphayom and Zhou, 2007); Korea (Black, Jang and Kim, 2006a); and Russia (Black, 2001; Black, Love and Rachinsky, 2006).<sup>1</sup>

We study Brazil here. We examine the role of firm-level corporate governance in predicting the market value of “private” Brazilian firms – firms which are not controlled by the state or subsidiaries of foreign parent firms. We examine both the power of an overall governance index to predict the market value, and which components of this index contribute to the overall result. Brazil is interesting to study for several reasons. It is one of the “BRIC” countries (Brazil, Russia, India, and China) – the largest and most important emerging market economies. Private benefits of control have historically been high and firm-level governance has been weak, but firm-level governance has also been rapidly changing, likely contributing to a resurgence in trading on the Brazilian stock exchange, Bovespa.<sup>2</sup> Unlike the principal other emerging markets which have been studied to date (Russia, India, and Korea), which have one

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<sup>1</sup> Working papers which find an association between an overall governance index and firm market value include Balasubramanian, Black and Khanna (2009, India); Black, Kim, Jang and Park (2009, Korea). Working papers which do not include Connolly, Limpaphayom and Nagarajan (2008, Thailand).

<sup>2</sup> 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.

share, one vote capital structures, most public firms issue both voting common shares and nonvoting preferred shares which have economic rights similar to nonvoting common shares.<sup>3</sup>

Firm-level governance has been difficult to study in Brazil due to lack of data. Even basic information such as the number of independent directors on a firm's board is not publicly available. Perhaps as a result, prior efforts to test for an association between firm-level governance and market value have not found a robust association (Carvalho-da-Silva and Leal, 2005; Leal and Carvalho-da-Silva, 2007).<sup>4</sup>

We use data from an early 2005 survey of Brazilian firms to go beyond publicly available data and construct a broad Brazil Corporate Governance Index (*BCGI*). We find a statistically significant and economically strong association between the index and firm market value, proxied by Tobin's  $q$ . A worst to best change in the index predicts almost a doubling in Tobin's  $q$ , from 1.16 to 2.03. The overall index results derive from subindices for ownership, board procedure, and minority shareholder rights. There is a significant association between *BCGI* and market value manufacturing (but not nonmanufacturing) firms, large (but not small) firms, and high-growth (but not low-growth) firms.

Board structure, especially board independence, is a central aspect of corporate governance. In contrast to the principal cross-country study (Dahya, Dimitriev and McConnell, 2008) and country studies of Korea (Black and Kim, 2008; Choi, Park and Yoo, 2007), we find a significant *negative* association between board independence and firm market value. Thus, our results highlight the dangers in generalizing from a cross-country study, especially one that mixes developed and emerging markets, to a particular market, or from one emerging market to another.

Many governance studies examine a narrow measure of governance, such as board structure (in Dahya, Dimitriev and McConnell) or disclosure (in cross-country studies that rely on the S&P disclosure index). A concern with this approach is that different aspects of governance are often correlated. Thus, failure to control for other aspects of governance leads to omitted variable bias. Our results highlight the importance of this bias. With controls for the rest of *BCGI*, our board structure subindex negatively predicts Tobin's  $q$ ; without these controls, board structure is insignificant. With controls for the rest of *BCGI*, our disclosure subindex is insignificant; without them, it is a significant positive predictor of Tobin's  $q$ .

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<sup>3</sup> We put aside China (and studies of Hong Kong which include mainland Chinese firms) because Chinese public firms are state-controlled. See, for example, Cheung, Connelly, Limpaphayom, and Zhou (2007, Hong Kong); Cheung, Jiang, Limpaphayom, and Lu (2009, China). Just as emerging market firms may need different governance than firms in developed markets, so too state-controlled firms may need different governance than privately controlled firms.

<sup>4</sup> Leal and Carvalho-da-Silva (2007) find that a governance index based on publicly available data predicts firm market value using cross-sectional data from 2002 (with similar results for 1998 and 2000). However, their index loses significance if they remove two elements associated with cross-listing (use of an international accounting firm and financial reporting using IAS or US GAAP), or if they use panel data and firm fixed or random effects (Carvalho-da-Silva and Leal, 2005). Da Silveira, Leal, Carvalho-da-Silva and Barros (2007) extend this index to 2004, use the Arellano-Bond "system" generalized method of moments approach to address firms' endogenous governance choices, and find no significant explanatory factors for firms' governance choices.

Our findings suggest that the benefits of corporate governance practices vary based on firm and country characteristics, neither of which is well understood. Governance is not one-size fits all (see also Arcot and Bruno, 2006; Bruno and Claessens, 2007).

This paper proceeds as follows. Section 2 discusses our survey, data, governance index, and methodology. Section 3 examines the association between governance and firm market value. Section 4 compares our results to those from other country-level and cross-country governance studies. Section 5 concludes.

Several papers use legal changes in takeout rights as a natural experiment, and study the effect of these rights on share prices. Prior to 1997, Brazilian corporate law required a new controller, who acquired 50% of the common shares, to offer to buy all remaining common shares, at the per-share price paid when acquiring control. In 1997, Brazil removed this rule, but reinstated takeout rights in 2000, at 80% of the per-share price paid for the controlling shares. Nenova (2005) and Carvalhal-da-Silva and Subramanyam (2007) report conflicting results on how these law changes affected the premium accorded to common shares, relative to preferred shares (which the takeout rights rules never covered). Bennedsen, Nielsen and Nielsen (2007), report that during 2000-2006, some Brazilian firms voluntarily provided additional takeout rights to common shareholders, preferred shareholders, or both, in connection with equity offerings.

Finally, Brazilian corporate governance is in a period of rapid change. Historically, Brazilian financial markets were heavily regulated (Gorga, 2006). In 1976, the Brazilian securities commission, Comissao de Valores Mobiliarios (CVM), was created and a new Corporations Law was adopted, which included rules governing public companies and stock exchanges. During the 1970s and 1980s, the government granted tax incentives to firms that went public and investors who purchased shares in public companies, and required pension funds and insurance companies to invest in the shares of public companies. By the end of the 1980s, there were almost 600 publicly traded companies, but a significant number had gone public only to capture the tax incentives, and had no interest in having public shareholders or active trading of their shares. In the late 1980s, the financial incentives for going public were eliminated; since then, many firms which went public due to tax incentives have returned to private ownership. The government also began an extensive privatization program. By the end of the 1990s, a large fraction of share trading involved privatized companies. and a significant portion of trading moved to the NYSE. Privatizations aside, there were almost no IPOs. Brazilian corporate law, on the whole, provides limited protection for minority shareholders

In 2000, Bovespa, Brazil's principal stock exchange, introduced several optional "higher" listing levels, with stricter governance standards than a regular listing: Level 1, Level 2, and Novo Mercado ("new market"). We summarize these rules in Black, de Carvalho and Gorga (2009). There was a wave of IPOs during 2004-2007, with most firms listing on Novo Mercado and Level 2; some older firms also migrated to higher levels (de Carvalho and Pennacchi, 2007). However, most of these IPOs and migrations occurred after the period we study.

### **3. Data, Governance Index, and Methodology**

#### **3.1. Governance Survey and Other Data Sources**

Our results are based primarily on an extensive survey distributed in January 2005 to all firms listed on Bovespa (2005 Brazil CG Survey). 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. We focus here on Brazilian private firms. The response rate for these firms was 28% (88/313 firms). However, many small firms have very limited trading. The response rate was 34% (66/194) for firms with at least somewhat active trading (trading on 26 or more days during 2004; that is, at least once every two weeks), versus 18% for other firms; and was 61% if we weight firms by market capitalization. Thus, measured by market capitalization, our sample is reasonably representative of the Brazilian stock market, with a tilt toward larger firms.

We use several additional data sources. The list of publicly traded companies is from Bovespa, at [www.bovespa.com.br/principal.asp](http://www.bovespa.com.br/principal.asp). Market capitalization comes from Bovespa. Financial data comes from the Brazilian financial database Economática, available at [www.economica.com](http://www.economica.com). Basic company information comes from annual reports, available from InfoInvest at [www.infoinvest.com.br](http://www.infoinvest.com.br). Information on Bovespa listing levels comes from Bovespa. 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](http://www.adrbny.com), Citibank, at [wwwss.citissb.com/adr/www/brokers/index.htm](http://wwwss.citissb.com/adr/www/brokers/index.htm), CVM, at [www.cvm.gov.br](http://www.cvm.gov.br), Deutsche Bank, at [www.adr.db.com](http://www.adr.db.com), and JP Morgan, at [www.adr.com](http://www.adr.com).

### 3.2. Governance Index

We rely on data from the survey and information from annual reports to construct an overall Brazil Corporate Governance Index (*BCGI*). We construct the index as follows. We identify a total of 42 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. We do not examine governance attributes required by Brazilian law, for which there will likely be little variation across firms, as well as limited ability to detect noncompliance through a survey. Most elements are dichotomous (coded as "1" if a firm has the attribute; "0" otherwise). We normalize continuous variables to run from 0 to 1. Table 1 describes the index components and provides summary data on them for the firms used in our regressions. We group these elements into indices as follows.

*Board Structure* (7 elements). Board independence and existence of core committees, especially an audit committee, is typically considered to be a core part of conventional corporate governance. In Brazil, the "fiscal board" plays a role similar to that played by an audit committee in other countries, so our governance index considers this institution as well. We divide board structure into *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). Share ownership, including the wedge between voting and economic ownership, is also a standard part of many corporate governance measures. Many firms use dual-class structures, with insiders retaining voting common shares and outsiders holding primarily nonvoting preferred shares, which have economic rights similar to common shares. Valadares and Leal (2000) and Leal, Carvalhal-da-Silva and Valadares (2000) find high concentration of voting power in Brazilian firms, largely due to this practice. 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. Below, we refer to minority common shareholders and preferred shareholders together as *minority shareholders*.

*Board Procedure* (6 elements). 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).

Related Party Transactions (5 elements)

Minority Shareholder Rights (7 elements)

We obtain enough information to construct the index for 84 of the 88 responding 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 [\*xx%] of the market capitalization of all non-financial firms.

**Table 1. Corporate Governance Index: Elements and Summary Statistics**

Description and summary statistics for elements of Brazil Corporate Governance Index (*BCGI*), for 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, 2006 or both. All variables except Ow1-Ow4 are coded as yes=1, no=0.

Label	Variable	Mean
<b>Board Structure Index</b>		
<i>Board independence subindex</i>		
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
<i>Audit committee and fiscal board subindex</i>		
BdCm.1	Audit committee exists	0.14
BdCm.2	Permanent or near-permanent fiscal board exists	0.68
BdCm3	Audit committee or permanent fiscal board exists and includes minority shareholder representative	0.47
<b>Ownership Structure Index</b>		
Ow.1	Fraction of common shares held by largest shareholder	0.60
Ow.2	$1.5 * [(\text{common shares} / (\text{total shares}) - 1/3)]^5$	0.34
Ow.3	$[1 - (\% \text{ of voting shares held by largest owner}) / (\% \text{ of total shares held by largest owner})]$	0.14
Ow.4	$[(\text{no. of members of control group, winsorized at 11}) - 1] / 10$ . 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
<b>Board Procedure Index</b>		
Pr.1	firm had > 4 physical board meetings in last year	0.80

<sup>5</sup> Brazilian law limits this ratio to a minimum of 1/3. We subtract 1/3 from the ratio, and then multiply by 1.5, to get values which potentially span the [0,1] range.

Label	Variable	Mean
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
<b>Disclosure Index</b>		
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
<b>Related Party Index</b>		
Rt.1	Conflict of interest transactions disclosed to shareholders	0.67
Rt.2	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.3	Board must approve conflict of interest transaction with controller	0.70
Rt.4	Non-interested directors must approve conflict of interest transaction with controller	0.12
Rt.5	Shareholders must approve conflict of interest transaction with controller	0.12
<b>Minority Shareholder Rights Index</b>		
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	tagalong rights 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 $\geq$ 25% of total shares	0.65

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. This ensures that each subindex takes values between 0 and 1. We sum the subindex scores and divide by 6 (the number of subindices) to obtain an overall *BCGI* score. Thus, *BCGI* could in theory run from 0 to 1 if a firm had 0 (1) scores each subindex. In practice, *BCGI* values range from 0.32 to 0.81. If a firm has a missing value for a particular element, we use its average score for the nonmissing values to compute each index.<sup>6</sup> Figure 1 provides a histogram showing the overall variation in governance practices, for the firms in our usable sample. The distribution of *BCGI* scores is reasonably symmetric and close to normal.

<sup>6</sup> More specifically, if a firm has a missing value for a particular index, we compute the index value as  $(\sum(\text{values on nonmissing elements}) * (\text{total no. of elements}) / (\text{no. of nonmissing elements}))$ .

### Figure 1. Distribution of *BCGI*

Histogram shows fraction of firms with Brazil Corporate Governance Index (*BCGI*) scores in indicated ranges. Sample = 66 private, non-financial firms which responded to the Brazil CG Survey 2005. Mean = 0.52 ( $\sigma=0.12$ ); median = 0.50.

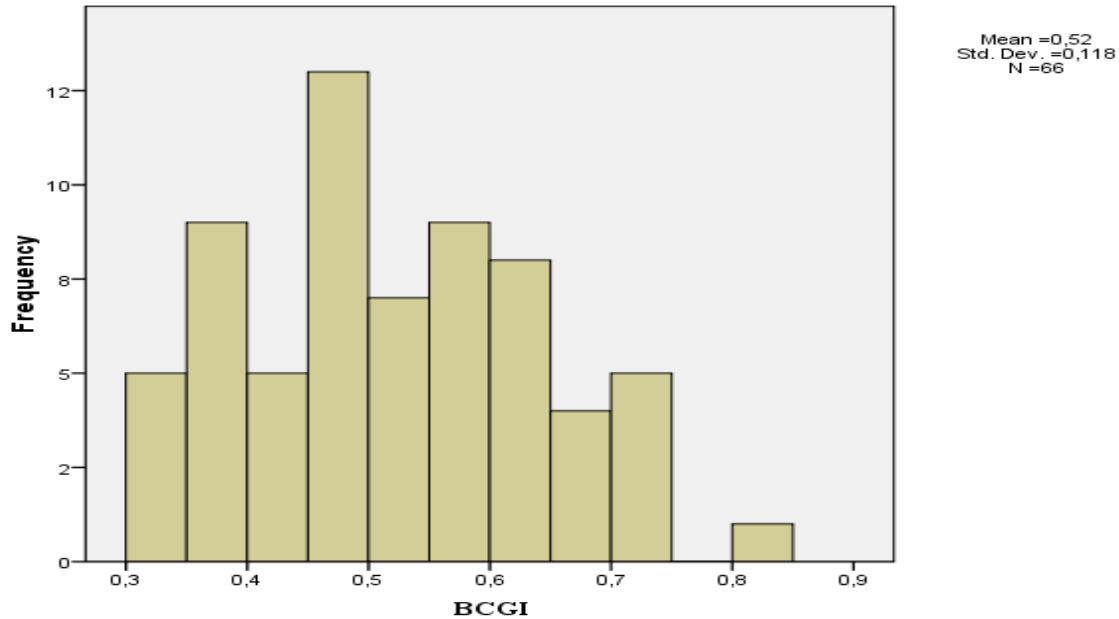


Table 2 provides further data on *BCGI* and its component indices and subindices. There is substantial spread on each index and subindex, and for *BCGI* as a whole. The mean (median) firm has a raw score of 21.1 (20.4) on the 42 elements.

### Table 2. Descriptive Statistics for Governance Index

Descriptive statistics for overall Brazil Corporate Governance Index (*BCGI*), and components of *BCGI* (before normalizing), for 66 private, nonfinancial firms which responded to the Brazil CG Survey 2005.

	Mean	Stand. Dev.	Min.	Max.
<b>Board Structure Index</b>	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
<b>Ownership Structure Index</b>	0.51	0.16	0.18	1.00
<b>Board Procedure Index</b>	0.61	0.25	0.17	1.00
<b>Disclosure Index</b>	0.61	0.27	0.17	1.00
<b>Related Party Index</b>	0.49	0.18	0.00	1.00
<b>Minority Shareholder Rights Index</b>	0.41	0.21	0.00	1.00
<b>Non-normalized sum of 42 elements</b>	21.08	5.69	11.06	31.68
<b><i>BCGI</i> (sum of subindices/6)</b>	0.52	0.12	0.32	0.81

Table 3 provides Pearson correlation coefficients between *BCGI* and its components. The correlation between *BCGI* and each of its subindices is fairly high, ranging from 0.28 to 0.79. However, some of this correlation is mechanical, 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 a *Reduced* Index comprised of the other five subindices. The correlation remains very high for disclosure at 0.80, but is moderate at 0.29-0.32 for Board Structure, Board Procedure, and Minority Shareholder Rights, and is small and insignificant for Ownership and Related Party. The inter-subindex correlations are generally positive but modest. This suggests that, except for Disclosure Subindex, multi-collinearity between subindices should not be a serious concern.

**Table 3. Correlation Matrix for Corporate Governance Index and Subindices**

Correlations among Brazil Corporate Governance Index (*BCGI*) and its components, for 66 private, nonfinancial firms which responded to the Brazil CG Survey 2005. Significant results (at 5% or better) are shown in **boldface**.

	<i>BCGI</i>	BS	OW	PR	DI	RP	SH
<i>BCGI</i>	1	<b>0.58</b>	<b>0.28</b>	<b>0.61</b>	<b>0.79</b>	<b>0.29</b>	<b>0.55</b>
<i>BCGI</i> - indicated subindex		<b>0.31</b>	0.05	<b>0.32</b>	<b>0.80</b>	0.05	<b>0.29</b>
Board Structure (BS)		1	-0.09	<b>0.24</b>	<b>0.31</b>	-0.12	<b>0.38</b>
Ownership Structure (OW)			1	0.08	0.01	0.15	0.03
Board Procedure (PR)				1	<b>0.51</b>	0.03	-0.09
Disclosure (DI)					1	0.08	<b>0.40</b>
Related Party (RP)						1	0.02
Minority Shareholder Rights (SH)							1

### 3.3. Other Variables

Our principal dependent variable for governance-to-value regressions is  $\ln(\text{Tobin's } q)$ , computed at year-ends 2005 and 2006. 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.

Many firm characteristics can potentially be associated with both Tobin's  $q$  and governance. We therefore include a number of control variables, within the limits of Brazilian financial reporting, to address the resulting potential for omitted variable bias. All are averaged over 2001-2004, or the available period if shorter. We use  $\ln(\text{assets})$  to control for the effect of firm size on Tobin's  $q$ . In unreported robustness checks, we obtain similar results if we instead use  $\ln(\text{sales})$ . We include years listed 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  $q$ . 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. We control for firms' growth prospects using sales growth, for capital intensity using PPE/sales, and for profitability using both net income/assets and *EBIT*/sales.

We include share turnover (traded shares/total shares) as a measure of liquidity, since share prices may be higher for firms with more liquid shares. We include ownership by the largest shareholder as a measure of insider ownership. Since both board structure and Tobin's  $q$  may reflect industry factors, we include industry dummies.

Many large Brazilian firms, including 18 of the 66 firms in our sample, cross-listed their shares in the U.S., though usually only preferred shares. All but one of these cross-listings is on the New York Stock Exchange or the NASDAQ National Market. We control for US cross-listing using an ADR dummy. This variable can proxy for foreign investor interest, liquidity, and enhanced disclosure.

*Bovespa listing level.* Of our sample firms, [**\*xx**] were listed on Bovespa Level 1 (which has only slightly higher standards than a traditional listing). In addition, [**\*xx**] were listed on Level 2, and [**\*yy**] on Novo Mercado, which contain significantly stronger governance rules than a traditional listing. A number of the Level 2 and Novo Mercado requirements are included as elements of our governance index.

Table 4 defines the principal financial and other non-governance variables used in this paper, and provides summary statistics.

**Table 4. Nongovernance Variables**

Table describes and provides summary statistics for the principal nongovernance variables used in this paper. Sample is 66 Brazilian private firms which responded to the Brazil CG Survey 2005. Data is from Economática unless otherwise stated. Control variables are averages for 2001-2004, or available period if shorter. Tobin's  $q$  is measured at year ends 2005 and 2006 (128 total observations). Monetary amounts in millions of Brazilian Reais.

**Panel A. Variable definitions.**

<b>Variables</b>	<b>Description</b>
Tobin's $q$	Computed as [book value of debt + market value of common and preferred shares]/(book value of assets). Market value is based on last trade during the year for firms with less than daily trading.
Assets	Total assets
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.
Common/total shares	(common shares)/(common shares + preferred shares)
ADR dummy	1 if firm has issued ADRs in the US; 0 otherwise.
Industry dummy variables	8 industry groups, plus residual <i>other</i> category for total of 9 groups.

## Panel B. Summary Statistics

Variable	Mean	Median	Std. Dev.	Minimum	Maximum
$\ln(\text{Tobin's } q)$	0.38		0.58	-0.49	2.18
$\ln(\text{assets})$	13.78		1.61	9.47	17.36
Leverage	0.30		0.24	0.00	1.07
Years listed (as of 2006)	23.6		13.8	0	63
Sales growth	0.23		0.11	0.03	0.62
PPE/sales	0.48		0.42	0.00	1.82
Net income/assets	0.11		0.08	0.00	0.38
EBIT/sales	0.12		0.10	0.00	0.59
Share turnover	0.17		0.22	0.00	1.31
Ownership	0.61		0.27	0.10	1.00
Common/total shares	0.50		0.24	0.00	1.00
ADR dummy	0.27		0.44	0	1

### 3.4. Methodology

Our principal methodology is to regress  $\ln(\text{Tobin's } q)$  at year-ends 2005 and 2006 on *BCGI* (based on a survey earlier in 2005, which reflects governance at about year-end 2004), and control variables (averaged over 2001–2004, or the available period if shorter). We have only cross-sectional data and no good instrument for governance, so we can assess only association, not causation. However, that we look forward in time from the measurement dates for *BCGI* and control variables to later dates for *Tobin's q* should limit the scope of reverse causation, in which *Tobin's q* predicts governance. We use an extensive set of control variables to reduce omitted variable bias.

We use three principal regression approaches. In the first, we use a quasi-panel data structure, with one time period for independent variables and two for the dependent variable, and firm random effects. In the second, we pool all observations of *Tobin's q*. In both approaches, we use year dummies, as well as firm clusters to address the correlation between the two observations of *Tobin's q*. In the third approach, we use the mean value of *Tobin's q* for 2005 and 2006 as the dependent variable. The results are similar for all three approaches.

Note 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.

## 4. Empirical Results

### 4.1. Full Sample Results

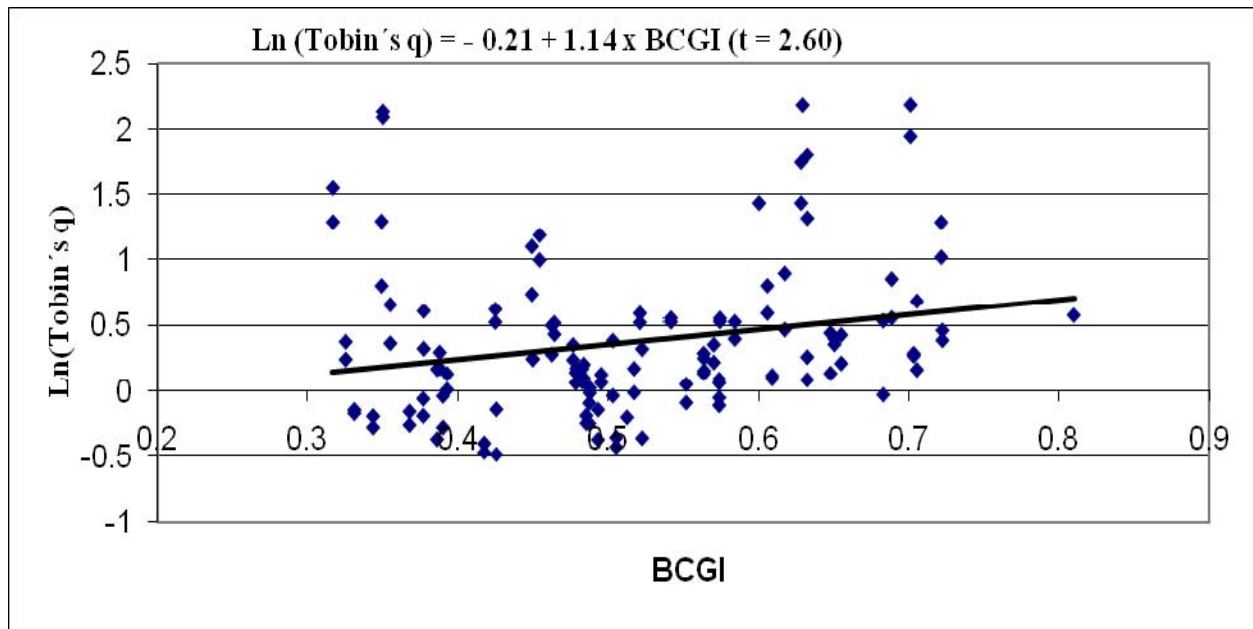
We assess in this part the association between firm-level corporate governance and firm market value. We next assess the association between *BCGI* and its components, on one hand, and firms' market values, on the other. We measure *Tobin's q* at year-ends 2005 and 2006, subsequent to the early 2005 time frame of our survey. This makes it less likely that reverse causation explains our results, but cannot eliminate this risk. Figure 2 provides a scatter plot of *BCGI* against pooled values of  $\ln(\text{Tobin's } q)$  for both years, plus a regression line from a simple

regression of Tobin's  $q$  on  $BCGI$  plus a constant term. There is a visually apparent correlation between the two. The simple correlation is 0.23 and the regression coefficient is 1.14 ( $t = 2.60$ ).

The association between  $BCGI$  and Tobin's  $q$  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 2.03.

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

Scatter plot of  $BCGI$  versus pooled values of  $\ln(\text{Tobin's } q)$  from year-ends 2005 and 2006. Sample size = 128 (66 discrete firms).



In Table 5, we regress  $\ln(\text{Tobin's } q)$  against  $BCGI$  and control variables, using several regression specifications. Regression (1) presents results with firm random effects. The coefficient on  $BCGI$  is economically meaningful and statistically significant. A worst-to-best (0.49) increase in  $BCGI$  predicts an 0.60 increase in  $\ln(\text{Tobin's } q)$ , or about an 82% increase in Tobin's  $q$ . Regression (2) reports pooled OLS results and regression (3) uses the mean of Tobin's  $q$  for 2005 and 2006 as the dependent variable. The results are very similar to those with random effects. In subsequent tables, we present only firm random effects regressions, but obtain similar results with the other two specifications.

**Table 5. Governance to Value: Overall Index**

Regressions of  $\ln(\text{Tobin's } q)$ , observed at year-ends 2005 and 2006, on Brazil Corporate Governance Index (*BCGI*) and control variables. Dependent variable in regression (3) is mean of 2005 and 2006 values. Sample = 128 observations (66 firms).  $t$ -statistics, using firm clusters for regressions (1) and (2), and White's heteroskedasticity-consistent standard errors for regression (3), are in parentheses.  $R^2$  is overall for random effects and adjusted for other regressions. \*, \*\*, and \*\*\* indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% or better) are shown in **boldface**.

Dependent variable	<i>Ln(Tobin's q)</i>			
	Specification	Firm random effects	Pooled OLS	Mean of 2005 and 2006
	(1)	(2)	(3)	
Overall Index ( <i>BCGI</i> )	<b>1.22</b> (2.75)***	<b>1.12</b> (2.58)**	<b>1.23</b> (2.53)**	
<i>Ln</i> (assets)	-0.03 (-0.75)	-0.03 (-0.64)	-0.04 (-0.76)	
Leverage	<b>0.54</b> (2.21)**	<b>0.55</b> (2.20)**	<b>0.54</b> (2.01)**	
Years listed	<b>-0.01</b> (-2.12)**	<b>-0.01</b> (-2.25)**	<b>-0.01</b> (-1.96)*	
Sales growth	0.14 (0.34)	0.15 (0.35)	0.15 (0.32)	
Net income/assets	<b>2.53</b> (5.10)***	<b>2.54</b> (5.08)***	<b>2.49</b> (4.58)***	
EBIT/sales	<b>0.96</b> (2.30)**	<b>0.99</b> (2.39)**	<b>0.94</b> (2.08)**	
PPE/sales	0.14 (0.81)	0.14 (0.77)	0.15 (0.79)	
Share turnover	-0.33 (-1.32)	-0.32 (-1.29)	-0.30 (-1.12)	
Ownership	0.04 (0.28)	0.05 (0.32)	0.04 (0.23)	
Voting/common shares	0.44 (1.79)*	0.42 (1.74)*	0.44 (1.66)*	
ADR dummy	0.04 (0.21)	0.03 (0.17)	0.04 (0.20)	
Intercept and industry dummies	Yes	Yes	Yes	
Firm clusters, year dummies	Yes	yes	n.a.	
$R^2$				

Several control variables are statistically significant. Of particular note: older firms have markedly worse governance. A one standard deviation (14 year) increase in years listed predicts a more than one standard deviation decrease in *BCGI*. More profitable and more leveraged firms have higher Tobin's  $q$ .

### 4.3. Subindex Results

We next examine which subindices are associated with  $\ln(\text{Tobin's } q)$ . Most subindices are correlated with each other, albeit only moderately (see Table 3). Regression (1) in Table 6 includes all six subindices as separate independent variables, in a firm random effects regression otherwise similar to Table 5, regression (1). The Ownership, Board Procedure, and Shareholder Rights subindices all take significant positive coefficients.

The significant negative coefficient on Board Structure Subindex contrasts with the multi-country results in Dahya, Dimitrov and McConnell (2008) and the results for Korea in Black and Kim (2008). Compare also Balasubramanian, Black and Khanna (2009) (insignificant coefficient on board structure subindex). In regression (2), we to further examine what aspects of board structure drive this unexpected result. We separate Board Structure Subindex into sub-subindices for Board Independence and Audit Committee and Fiscal Board. Board independence takes a significant negative coefficient, and largely drives the overall results for board structure.

Columns (3A) and (3B) use a somewhat different approach, to investigate the robustness of our subindex results. Each row reports coefficients from a regression similar to Table 5, regression (1), in which we replace *BCGI* with two variables – the indicated subindex or sub-subindex and a reduced index consisting of the rest of *BCGI*. Board structure remains negative and marginally significant, but the Board Independence subindex loses significance. The other subindices which were significant in regressions (1) and (2) retain significance with this approach, but the coefficient bounce around a bit.

**Table 6. Governance to Value for Subindices**

Firm random effects regressions of  $\ln(\text{Tobin's } q)$  on subindices as shown. Control variables and sample are the same as in Table 22, regression (3). Regressions (1)-(2) are similar to Table 5, except that we replace *BCGI* with the indicated subindices, as separate variables. In regression (3) (regression (4)), we replace *BCGI* with each subindex, separately (the subindex plus a reduced index = *BCGI* - indicated subindex). *t*-values, based on firm clusters and White's heteroskedasticity-consistent standard errors, are reported in parentheses. \*, \*\*, and \*\*\* respectively indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% level or better) are shown in **boldface**.

Dependent variable	Ln(Tobin's q)				
	All subindices together		Subindex	Reduced index	Subindices one at a time
Specification	(1)	(2)	(3A)	(3B)	(4)
Regression					
Board Structure	<b>-0.61***</b> (2.69)		-0.51* (1.92)	<b>1.56***</b> (4.31)	-0.32 (1.11)
Board Independence sub-subindex		<b>-0.39***</b> (2.76)	-0.16 (1.03)	<b>1.07**</b> (2.42)	-0.18 (1.07)
Audit Committee and Fiscal Board sub-subindex		-0.21 (1.15)	-0.05 (0.29)	<b>1.06***</b> (2.71)	-0.43 (0.21)
Ownership	<b>0.50**</b> (2.42)	<b>0.51**</b> (2.49)	<b>0.75***</b> (2.71)	0.73* (1.83)	<b>0.79***</b> (2.90)
Board Procedure	<b>0.64***</b> (3.65)	<b>0.62***</b> (3.52)	<b>0.37**</b> (2.14)	<b>0.72**</b> (2.09)	<b>0.46**</b> (2.47)
Disclosure	0.07 (0.34)	0.07 (0.31)	0.23 (1.04)	<b>1.00**</b> (2.05)	<b>0.42**</b> (2.09)
Related Party	-0.25 (1.03)	-0.27 (1.23)	-0.09 (0.71)	<b>1.23***</b> (3.12)	-0.50 (0.16)
Minority Shareholder Rights	<b>0.57***</b> (3.10)	<b>0.59***</b> (3.22)	<b>0.41**</b> (2.07)	0.82* (1.79)	<b>0.48**</b> (2.35)
Control variables	yes	yes	yes	yes	yes
Intercept, year and industry dummies	yes	yes	yes	yes	yes
Overall $R^2$	0.80	0.80	-	-	

In column (4) we report regression results in which we simply replace *BCGI* with the indicated subindex or sub-subindex, *without* controlling for the rest of *BCGI*. Board structure

loses significance, and disclosure becomes significant. These results highlight the importance of constructing an overall index in assessing particular aspects of governance, and controlling for the rest of the index. Compare, for example, the cross-country study by Dahya, Dimitrov and McConnell (2008), who find a cross-sectional association between percentage of independent directors and Tobin's  $q$ . They do not have available an overall governance index. Assuming that board independence is correlated with the rest of such an index, as is the case in Brazil (see Table 3), the rest of the index is an omitted variable. Our Brazil results suggest that this omitted variable could explain the positive association between board independence and Tobin's  $q$ .

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 Tobin's  $q$ . 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.

#### 4.4. Subsample Results

We also examine whether our results are driven by particular types of firms. We assess whether there are differences between manufacturing (xx firms) and nonmanufacturing (yy firms) firms, large and small firms, faster and slower-growing firms, and more- or less-profitable firms. For all other subsamples, we split the sample at the median, so each subsample includes 33 firms. To assess the association between *BCGI* and Tobin's  $q$  for manufacturing firms, we regress  $\ln(\text{Tobin's } q)$  on *BCGI*, a non-manufacturing dummy, and an interaction between *BCGI* and non-manufacturing dummy, in a regression otherwise similar to Table 5, regression (1). The coefficient on *BCGI* (the interaction term) gives the predicted association for manufacturing firms (difference between subsamples). The regression specification for other subsamples is similar.

Table 7, column (1) reports the results. *BCGI* is a significant predictor of Tobin's  $q$  for non-manufacturing firms, but not manufacturing firms, for large firms but not small firms, and for high-growth but not low-growth firms. However, in the first two cases, the difference between the two groups is not statistically significant. There is no appreciable difference between the predictive value of Tobin's  $q$  for high-profitability versus low-profitability firms.

Table 7 also reports subsample results for subindices. In the regression for Board Structure Subindex and manufacturing firms, we include Board Structure Subindex, the Reduced Index (*BCGI* – Board Structure Subindex), non-manufacturing dummy, and an interaction between non-manufacturing dummy and Board Structure Subindex, in a regression otherwise similar to Table 5, regression (1). The coefficient on the subindex (the interaction term) gives the predicted association for manufacturing firms (difference between subsamples). The specification for other subindex and subsample combinations is similar.

Board structure subindex is significant and negative for the full sample. For subsamples, it is usually negative, but never significant. This makes us cautious about placing too much reliance on the full-sample coefficient. Ownership, in contrast, is reliably positive and is 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. The stronger association for large firms is driven principally by Board Procedure Subindex.

**Table 7: Governance to Value for Subsamples**

Firm random effects regressions of  $\ln(\text{Tobin's } q)$ , observed at year-ends 2005 and 2006. For manufacturing firms, column (1) regression includes *BCGI*, non-manufacturing dummy, interaction between *BCGI* and non-manufacturing dummy, and control variables; column (2) regression includes non-manufacturing dummy, Board Structure Subindex, related Reduced Index, and their interactions with non-manufacturing dummy; all regressions include same control variables as Table 5. Regression equations for other subsamples and subindices are similar. First row repeats results from Table 5, regression (1) and Table 6, regression (1). Sample = 128 observations (66 firms). *t*-statistics, using firm clusters and White's heteroskedasticity-consistent standard errors for regression (3), are in parentheses. \*, \*\*, and \*\*\* indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% or better) are shown in **boldface**.

Dependent variable	Ln(Tobin's q)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<i>BCGI</i>	Board structure	Ownership	Board procedure	Disclosure	Related party	Shareholder rights
1 Full Sample	<b>1.22***</b> (2.75)	<b>-0.61***</b> (2.69)	<b>0.50**</b> (2.42)	<b>0.64***</b> (3.65)	0.07 (0.34)	-0.25 (1.03)	<b>0.57***</b> (3.10)
2 Manufacturing firms	0.70 (0.97)	-0.54* (1.65)	<b>0.69**</b> (2.13)	0.31 (1.31)	0.10 (0.36)	0.19 (0.54)	0.07 (0.25)
3 Non-manufacturing firms	<b>2.15***</b> (3.92)	0.36 (0.85)	<b>0.93**</b> (2.44)	<b>0.73**</b> (2.40)	<b>1.03***</b> (3.57)	-0.62 (-1.19)	<b>1.45***</b> (5.74)
4 (manufacturing – nonmanufacturing)	-1.44 (1.60)	-0.90* (1.76)	-0.24 (0.48)	-0.41 (1.11)	<b>-0.94**</b> (2.29)	0.81 (1.29)	<b>-1.38***</b> (3.74)
5 Large firms	<b>1.90***</b> (2.78)	-0.27 (-0.82)	<b>0.83**</b> (2.20)	<b>0.72***</b> (3.36)	0.59** (2.02)	-0.01 (-0.03)	0.32 (1.22)
6 Small firms	0.73 (1.04)	-0.39 (-0.8)	<b>0.75**</b> (2.09)	0.07 (0.22)	0.07 (0.18)	0.13 (0.3)	0.57* (1.91)
7 (large – small)	1.16 (1.14)	0.15 (0.18)	0.08 (0.15)	0.65* (1.70)	0.53 (1.16)	-0.15 (0.23)	-0.26 (-0.61)
8 High-growth firms	<b>2.28***</b> (3.29)	-0.23 (-0.51)	<b>0.92***</b> (2.55)	0.53* (1.61)	<b>0.95***</b> (3.70)	0.24 (0.45)	<b>0.73***</b> (2.49)
9 Low-growth firms	0.32 (0.51)	-0.37 (-1.04)	0.52 (1.26)	0.42* (1.80)	0.10 (0.04)	-0.32 (-0.81)	0.14 (0.51)
10 (high- minus low-growth)	<b>1.96**</b> (2.14)	0.14 (0.30)	0.41 (0.74)	0.11 (0.27)	<b>0.93***</b> (2.68)	0.56 (0.79)	0.59 (1.43)
11 High-profitability firms	1.28* (1.84)	-0.34 (-1.00)	<b>1.08***</b> (2.69)	0.38 (1.42)	0.35 (1.30)	0.24 (0.47)	0.51 (1.84)
12 Low-profitability firms	1.12* (1.88)	-0.26 (-0.69)	0.63* (1.73)	<b>0.54**</b> (2.16)	<b>0.50**</b> (2.12)	-0.29 (-0.69)	0.40 (1.27)
13 (high- minus low-profitability)	0.16 (0.19)	-0.81 (-0.20)	0.45 (0.08)	-0.16 (-0.45)	-0.15 (-0.54)	0.53 (0.79)	0.12 (0.30)

## F. Endogeneity and Omitted Variable Concerns

We provide evidence above that firm-level governance in early 2005 is associated with higher Tobin's  $q$  at year-end 2005 and 2006. We cannot assess causation because we have only cross-sectional data, and no plausible instrument for governance. But we can say a little bit about the likelihood that our results provide decent guides to causation.

The reverse causation flavor of endogeneity, with better performance leading to better governance, is not ruled out, but is at least limited by our forward-looking regression design.

Black and Kim (2009) find 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, and omitted variable bias, in which an omitted variable predicts both Tobin's  $q$  and BCGI, is more likely to be of serious concern if observable firm financial and ownership characteristics are strong predictors of firm-level governance choices. Black, Jang and Kim (2006b) report that firm characteristics, other than firm size, only weakly predict Korean firms' governance choices. Balasubramanian, Black and Khanna (2009) report that firm size, sales growth, and profitability all significantly predict higher BCGI scores. However, in regressions in which they use financial and ownership characteristics to predict an overall governance index, adjusted  $R^2$  values are consistently negative, as is the change in adjusted  $R^2$  from adding additional controls. These results suggest that the optimal differences flavor of endogeneity may be a limited concern in Brazil as well.

## 5. What Aspects of Corporate Governance Matter in Emerging Markets

In this part, we combine our findings with those from other “case studies” of emerging markets. We seek to assess which corporate governance elements emerge as important across countries. Our conclusions are tentative, for several reasons. First, most studies, including this one, rely on cross-sectional associations, so are subject to concerns with endogeneity and omitted variables. Time-series studies are preferable, but are still vulnerable to endogeneity concerns (e.g., Wintoki, Linck and Netter, 2008). Second, different studies use different governance indices. The “shareholder rights” measure in one study may map only loosely onto a similarly named measure in another study. Third, different countries have different regulatory minima, which affect the elements on which there is within-country variation, and the range of that variation. Fourth, it is hard to know how to react to studies which find weak or no results. One possibility is that there is little or no association between governance and firm market value, but it may also be that the index was poorly chosen, the sample size was small so statistical power was limited. These studies are often unpublished, which may reflect weaknesses in the study, but could also simply reflect the general difficulty that many authors have in publishing null results.

Generalizing turns out to be difficult, even if we focus on studies which find an association between an overall measure of firm-level governance and Tobin's  $q$ . The governance elements that predict higher firm value vary across countries. So do the subsamples in which the overall effect is found, or is stronger.

*Board structure and outside directors.* In this study, we find that board independence is significantly and negatively associated with Tobin's  $q$ . This contrasts to several other studies. For Korea, Black and Kim (2009) and Choi, Park and Yoo (2007) report evidence that outside directors can be valuable, at least for larger firms. For India, Black and Khanna (2007) find evidence that India's Clause 49 reforms, which were largely concerned with board structure and audit committees, raised the value of large firms relative to smaller firms, and Dharmapala and Khanna (2009) report that enforcement of these provisions is value enhancing, but Balasubramanian, Black and Khanna (2009) find no evidence that board independence, above the Clause 49 floor, is associated with Tobin's  $q$ . These weak results could partly reflect the fairly high regulatory floor set by Clause 49.

Why might board independence be either not associated or even negatively associated with Tobin's  $q$  for Brazilian firms? One possible reason is that some nominally independent directors are not very independent in fact. However, at about 2/3 of the firms with an independent director, at least one independent director is elected by minority shareholders under Brazilian rules that given minority shareholders this power in many cases. At about half of these firms, minority shareholders elect two or occasionally more independent directors. In unreported regressions, Element Sh2, which asks whether one or more directors are elected by minority shareholders, is positive but insignificant, with or without controlling for the rest of *BCGI*. So the non-independence of some nominally independent directors cannot be the whole story.

Another is that a lone independent director or two can't do much by himself. Perhaps there is value to having three such directors, as the Cadbury Committee recommended for the UK, but little value in having only one or two. Consistent with this, Black and Kim (2009) find in robustness checks that increasing the proportion of outside directors from the legal floor of 25% to 49% is not associated with higher Tobin's  $q$  – only getting to 50% has a value effect.<sup>7</sup> Only [\*xx] of the 66 firms in our sample have three or more independent directors.

*Disclosure.* There is also evidence that better disclosure predicts higher firm value. Black, Kim, Jang and Park (2009) so find for Korea, with firm fixed effects, as do Black, Love and Rachinsky (2006) for Russia, again with firm fixed effects, and Cheung, Connelly, Limpaphayom and Zhou (2007) for Hong Kong in cross-section. We find a positive and marginally significant coefficient on disclosure for non-BSE 500 firms.

*Shareholder rights.* There is mixed evidence on whether a package of shareholder rights can predict higher firm value. Cheung, Jiang, Limpaphayom and Lu (2009) so find for mainland China, with firm fixed effects, as do we for India in cross-section. However, Cheung, Connelly, Limpaphayom and Zhou (2007) find an insignificant negative coefficient on the same measure of shareholder rights in cross-section in Hong Kong, and Black, Kim, Jang and Park (2009) find an insignificant, negative coefficient on a shareholder rights measure in Korea with firm fixed effects.

*Related party transactions.* There is mixed evidence on whether direct controls on related party transactions predict higher firm value. Black, Love and Rachinsky (2006) so find for Russia with firm fixed effects, but we find no significant effect for India in cross-section. However, part of the value added by independent directors may involve better control of related party transactions, so that even if they occur, they are less adverse to minority shareholders. Black and Kim (2008) find evidence of this for Korea with firm fixed effects. This indirect effect of governance on related party transactions would be captured by a board structure measure, rather than the related party transactions measure.

*Board and committee procedures.* Board and committee procedures are easy to measure, but there is as yet no good evidence that they predict firm value. Black, Kim, Jang and Park (2009) find an insignificant coefficient on a board procedures measure in Korea with firm fixed effects, as do we for India in cross-section.

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<sup>7</sup> Results available from the authors on request; not presented in the current version of the paper. Choi, Park and Yoo (2007) report that a continuous measure of board independence is associated with firm market value, but also report that significance vanishes if they use a firm fixed effects specification.

*Ownership parity.* Black, Kim, Jang and Park (2009) find evidence for Korea, with firm fixed effects, that a measure of “ownership parity” (whether the largest shareholder has equal voting and economic rights) predicts higher firm value. A number of cross-country studies also find that higher ownership parity predicts higher firm value (e.g., Claessens, Djankov, Fan and Lang, 2002).

*Firm size, profitability, and growth opportunities.* It is plausible that large firms need different governance structures than small firms. Our results support this proposition – the overall association between *BCGI* and Tobin’s *q* is driven by the non-BSE 500 firms in our sample. On the other hand, Black, Kim, Jang and Park (2009) report similar results for large and small firms. We also find that the association between *BCGI* and Tobin’s *q* is present for high-profit (but not low profit) firms, and for firms with high Tobin’s *q*, which proxies in part for growth opportunities (but not low-*q* firms).

Our results for subsamples based on firm size and Tobin’s *q* are consistent with the arguments that firms with greater need for external capital benefit more from governance reform (Rajan and Zingales, 1998; Durnev and Kim, 2005). Other studies do not examine subsamples divided in these ways; doing so could be a fruitful avenue for future research. Our results suggest that one-size does not fit all in governance, which implies that there should be room for firms to tailor governance to their own characteristics.

*Inter-firm differences.* Minimum mandatory rules can be valuable in some instances (Black and Khanna, 2007 (India); Black and Kim, 2008 (Korea)). At the same time, the benefits of “better” governance depend in part on firm characteristics. Moreover, governance regulations can sometimes impose larger costs than benefits. The U.S. Sarbanes-Oxley Act offers an example, both for U.S. firms and cross-listed foreign firms (Litvak, 2007; Zhang, 2009).

One response to inter-firm variation would be a relatively low regulatory floor, which mandates only governance structures that are likely to benefit all or most firms. Another would involve a comply-or-explain corporate governance code, of the sort used in the UK (see Arcot and Bruno, 2006) and a number of other countries.

*Cross-country differences.* Different countries may have different corporate governance needs. For example, the mean and median Tobin’s *q*’s for our sample are over 2 (see Table 3). This suggests a combination of strong growth prospects for most firms and investors not expecting a high level of tunneling. In contrast, mean and median Tobin’s *q* levels are much lower in the other countries for which we have similar case study evidence, and are below 1 in Korea (Black, Kim, Jang and Park, 2009) and in the early years of the Russia study by Black, Love, and Rachinsky (2006), and are often a small fraction of 1 (suggesting high tunneling risk) in Black’s (2001) study of Russian firms in 1999. This suggests that the core corporate governance problems may be different, either in kind or in intensity, across countries, and may call for different remedies.

*Public enforcement.* Dharmapala and Khanna (2009) provide evidence supporting the value of sanctions against Indian firms which did not comply with India’s governance rules, and against their directors. This effect was found even though the change in official sanctions, which occurred in 2004, was not then (or since) followed by imposition of actual sanctions. Compare Bhattacharya and Daouk (2002, 2006), who report that enforced insider trading laws affect firm valuation, but unenforced laws do not. Desai, Dyck and Zingales (2007) provide evidence from

Russia that enforcement of corporate income tax laws can benefit minority shareholders by limiting cash-flow tunneling.

## 7. Conclusion

**[India conclusion follows, need to edit for Brazil]:** We provide a detailed descriptive account of the governance practices of Indian public firms. Most firms meet the board independence rules under Indian law, which require either 50% outside directors or 1/3 outside directors and a separate CEO and board chairman, but 13% (38 firms) do not. The board chairman often represents the controlling business group or other controlling shareholder. Firms are more likely to comply with audit committee requirement, although 1% do not. Related party transactions are common (67% of firms have RPTs representing 1% of more of revenues), but approval requirements for them are often weak. For transactions with a controlling shareholder, only 7% (1%) of firms require approval by non-conflicted directors (minority shareholders). However, 78% of firms nominally require RPTs to be on “arms-length” terms, and 94% disclose them to shareholders. Only about 2/3rds of firms provide annual reports on their websites. For those which do not, there is no good alternate source. Executive compensation is modest by US standards, but CEOs face only a small risk of dismissal. Only about 75% of firms allow voting by mail, even though this has been legally required since 1956. Government enforcement actions against firms are almost nonexistent.

We also contribute to the literature on corporate governance indices and the connection between governance and firm value. We build a broad Indian Corporate Governance Index (*BCGI*) and examine the association between *BCGI* and firm market value. We find a positive and statistically significant association between *BCGI* and firm market value in India. This is consistent with prior research in other countries and in cross-country studies. The association is more significant for more profitable firms and firms with higher growth opportunities. A subindex for shareholder rights is individually significant, but subindices for board structure, disclosure, board procedure, and related party transactions are not significant. The non-results for board structure contrast to other recent studies, and suggest that India's legal requirements are sufficiently strict so that overcompliance does not produce valuation gains.

This suggests that a combination of some mandatory minimum rules (perhaps differing based on firm size) and flexibility above the minimum level may prove more valuable than legal regimes that rely primarily on mandatory rules. That flexibility could come, as in Brazil, through firms choosing among different governance levels offered by the stock exchange, or through a comply-or-explain regimes, such as those in the UK and Continental Europe.

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(\* = verified used in current draft)

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