

**Online Appendix**  
**for**  
**Which Aspects of Corporate Governance Do and Do Not Matter**  
**in Emerging Markets**

(draft October 2019)

Bernard Black  
*Northwestern University, Law School and Kellogg School of Management*

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

Vikramaditya Khanna  
*University of Michigan Law School*

Woochan Kim  
*Korea University Business School*

Burcin Yurtoglu  
*WHU - Otto Beisheim School of Management*

*This online appendix can be downloaded without charge from  
SSRN at: <http://ssrn.com/abstract=3058081>*

The underlying paper can be downloaded from the  
SSRN electronic library at: <http://ssrn.com/abstract=2601107>

# **Online Appendix for**

## **Which Aspects of Corporate Governance Do and Do Not Matter in Emerging Markets**

**Abstract:** This online appendix provides additional results for Bernard Black, Antonio Gledson de Carvalho, Vikramaditya Khanna, Woochan Kim, and Burcin Yurtoglu, *Which Aspects of Corporate Governance Do and Do Not Matter in Emerging Markets* (working paper 2019), at <http://ssrn.com/abstract=2601107>. It also provides Stata code to implement our lower bounds analysis.

### **A – Overview of Appendix Tables**

Table 1 in the text summarizes the elements of Board Structure Index and Disclosure Index. Appendix Table A1 provides similar information for all indices.

Table 2 in the text provides summary information for our Brazil sample. Appendix Table A2 provides similar information for all four countries.

Appendix Table A3 provides summary statistics and data sources for the outcome variables and covariates we use.

In text Table 6, we suppress results for covariates to save space. Appendix Table A4 is the same as Table 6 but includes results for covariates, for each country.

Appendix Table A5 provides results for individual disclosure and board structure elements, for each country.

Appendix Table A6 provides results for subsamples, where we split the original sample in various ways.

Appendix Table A7 provides firm FE regressions similar to those in text Tables 6 and 9, but using  $\ln(\text{market value} - \text{the numerator of Tobin's } q)$  instead of  $\ln(\text{Tobin's } q)$  as the dependent variable.

Appendix Table A8 provides firm FE regressions similar to those in text Tables 6 and 9, but using  $\ln(\text{industry-adjusted Tobin's } q)$  as the dependent variable.

#### **A.1 – Results for Individual Elements**

In Table A5, we assess whether the power of the individual elements of our CG indices to predict Tobin's  $q$ . Each row reports coefficients from separate country-specific regressions with firm FE. For each, the predictor variables are (i) a particular element; (ii) the rest of the index to which this element belongs; and (iii) the other governance indices.

For Disclosure Index, there is no evidence that individual elements have power, once we control for the remaining elements of Disclosure Index (and the remaining indices). Across all four countries, we have 50 disclosure elements; of these 3 take significant positive coefficients and 1 takes a significant negative coefficient. These results could arise by chance.<sup>1</sup>

## **A.2 – Results for Subsamples**

Appendix Table A6 assesses whether our results were driven by particular subsamples. We split the sample into: manufacturing versus other firms, large versus small firms, high versus low profitability firms, high-growth versus low-growth firms, firms that are part of a business group versus non-group firms, old versus young firms, and firms cross-listed in the U.S. versus other firms. Very few coefficients are significantly different across subsamples, and the differences are not consistent across countries. Some of the significant differences are as follows. We find that Disclosure and Board Structure matter more for non-manufacturing firms in Brazil, but nowhere else (Panel A). Board Structure is more important for small firms in Brazil and Shareholder Rights and RPT indices predict higher firm value in small firms in India. In Korea, better Shareholder Rights predict higher (lower) firm value for large (small) firms (Panel B). The coefficients on Disclosure Index are generally higher for high-growth firms, but significantly so only in Brazil. Ownership Structure Index predicts higher firm value for low growth firms in Turkey (Panel C). Differences between old and young firms are almost all insignificant. Disclosure is more important for non-US-cross-listed firms in Turkey, and Board Structure matters more for non-US-cross-listed firms in Brazil (Panel G). These results suggest that the results presented above likely apply generally to most firms, rather than being limited to particular subsets.

## **A.3 – Results with Ln(Market Value) as Alternative Outcome Variable**

Tobin's  $q$ , which is the main outcome variable we use in the text, is an often criticized construct. Table A7 therefore reports results from an alternative specification using  $\ln(\text{market value})$ .

---

<sup>1</sup> Of the three positive and significant elements, two have  $t$ -statistics only slight about 2.00. The third, Korea element  $k\text{-dis\_2}$  (does firm meet regularly with analysts), is statistically stronger (coefficient = 0.052;  $t = 3.12$ ). However, Korea Disclosure Index is thin, with only three elements, and we consider it likely that some of the power of this element arises because it correlates with other, omitted disclosure elements for which we lack data.

value = market value of equity + book value of debt) (the numerator for Tobin's  $q$ ) instead of  $\ln(\text{Tobin's } q)$  as the dependent variable.

#### **A.4. Lower Bounds Analysis**

Because the lower bounds analysis is likely to be unfamiliar to a finance audience, we provide below sample Stata code to implement this analysis for our sample, for both the HHH and ACETO bounds approaches.

**Table A1. Full List of Governance Elements in each Country**

This table indicates which governance elements we used in each country. In element label, the first letter indicates the country, the next ones the subindex that the element belongs to, and next the number of the element within that subindex (e.g., *i\_dis\_11* is element 11 of Disclosure Index, for India). Elements in boldface are used as index elements. An element not boldfaced is available and potentially meaningful, but is not included in the index because it is too similar to another element that is used. NP (non-public): not publicly available, NA (not available): element is non-public and not collected in our private surveys; NM (not meaningful) because mandatory, not allowed, too rare or too common; We use “outside” and “independent” directors interchangeably.

For additional details on the elements, see the expanded working paper version of Black et al. (2014). Since completing that paper, we: (i) removed two Turkey-specific elements from Board Structure Index (elements *bs\_6* and *bs\_10*), (ii) classified elements *bs\_13*, *bs\_14*, *bs\_15* and *bs\_20* as part of Board Independence Subindex rather than Board Committee Subindex, and (iii) redefined *bs\_7*, compared to Black et al. (2014), where we defined this variable as “CEO is NOT board chairman” and “≥ one-third outside directors”. We did not renumber any elements.

ELEMENTS	BRAZIL	INDIA	KOREA	TURKEY
<b>Board structure index</b> <i>Independence elements</i>				
≥ 1 outside director on board	<b>b_bs_1 (NP)</b>	NM	NM	<b>t_bs_1</b>
> 1 outside director	<i>b_bs_2 (NP)</i>	NM	NM	<b>t_bs_2</b>
≥ 30% outside directors	<b>b_bs_3(NP)</b>	NM	NM	<b>t_bs_3</b>
≥ 50% outside directors	<b>b_bs_4 (NP)</b>	<b>i_bs_4</b>	<b>k_bs_4</b>	NM
strictly > 50% outside directors	NM	<b>i_bs_5</b>	<b>k_bs_5</b>	NM
CEO is NOT board chairman and ≥ 50% outside directors	<b>b_bs_7</b>	<b>i_bs_7</b>	NA	<b>t_bs_7</b>
Board chairman is outside director or firm has outside lead director	NM	NA	<b>k_bs_8</b>	NM
≥ 50% outside directors <b>or</b> ≥ 1/3 outside directors <i>and</i> CEO is not chairman <sup>2</sup>	<i>b_bs_9 (NP)</i>	<b>i_bs_9</b>	NA	NM
Audit comm. has outside director	NA	NA	NM	<b>t_bs_13</b>
Audit comm. has majority of outsiders	NM	<b>i_bs_14 (NP)</b>	<i>k_bs_14</i>	NA
Audit comm. has 2/3 outsiders	NM	<i>i_bs_15 (NP)</i>	<b>k_bs_15</b>	NA
Permanent fiscal board <b>or</b> audit comm. with minority shareholder representative exists	<b>b_bs_20</b>	NM	NM	NM
<i>Committee elements</i>				
Audit committee (comm.) exists	<b>b_bs_11</b>	NM	<b>k_bs_11</b>	NM
Audit comm. has non-executive chair	NA	NA	NM	<b>t_bs_12</b>
Compensation comm. exists	NM	<b>i_bs_16</b>	<b>k_bs_16</b>	NA
Outside director nominating comm. exists	NM	NA	<b>k_bs_17</b>	NA
Corporate Governance comm. exists	NM	NA	NM	<b>t_bs_18</b>
Permanent or near-permanent fiscal board exists	<b>b_bs_19</b>	NM	NM	NM
<b>Board procedure index</b> <i>General procedure elements</i>				
≥ 4 regular board meetings per year	NA	NA	<b>k_bp_1</b>	NA
> 4 physical board meetings in last year	<b>b_bp_2 (NP)</b>	NA	NA	NA
Firm has system to evaluate CEO	<b>b_bp_3 (NP)</b>	<b>i_bp_3</b>	NA	NA
Firm has system to evaluate other executives	<b>b_bp_4 (NP)</b>	<b>i_bp_4</b>	NA	NA
Firm evaluates outside or nonexecutive directors	NA	<b>i_bp_5</b>	<b>k_bp_5</b>	NA
Firm has succession plan for CEO	NA	<b>i_bp_6</b>	NA	NA
Firm has nonexecutive director retirement age	NA	<b>i_bp_7</b>	NM	NA
Directors receive regular board training	NA	<b>i_bp_8</b>	NA	NA
Only-nonexecutives annual meeting exists	NA	<b>i_bp_9 (NP)</b>	NM	NA
Only-outside directors annual meeting exists	NM	NA	<b>k_bp_10</b>	NA
Board receives materials in advance of meeting	<b>b_bp_11 (NP)</b>	<b>i_bp_11</b>	NA	NA

<sup>2</sup> This element is required by India’s “Clause 49”; however, not all firms comply.

ELEMENTS	BRAZIL	INDIA	KOREA	TURKEY
Nonexecutives can hire own counsel & advisors	NA	<b>i_bp_12</b>	NA	NA
Firm has code of ethics	<b>b_bp_13 (NP)</b>	<b>i_bp_13</b>	NA	<b>t_bp_13</b>
Firm has specific bylaw/policy to govern board	<b>b_bp_14 (NP)</b>	NA	<b>k_bp_14 (NP)</b>	<b>t_bp_14</b>
Directors' positions on board meeting agenda items are recorded in board minutes	NA	NA	<b>k_bp_15(NP)</b>	NA
Firm has $\geq 1$ foreign outside directors	NM	NA	<b>k_bp_16</b>	NA
Shareholders approve <i>outside</i> directors' aggregate pay (separate from approval of <i>all</i> directors' aggregate pay)	NM	NM	<b>k_bp_18 (NP)</b>	NA
Outside directors attend at least 70% of meetings	NA	NA	<b>k_bp_19</b>	NA
<b>Audit committee procedure elements</b>				
Firm has internal audit/control function	NA	NA	NM	<b>t_bpa_1</b>
Audit comm. members & chair are disclosed	NA	NA	NM	<b>t_bpa_2</b>
Firm has bylaws governing audit comm.	NA	<b>i_bpa_3</b>	<b>k_bpa_3 (NP)</b>	NA
Company discloses audit comm. bylaws	NA	NA	NA	<b>t_bpa_4</b>
Audit comm. recommends external auditor	NA	<b>i_bpa_5</b>	NA	NA
Outside directors on audit comm. meet separately	NA	<b>i_bpa_6</b>	NA	NA
Audit comm. includes accounting or finance expert	NA	NM	<b>k_bpa_7 (NP)</b>	NA
Audit comm. (Korea: or internal auditor) approves head of internal audit team	NM	NA	<b>k_bpa_8 (NP)</b>	NA
Audit comm. meets at least 4 times per year	NA	NA	<b>k_bpa_9</b>	NA
<b>Disclosure index</b>				
<b>Financial disclosure elements</b>				
RPTs are disclosed to shareholders	<b>b_dis_1 (NP)</b>	<b>i_dis_1</b>	NA	NM
Firm has regular meetings with analysts	<b>b_dis_2 (NP)</b>	<b>i_dis_2</b>	<b>k_dis_2 (NP)</b>	NA
Firm puts annual financial statements on firm website	<b>b_dis_3</b>	<b>i_dis_3</b>	NA	<b>t_dis_3</b>
Quarterly financial statements are consolidated	<b>b_dis_4</b>	NA	NA	NM
Firm puts quarterly financial statements on firm website	<b>b_dis_5</b>	<b>i_dis_5</b>	NA	<b>t_dis_5</b>
Firm puts annual report on firm website	NA	<b>i_dis_6</b>	NA	<b>t_dis_6</b>
English language financial statements exist	<b>b_dis_7</b>	NM	<b>k_dis_7 (NP for past data)</b>	<b>t_dis_7</b>
Financial statements include statement of cash flows	<b>b_dis_8</b>	NM	NM	NM
Financial statements in IFRS or US GAAP	<b>b_dis_9</b>	NA	NM	NM
MD&A discussion in financial statements	<b>b_dis_10</b>	NM	NM	NA
<b>Non-financial disclosure elements</b>				
Firm discloses 5% shareholders	Feasible, (NM)	<b>i_dis_11</b>	NM	Feasible
Controlling shareholder disclosed	NM	NM	NM	<b>t_dis_12</b>
If shareholder agreement among controlling shareholders exists, it is disclosed (could be no control group or no agreement)	NA	<b>i_dis_13</b>	NA	NA
Firms puts directors' report on firm website	NM	<b>i_dis_14</b>	NM	NM
Firm puts corporate governance report on firm website	NM	<b>i_dis_15</b>	NM	<b>t_dis_15</b>
Firm discloses material events on firm website	NA	NA	NA	<b>t_dis_16</b>
Firm discloses annual agenda of corporate events	<b>b_dis_17</b>	NA	NA	<b>t_dis_17</b>
Firm charter are avail on firm website	NA	NA	NA	<b>t_dis_18</b>
Executive director compensation policy disclosed	NM	NA	NM	<b>t_dis_19</b>
Firm puts shareholder voting information on firm website	NM	NA	NA	<b>t_dis_20</b>
Firm discloses list of insiders	NM	NA	NA	<b>t_dis_21</b>
Firm discloses shareholding by individual directors	NM	NA	NM	<b>t_dis_22</b>
Governance charter or guidelines disclosed	NA	NA	NM from 2000	<b>t_dis_23</b>
Annual meeting results disclosed (attendance, agenda, voting results)	NM	NA	NM	<b>t_dis_24</b>

ELEMENTS	BRAZIL	INDIA	KOREA	TURKEY
Board members' roles/employment disclosed	NM	NA	NM	t_dis_25
Board members' background disclosed	NM	NA	k_dis_26	t_dis_26
Board members date of joining board disclosed	NM	NA	NM	t_dis_27
Background of senior managers disclosed	NA	NA	NA	t_dis_28
Number of board meetings disclosed	NM	Feasible (NP)	NM from 2000	t_dis_29
Board resolutions disclosed	NA	NA	NM from 2000	t_dis_30
Code of conduct or ethics disclosed	NA	NM	NA	t_dis_31
<b>Disclosure reliability elements</b>				
Information on internal audit/control disclosed	NA	NA	NM	t_dis_32
Auditor does not provide non-audit services	b_dis_33	i_dis_33	NA	NA
Auditor does not provide non-audit services, or non-audit fees are < 25% of total auditor fees	NA	i_dis_34	NA	NA
Full board reviews auditor's recommendations	NA	i_dis_35	NA	NA
Audit partner is rotated every 5 years	NM	i_dis_36	NA	NA
<b>Ownership Structure index</b>				
Largest shareholder's fractional ownership of common/voting shares	b_own_1	NM	NM <sup>3</sup>	t_own_1
1.5*((common shares/(total shares)-1/3)	b_own_2 <sup>4</sup>	NM	NM	NM
Ownership parity <sup>5</sup>	b_own_3	NM	k_own_3	t_own_3
Size of control group <sup>6</sup>	b_own_5	NA	NA	NM
Firm has an outside 5% institutional investor	b_own_6	Feasible	NA <sup>7</sup>	t_own_6
Controllers do not have special nomination rights	NM	NM	NM	t_own_7
Class of shares with preferred voting rights does not exist	NM	NM	NM	t_own_8
<b>Shareholder Rights index</b>				
All directors serve one year terms	b_sr_1	NA	NM	NA
Outside directors serve one year terms	NA	i_sr_2	NA	t_sr_2
Firm allows voting by postal ballot	NM	i_sr_3	k_sr_3	NM
Company has policy against insider trading	NA	i_sr_4	NA	t_sr_4
Board includes at least one member elected by minority shareholders	b_sr_5 (NP)	i_sr_5	NM	NA
Cumulative voting for election of directors	Feasible (NP)	NM	k_sr_6	NM
Director candidates disclosed to shareholders in advance of shareholder meeting	NM	NA	k_sr_7	NA
No class of shares w. special nomination rights (except to give rights to 2 <sup>nd</sup> major shareholder)	NM	NM	NM	t_sr_8
No class of shares w. multiple voting rights	NA	NM	NM	t_sr_9
No founder shares or other special cash flow rights	NA	NM	NM	t_sr_10

<sup>3</sup> Fraction of shares held by controlling shareholder and relatives. Controlling shareholder may not be largest shareholder. For example, a chaebol firm may be controlled by its chairman, but the largest owner may be another member of the chaebol group. Data on largest single shareholder is not available.

<sup>4</sup> Under Brazilian law the ratio of common/total shares must be at least 1/3; so under this formula, element values span [0, 1].

<sup>5</sup> Ownership parity = (1 – disparity), disparity = (fraction of voting rights held by all affiliated shareholders - ownership by controlling shareholder and family members). In Brazil, use 1 – (fraction of common [voting] shares held by largest owner)/(fraction of total shares held by largest owner).

<sup>6</sup> Defined as (((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 less than 50%).

<sup>7</sup> Korean firms must disclose 5% blockholders, but these include insiders (family members and affiliated firms), so it is nontrivial to identify outside 5% blockholders. For each firm, one needs to exclude related parties. Firms that belong to a *chaebol* group must identify their related parties, but there is no similar requirement for other firms.

ELEMENTS	BRAZIL	INDIA	KOREA	TURKEY
Firm has investor relations department (or contact person)	NM	NA	NA	t_sr_11
Freezeout offer to minority shareholders based on shares' economic value	b_sr_12	NM	NM	NM
Takeout rights on sale of control above legal minimum	b_sr_13	NM	NM	NA
Disputes with shareholders subject to arbitration	b_sr_14	NM	NM	NM
Firm has no authorized capital or provides preemptive rights	b_sr_15 (NP)	NM	NM	NM
Free float is at least 25% of total shares	b_sr_16 (NP)	NA	NA	NA
<b>Related Party index</b> <b>RPT Volume elements</b>				
No loans to insiders	b_rpt_1 (NP) <sup>8</sup>	NA	NA	t_rpt_1 <sup>9</sup>
No significant sales to/purchases from insiders	b_rpt_2 (NP)	NA	NA	NA
No real property rental from or to an insider	b_rpt_3 (NP)	NA	NA	NA
Negligible revenue from RPTs (0-1% of sales)	NA	NA	NA	t_rpt_4
No significant RPTs (RPTs/sales < 5%)	NA	NA	NA	t_rpt_5
No RPTs needed board/audit committee approval in last 3 years	NA	NA	NA	NA
RPTs are on arms-length terms	NA	i_rpt_7	NM	NA
<b>RPT approval elements</b>				
RPTs require board approval	b_rpt_8(NP)	i_rpt_8 (NP)	NA	NM
RPTs require approval by noninterested directors	b_rpt_9 (NP)	i_rpt_9 (NP)	NA	NA
RPTs require approval by noninterested shareholders	b_rpt_10 (NP)	NA	NA	NA
RPTs with <i>executives</i> approved by board, audit committee or shareholders	NA	i_rpt_11	NM	NA
RPTs with <i>executives</i> approved by audit committee or non-interested directors	NA	i_rpt_12	NA	NA
RPTs with executives approved by shareholders	NA	i_rpt_13	NM	NA
RPTs with <i>controlling shareholder</i> approved by board, audit committee or shareholders	NA	i_rpt_14	NA	NA
RPTs with <i>controlling shareholder</i> approved by audit committee or non-interested directors	NA	i_rpt_15	NA	NA
RPTs banned by company charter	b_rpt_16	NA	NM	NA

<sup>8</sup> Brazil: Elements b\_rpt\_1, b\_rpt\_2, and b\_rpt\_3 are based on a single survey question: Does firm have loans to insiders, significant sales to or purchases from insiders, **or** rent real property to or from insiders. We treat them as a single element in computing related party index for Brazil. Brazil RPT Index is an exception to our general practice of weighting each element equally within a particular index. RPT index has five elements, and is defined to equal 100 if RPTs are forbidden in the bylaws, and 80 if RPTs are not forbidden but do not exist. If RPTs exist, RPT index = 20 \* (sum of remaining three elements).

<sup>9</sup> Turkey: Data available, but element not used because we do not have sufficient RPT elements to build an RPT Index, because t\_rpt\_4 and t\_rpt\_5 measure about the same thing.

**Table A2. Summary Statistics on Governance Samples**

For Korea (and Turkey) our sample includes almost all public firms listed on the Korea Stock Exchange (Borsa Istanbul). For Brazil and India, we rely on private surveys. The table shows the coverage of public firms in each country, by survey year.

**Brazil sample.** Total number of firms and market capitalization for all firms which responded to the 2004, 2006 and 2009 Brazil corporate governance surveys. Market capitalization is based on exchange rate at Dec. 31, 2009 of R\$1.75/US\$1. Market capitalization and number of Brazilian private firms is measured at end of survey year (for “overlap” rows, most recent year). Last row reflects respondents that were public in 2009 and were in the dataset in at least one year. All data excludes SOEs, banks, and subsidiaries of foreign companies.

Survey year	Public firms	Sample (% of public firms)	Market cap (US\$ billions)	Capitalization of responding firms (% of public firms)
2004	261	63 (24%)	524	260 (49%)
2006	233	92 (39%)	821	495 (60%)
2009	254	97(38%)	1,191	747 (62%)

**India sample.** Total number of firms and market capitalization for all firms which responded to the 2006, 2007 and 2012 India corporate governance surveys. Market capitalization is based on exchange rate at Dec. 31, 2012 of R\$1.75/US\$1. Market capitalization and number of Indian private firms is measured at end of survey year (for “overlap” rows, most recent year). Last row reflects respondents that were public in 2009 and were in the dataset in at least one year. All data excludes SOEs, banks, and subsidiaries of foreign companies.

Survey year	Public firms	Sample (% of public firms)	Market cap (US\$ billions)	Capitalization of responding firms (% of public firms)
2006	2,526	260 (10%)	115	21 (18%)
2007	2,872	367 (13%)	866	47 (5%)
2012	2,986	220 (7%)	473	38 (8%)
2006 & 2007	2,367	134 (6%)		
2006 & 2012	2,322	85 (4%)		
2007 & 2012	1,985	148 (8%)		
all 3 surveys	1,955	57 (3%)		
at least one survey	3,665	537 (15%)	473	60 (13%)

**Korea sample** Number and market capitalization of firms (excluding banks and SOEs) listed on Korea Stock Exchange and of firms (excluding banks and SOEs) in the sample. They are obtained at year end. Market capitalization in US dollar terms are obtained by using each year-end’s won/dollar exchange rate.

Survey year	Korea Stock Exchange (KSE) firms	Sample (% of KSE firms)	Market cap (US\$ billions)	Capitalization of responding firms (% of KSE firms)
1998	733	469 (64%)	78.24	52.39 (67%)
1999	708	489 (69%)	207.37	161.83 (78%)
2000	690	516 (75%)	99.31	84.65 (85%)
2001	670	538 (80%)	135.62	126.73 (93%)
2002	661	444 (67%)	153.37	134.76 (88%)
2003	661	636 (96%)	219.24	208.55 (95%)
2004	668	497 (74%)	317.98	237.68 (75%)

**Turkey sample** Total number of firms and market capitalization for all companies on National Market (Source: Borsa Istanbul (<http://www.borsaistanbul.com/en/>)). Market capitalization is based on exchange rate at Dec. 31<sup>st</sup> of respective years. Sample excludes banks and SOEs. Sample firms exclude state-controlled firms, banks, and subsidiaries of foreign companies.

Survey year	Public firms	Sample (% of all public firms)	Market cap (US\$ billions)	Capitalization of sample firms (% of public firms)
2006	290	188 (65%)	96	91 (95%)
2007	292	188 (64%)	161	154 (96%)
2008	284	187 (66%)	60	58 (97%)
2009	233	227 (97%)	130	127 (97%)
2010	241	199 (83%)	180	171 (95%)
2011	237	201 (85%)	129	120 (93%)
2012	242	206 (85%)	193	178 (92%)

**Table A3. Summary Statistics for Non-Governance Covariates**

Table shows means and standard deviations for outcome variables and non-governance covariates. These variables are defined in text Table 5. Income statement (balance sheet) amounts are measured for each year  $t$  (at end of year  $t$ ). Sources for non-governance data are as follows. Brazil: financial data are from Economatca ([www.economatca.com](http://www.economatca.com)) and basic company information from annual reports, available from InfoInvest at [www.infoinvest.com.br](http://www.infoinvest.com.br). India: Prowess database (<https://prowess.cmie.com/>). Korea: *TS2000* database maintained by the Korea Listed Companies Association; the list of companies affiliated with the top-30 *chaebol* from press releases by the Korean Fair Trade Commission; stock market and share ownership data from a *KSE* database. Turkey: StockGround, provided by Rasyonet (<http://www.rasyonet.com/eng/index.html>). Information on U.S. cross-listed firms and the foreign exchange(s) they are listed on, comes from databases at the Bank of New York ([www.adrbny.com](http://www.adrbny.com)), Citibank ([www.citissb.com/adr/www/brokers/index.htm](http://www.citissb.com/adr/www/brokers/index.htm)), Deutsche Bank (<https://www.adr.db.com/>) and JP Morgan ([www.adr.com](http://www.adr.com)).

We define covariates in ways that limit loss of sample size due to missing data. Some examples: We sometimes impute values from an adjacent year. We generally define leverage as total liabilities/(total liabilities + book value of assets), but use total debt instead of total liabilities in India because in the Prowess database, total liabilities = total assets, for some reason. We drop firm-years with zero or negative sales. In India, we use  $\ln(\text{years since incorporation})$  instead of  $\ln(\text{years listed} + 1)$ , because listing year is not available. \* (\*\*) indicates that covariate is winsorized at 99% (1%/99%) in Tables 6-8.

Outcome or Covariate	Brazil		India		Korea		Turkey	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Tobin's $q$	1.573	0.729	2.358	2.653	0.821	0.230	1.234	1.490
$\ln(\text{Tobin's } q)$	0.360	0.423	0.517	0.769	-0.235	0.273	0.157	0.505
$\ln(\text{market value})$	14.445	1.860	6.479	1.925	19.219	1.554	18.841	1.929
zero return days	0.134	0.159	0.033	0.042	0.071	0.041	0.173	0.080
ROA (EBIT/assets)**	0.097	0.096	0.108	0.096	0.052	0.065	0.057	0.085
$\ln(\text{assets})$	14.012	1.817	7.418	1.569	7.720	1.443	19.688	1.778
$\ln(\text{listed years})$	2.266	0.959	3.277	0.683	2.587	0.730	2.561	0.626
Leverage*	0.664	0.496	0.296	0.187	0.536	0.205	0.483	0.243
3-yr sales growth**	0.614	0.504	0.193	0.252	0.083	0.206	0.019	0.195
PPE/sales*	0.874	1.333	0.298	0.504	0.472	0.402	0.571	1.119
Net Income/assets**	0.038	0.120	0.066	0.068	0.016	0.101	0.032	0.094
EBIT/sales**	0.153	0.415	0.314	1.406	0.050	0.112	0.051	0.217
Share turnover*	0.479	0.714	0.075	0.142	4.82	5.738	0.590	1.338
US cross listing	0.169	0.375	0.166	0.373	0.034	0.181	0.077	0.267
State ownership	0.026	0.062	0.001	0.012	0.011	0.041	0.003	0.035
Inside ownership	0.512	0.279			0.199	0.165	0.492	0.203
Capex/PPE*			0.573	2.471	0.136	0.146	0.212	0.441
R&D/sales*			0.003	0.01	0.009	0.015	0.003	0.009
Advertising/sales*			0.012	0.029	0.008	0.018		
Exports/sales*			0.230	0.293	0.272	0.305	0.209	0.232
Business group			0.581	0.494	0.316	0.465	0.412	0.492
Foreign ownership			0.093	0.108	0.078	0.136	0.021	0.079
MSCI			0.054	0.226	0.115	0.319	0.091	0.287
Free Float					0.671	0.175	0.043	0.121
Market share					0.062	0.149	0.178	0.269
No. of firms	166		400		646		195	
Effective no. with FE	83		198		644		193	

**Table A4. Governance Indices and Firm Value for Each Country**  
(same as Table 6 but showing results for covariates)

Regressions are same as in Table 6 in text, but Table A4 shows coefficients for covariates for each country-specific regression. *t*-statistics, using firm clusters, are in parentheses. \*, \*\*, and \*\*\* respectively indicate significance levels at 10%, 5%, and 1% levels. Values for joint significance (F test), Breusch-Pagan test ( $\chi^2$ ) and correlated random effects (CRE) F-test are *p*-values. Significant results (at 5% level or better) are in **boldface**.

Country	Brazil			India			Korea			Turkey		
	OLS	RE	FE	OLS	RE	FE	OLS	RE	FE	OLS	RE	FE
Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Disclosure	<b>0.098**</b> (2.53)	<b>0.144***</b> (4.14)	<b>0.194***</b> (3.74)	0.046 (1.46)	<b>0.072**</b> (2.23)	<b>0.095**</b> (2.22)	<b>0.029***</b> (3.78)	<b>0.026***</b> (3.91)	<b>0.023***</b> (3.12)	<b>0.069***</b> (2.85)	<b>0.077***</b> (3.71)	<b>0.070***</b> (3.02)
Board structure	<b>0.077**</b> (2.54)	<b>0.082***</b> (3.09)	0.065 (1.57)	0.040 (1.49)	0.030 (1.24)	0.010 (0.31)	<b>0.023***</b> (3.29)	<b>0.028***</b> (4.37)	<b>0.033***</b> (4.57)	-0.016 (-0.73)	-0.001 (-0.06)	0.016 (0.79)
Board procedure	-0.008 (-0.32)	-0.006 (-0.27)	-0.001 (-0.03)	-0.018 (-0.62)	-0.025 (-0.88)	-0.029 (-0.67)	0.007 (1.29)	0.007 (1.31)	0.006 (0.94)	0.015 (0.59)	-0.003 (-0.17)	-0.008 (-0.44)
Shareholder rights	0.038 (1.11)	0.016 (0.48)	-0.028 (-0.41)	-0.008 (-0.28)	0.006 (0.21)	0.018 (0.49)	0.006 (0.49)	0.001 (0.07)	0.001 (0.07)	<b>0.050**</b> (2.38)	0.011 (0.71)	0.006 (0.41)
Ownership structure	0.006 (0.20)	-0.014 (-0.50)	<b>-0.099**</b> (-2.04)				0.000 (0.01)	<i>-0.012*</i> (-1.68)	<i>-0.015*</i> (-1.74)	-0.004 (-0.21)	0.013 (0.61)	<i>0.062*</i> (1.97)
Related party transactions	-0.022 (-0.89)	-0.018 (-0.84)	-0.033 (-1.32)	0.006 (0.20)	0.014 (0.53)	0.030 (1.03)						
<i>ln</i> (Assets)	<b>-0.047**</b> (-2.04)	<b>-0.065***</b> (-2.90)	<b>-0.273***</b> (-3.18)	0.051 (1.35)	0.029 (0.76)	<b>-0.286**</b> (-2.30)	<b>-0.047***</b> (-6.42)	<b>-0.045***</b> (-5.61)	<b>-0.060***</b> (-3.38)	<b>-0.096***</b> (-4.28)	<b>-0.117***</b> (-5.23)	<b>-0.216***</b> (-4.43)
<i>ln</i> (List)	<b>-0.136***</b> (-3.41)	<b>-0.132***</b> (-3.63)	<b>-0.461***</b> (-2.99)	0.034 (0.68)	0.032 (0.63)	0.069 (0.21)	<b>-0.057***</b> (-6.89)	<b>-0.069***</b> (-7.74)	<b>-0.143***</b> (-4.67)	0.001 (0.03)	-0.040 (-0.97)	-0.096* (-1.75)
Leverage	<b>0.457***</b> (6.32)	<b>0.353***</b> (5.02)	-0.180 (-0.75)	<b>-0.526**</b> (-2.56)	<b>-0.428**</b> (-2.00)	0.646 (1.61)	<b>0.767***</b> (20.88)	<b>0.738***</b> (20.50)	<b>0.720***</b> (15.77)	<b>0.787***</b> (8.19)	<b>0.702***</b> (6.81)	<b>0.793***</b> (5.69)
Net Income/Assets	<b>0.962***</b> (2.65)	0.337 (1.11)	-1.516** (-2.28)	<b>2.486***</b> (3.85)	<b>2.496***</b> (3.91)	<b>2.309**</b> (2.02)	<b>0.193***</b> (3.35)	<b>0.164***</b> (3.25)	<b>0.153***</b> (2.96)	<b>1.182***</b> (5.12)	<b>0.475***</b> (2.98)	<b>0.340**</b> (2.17)
EBIT/Sales	<b>0.006***</b> (2.94)	<b>0.006***</b> (2.89)	0.752 (1.23)	-0.074* (-1.66)	<b>-0.090**</b> (-2.17)	-0.205 (-0.89)	0.048 (0.98)	-0.023 (-0.56)	-0.038 (-0.84)	-0.111 (-1.39)	-0.059 (-0.73)	-0.046 (-0.51)
Sales Growth	0.007 (0.13)	0.034 (0.79)	<b>0.176**</b> (2.32)	<b>0.508***</b> (3.75)	<b>0.412***</b> (3.22)	0.171 (0.72)	0.040 (1.58)	0.038 (1.58)	0.063** (2.08)	<b>0.207**</b> (2.28)	<b>0.175**</b> (2.37)	<b>0.175**</b> (2.29)
PPE/Sales	-0.018 (-0.80)	-0.013 (-0.58)	0.033 (0.92)	-0.028 (-0.42)	0.015 (0.25)	0.032 (0.19)	<b>-0.042***</b> (-2.68)	<b>-0.056***</b> (-3.48)	<b>-0.057**</b> (-2.54)	-0.005 (-0.32)	-0.007 (-0.48)	-0.002 (-0.07)
Share Turnover	0.009 (0.19)	0.013 (0.33)	0.047 (1.34)	<b>0.557***</b> (2.77)	<b>0.611***</b> (3.41)	<b>0.818***</b> (3.57)	<b>0.007***</b> (8.23)	<b>0.007***</b> (8.58)	<b>0.007***</b> (7.78)	0.005 (0.23)	0.015 (1.14)	<i>0.020*</i> (1.67)
State Ownership	-0.005 (-0.01)	0.074 (0.21)	<b>-2.277***</b> (-2.78)	0.875 (0.52)	1.775 (1.49)	<b>2.324***</b> (3.24)	0.061 (0.65)	0.142 (1.48)	<b>0.238**</b> (2.14)	-0.054 (-0.16)	<b>0.440**</b> (2.46)	<b>0.753***</b> (7.69)

Country	Brazil			India			Korea			Turkey		
	OLS	RE	FE	OLS	RE	FE	OLS	RE	FE	OLS	RE	FE
Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Cross Listing	<b>0.144*</b> (1.74)	<b>0.172**</b> (2.07)	-0.079 (-0.30)	-0.075 (-0.86)	-0.147 (-1.62)	<b>-0.774***</b> (-2.67)	-0.012 (-0.33)	0.004 (0.10)	-0.004 (-0.05)	0.021 (0.41)	-0.023 (-0.54)	-0.032 (-0.77)
Inside Ownership	-0.014 (-0.16)	0.051 (0.54)	0.309 (1.56)				-0.038 (-0.84)	0.025 (0.49)	0.020 (0.28)	0.131 (0.99)	0.250 (1.46)	0.339 (1.10)
Market Share							0.086 (1.21)	<b>0.184***</b> (2.59)	<b>0.175**</b> (2.36)	-0.046 (-0.36)	<b>0.430***</b> (3.01)	<b>0.713***</b> (3.72)
Foreign Ownership				<b>0.988***</b> (3.02)	<b>1.409***</b> (4.20)	<b>3.216***</b> (5.09)	<b>0.531***</b> (9.02)	<b>0.455***</b> (7.35)	<b>0.418***</b> (6.00)	-0.019 (-0.10)	<b>-0.603***</b> (-2.73)	<b>-0.739***</b> (-3.00)
Capex/PPE				-0.000 (-0.21)	0.000 (0.04)	-0.000 (-0.86)	<b>0.158***</b> (5.00)	<b>0.114***</b> (4.47)	<b>0.089***</b> (3.35)	0.043 (0.93)	0.050 (1.60)	0.050* (1.82)
R&D/Sales				4.230 (1.48)	3.511 (1.18)	-3.449 (-0.57)	<b>2.394***</b> (5.28)	<b>1.137***</b> (2.90)	0.170 (0.35)	-3.151 (-1.02)	<b>-6.924***</b> (-3.93)	<b>-8.213***</b> (-4.19)
Advertising/Sales				<b>4.475***</b> (2.74)	<b>4.083***</b> (2.82)	-1.997 (-0.87)	<b>0.884**</b> (2.18)	<b>1.318***</b> (3.20)	<b>1.259**</b> (2.10)			
Exports/Sales				-0.068 (-0.57)	-0.058 (-0.48)	0.106 (0.31)	-0.027 (-1.17)	<b>-0.044**</b> (-1.98)	-0.059* (-1.89)	-0.110 (-1.09)	-0.081 (-0.73)	-0.104 (-0.86)
Business Group				0.060 (0.86)	0.075 (1.06)	0.038 (0.06)	<b>0.039**</b> (2.48)	<b>0.042**</b> (2.49)		0.060 (1.12)	0.082 (1.29)	
MSCI				0.228* (1.67)	<b>0.306**</b> (2.03)		<b>0.081***</b> (3.90)	<b>0.041**</b> (2.25)	0.023 (1.19)	<b>0.241**</b> (2.49)	0.082 (0.97)	<b>-0.117***</b> (-2.61)
Free Float										-0.278 (-1.11)	-0.241 (-1.44)	-0.135 (-0.86)
R <sup>2</sup>	0.365	0.415	0.592	0.359	0.411	0.447	0.528	0.527	0.382	0.444	0.420	0.483
Number of firms	165	165	83	400	400	198	646	646	644	195	195	193
No. of observations	248	248	166	607	607	405	3,191	3,191	3,189	1,094	1,094	1,092

**Table A5. Individual Governance Elements and Firm Value**

Table shows coefficients for firm fixed effects (FE) regressions of  $\ln(\text{Tobin's } q)$  on governance elements, the rest of subindex to which the governance element belongs, other subindices, covariates, year dummies, and constant term. Subindices are normalized (mean =0;  $\sigma=1$ ). Covariates are listed in Table 5. Time-invariant dummy variables (industry, business group, US cross listing, MSCI) drop out with firm fixed effects. Sample excludes firms observed only once. Observations are excluded as outliers if a studentized residual from regressing  $\ln(\text{Tobin's } q)$  on country  $CGI$ , year-by-year  $> \pm 1.96$ . Coefficients are suppressed for covariates and for subindices other than Disclosure and Board Structure.  $t$ -statistics, using firm clusters, are in parentheses. \*, \*\*, and \*\*\* respectively indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% level or better) are in **boldface**.

**Panel A. Brazil**

Number of observations (firms) is 158 (81). Within  $R^2$  ranges [0.592-0.624].

Governance Element	Coef. ( $t$ -value)		Rest of Subindex ( $t$ -value)		DIS ( $t$ -value)		BS ( $t$ -value)		Other indices
b_bs_1	0.123	(1.25)	0.052	(1.33)	<b>0.170***</b>	<b>(3.18)</b>			Yes
b_bs_3	0.123	(1.25)	0.052	(1.33)	<b>0.170***</b>	<b>(3.18)</b>			Yes
b_bs_4	0.054	(0.93)	0.071*	(1.71)	<b>0.182***</b>	<b>(3.79)</b>			Yes
b_bs_7	0.002	(0.04)	<b>0.089**</b>	<b>(2.14)</b>	<b>0.185***</b>	<b>(3.88)</b>			Yes
b_bs_11	-0.039	(-0.33)	<b>0.088***</b>	<b>(2.70)</b>	<b>0.184***</b>	<b>(3.84)</b>			Yes
b_bs_19	0.018	(0.23)	<b>0.081**</b>	<b>(2.20)</b>	<b>0.177***</b>	<b>(3.41)</b>			Yes
b_bs_20	0.075	(0.94)	0.061*	(1.78)	<b>0.188***</b>	<b>(3.43)</b>			Yes
b_bp_2	-0.101	(-1.09)	0.026	(0.80)	<b>0.192***</b>	<b>(4.01)</b>	0.064*	(1.72)	Yes
b_bp_3	-0.029	(-0.31)	0.007	(0.16)	<b>0.187***</b>	<b>(3.75)</b>	0.065	(1.65)	Yes
b_bp_4	0.022	(0.37)	-0.008	(-0.19)	<b>0.194***</b>	<b>(3.98)</b>	0.070*	(1.79)	Yes
b_bp_11	0.013	(0.06)	-0.003	(-0.08)	<b>0.191***</b>	<b>(3.84)</b>	0.068*	(1.76)	Yes
b_bp_13	0.129	(1.65)	-0.029	(-0.90)	<b>0.174***</b>	<b>(3.67)</b>	0.050	(1.32)	Yes
b_bp_14	-0.026	(-0.37)	0.007	(0.17)	<b>0.194***</b>	<b>(3.66)</b>	0.071*	(1.77)	Yes
b_dis_1	0.007	(0.05)	<b>0.187***</b>	<b>(3.74)</b>			0.064	(1.64)	Yes
b_dis_2	<b>0.262**</b>	<b>(2.05)</b>	<b>0.125***</b>	<b>(2.66)</b>			0.065	(1.65)	Yes
b_dis_3	0.078	(0.55)	<b>0.173***</b>	<b>(3.26)</b>			0.068*	(1.77)	Yes
b_dis_4	0.224	(1.28)	<b>0.153**</b>	<b>(2.49)</b>			0.061	(1.62)	Yes
b_dis_5	-0.082	(-0.52)	<b>0.200***</b>	<b>(3.63)</b>			0.067*	(1.75)	Yes
b_dis_7	-0.079	(-0.67)	<b>0.215***</b>	<b>(3.84)</b>			0.070*	(1.98)	Yes
b_dis_8	0.093	(1.05)	<b>0.166***</b>	<b>(3.37)</b>			0.067*	(1.74)	Yes
b_dis_9	0.056	(0.33)	<b>0.172**</b>	<b>(2.21)</b>			0.068*	(1.83)	Yes
b_dis_10	0.100	(0.93)	<b>0.173***</b>	<b>(3.20)</b>			0.070*	(1.83)	Yes
b_dis_17	0.170	(0.84)	0.135*	(1.95)			0.067*	(1.68)	Yes
b_dis_33	0.046	(0.63)	<b>0.201***</b>	<b>(3.42)</b>			0.067*	(1.75)	Yes
b_own_1	0.187	(0.82)	-0.112*	(-1.98)	<b>0.191***</b>	<b>(3.83)</b>	0.068*	(1.77)	Yes
b_own_2	-0.036	(-0.27)	-0.075*	(-1.96)	<b>0.190***</b>	<b>(3.77)</b>	0.073*	(1.83)	Yes
b_own_3	0.260	(1.01)	<b>-0.089**</b>	<b>(-2.20)</b>	<b>0.156**</b>	<b>(2.44)</b>	0.072*	(1.85)	Yes
b_own_5	-0.171	(-1.28)	-0.068	(-1.42)	<b>0.196***</b>	<b>(3.66)</b>	0.069*	(1.75)	Yes
b_own_6	-0.142	(-1.57)	-0.054	(-0.96)	<b>0.181***</b>	<b>(2.89)</b>	0.070*	(1.89)	Yes
b_sr_1	0.091	(0.76)	-0.054	(-0.72)	<b>0.206***</b>	<b>(3.77)</b>	0.067*	(1.78)	Yes
b_sr_5	-0.105	(-1.48)	-0.004	(-0.05)	<b>0.185***</b>	<b>(3.78)</b>	<b>0.090**</b>	<b>(2.16)</b>	Yes
b_sr_12	0.163	(1.55)	-0.043	(-0.82)	<b>0.161***</b>	<b>(3.01)</b>	<b>0.078**</b>	<b>(2.17)</b>	Yes
b_sr_13	0.118	(0.90)	-0.057	(-1.12)	<b>0.192***</b>	<b>(3.91)</b>	<b>0.086**</b>	<b>(2.16)</b>	Yes
b_sr_14	0.151	(1.17)	-0.033	(-0.61)	<b>0.160***</b>	<b>(2.79)</b>	0.071*	(1.85)	Yes
b_sr_15	-0.087	(-1.20)	0.019	(0.21)	<b>0.186***</b>	<b>(3.63)</b>	0.067*	(1.71)	Yes
b_sr_16	<b>-0.225**</b>	<b>(-2.59)</b>	0.063	(0.93)	<b>0.165***</b>	<b>(3.39)</b>	0.062*	(1.82)	Yes
b_rpt_8	-0.085	(-1.24)	0.079*	(1.85)	<b>0.181***</b>	<b>(3.97)</b>	0.060*	(1.67)	Yes
b_rpt_9	0.076	(1.05)	0.011	(0.36)	<b>0.178***</b>	<b>(3.41)</b>	0.067*	(1.70)	Yes
b_rpt_10	<b>0.218**</b>	<b>(2.00)</b>	0.016	(0.54)	<b>0.176***</b>	<b>(3.44)</b>	0.056	(1.52)	Yes
b_rpt_16	-0.107	(-0.49)	0.029	(0.82)	<b>0.170***</b>	<b>(3.01)</b>	0.067*	(1.69)	Yes

**Panel B. India**

Number of observations (firms) is 405 (198). Within  $R^2$  ranges [0.429-0.447].

Governance Element	Coef. (t-stat)		Rest of Subindex (t-value)		DIS (t-value)		BS (t-value)		Other indices
i_bs_4	0.145	(1.29)	-0.019	(-0.56)	<b>0.094**</b>	<b>(2.11)</b>			Yes
i_bs_5	0.010	(0.16)	0.010	(0.23)	<b>0.094**</b>	<b>(2.13)</b>			Yes
i_bs_7	-0.141*	(-1.82)	0.036	(0.90)	<b>0.098**</b>	<b>(2.19)</b>			Yes
i_bs_9	0.261*	(1.87)	-0.035	(-1.08)	<b>0.087**</b>	<b>(2.02)</b>			Yes
i_bs_14	-0.031	(-0.24)	0.014	(0.38)	<b>0.093**</b>	<b>(2.10)</b>			Yes
i_bs_16	-0.009	(-0.11)	0.015	(0.38)	<b>0.095**</b>	<b>(2.11)</b>			Yes
i_bp_3	-0.033	(-0.53)	-0.017	(-0.37)	<b>0.096**</b>	<b>(2.16)</b>	0.015	(0.49)	Yes
i_bp_4	-0.030	(-0.26)	-0.023	(-0.53)	<b>0.096**</b>	<b>(2.13)</b>	0.016	(0.51)	Yes
i_bp_5	0.088	(1.33)	-0.051	(-1.07)	<b>0.092**</b>	<b>(2.09)</b>	0.015	(0.49)	Yes
i_bp_6	0.038	(0.56)	-0.034	(-0.77)	<b>0.096**</b>	<b>(2.16)</b>	0.017	(0.54)	Yes
i_bp_7	-0.095	(-0.86)	-0.016	(-0.35)	<b>0.093**</b>	<b>(2.11)</b>	0.018	(0.57)	Yes
i_bp_8	-0.037	(-0.49)	-0.022	(-0.51)	<b>0.096**</b>	<b>(2.15)</b>	0.017	(0.54)	Yes
i_bp_9	-0.017	(-0.22)	-0.024	(-0.53)	<b>0.095**</b>	<b>(2.08)</b>	0.016	(0.50)	Yes
i_bp_11	-0.102	(-0.85)	-0.022	(-0.48)	<b>0.096**</b>	<b>(2.16)</b>	0.016	(0.51)	Yes
i_bp_12	-0.018	(-0.22)	-0.023	(-0.58)	<b>0.095**</b>	<b>(2.15)</b>	0.016	(0.50)	Yes
i_bp_13	0.013	(0.07)	-0.027	(-0.59)	<b>0.095**</b>	<b>(2.07)</b>	0.016	(0.52)	Yes
i_bpa_3	-0.004	(-0.05)	-0.027	(-0.62)	<b>0.095**</b>	<b>(2.12)</b>	0.016	(0.52)	Yes
i_bpa_5	0.013	(0.21)	-0.031	(-0.68)	<b>0.096**</b>	<b>(2.15)</b>	0.015	(0.45)	Yes
i_bpa_6	-0.060	(-1.09)	-0.014	(-0.31)	<b>0.097**</b>	<b>(2.20)</b>	0.016	(0.52)	Yes
i_dis_1	0.054	(0.48)	<b>0.092**</b>	<b>(2.18)</b>			0.016	(0.52)	Yes
i_dis_2	0.023	(0.30)	<b>0.095**</b>	<b>(2.23)</b>			0.017	(0.53)	Yes
i_dis_3	-0.015	(-0.17)	0.101*	(1.75)			0.014	(0.45)	Yes
i_dis_5	0.137	(1.48)	0.049	(1.00)			0.020	(0.64)	Yes
i_dis_6	0.035	(0.44)	0.083	(1.56)			0.017	(0.50)	Yes
i_dis_11	0.006	(0.09)	<b>0.096**</b>	<b>(2.27)</b>			0.016	(0.52)	Yes
i_dis_13	0.415*	(1.85)	<b>0.087**</b>	<b>(1.99)</b>			0.014	(0.45)	Yes
i_dis_14	0.093	(1.18)	0.063	(1.24)			0.017	(0.53)	Yes
i_dis_15	<b>0.162**</b>	<b>(2.03)</b>	0.040	(0.81)			0.014	(0.46)	Yes
i_dis_33	0.062	(0.89)	0.089*	(1.85)			0.018	(0.54)	Yes
i_dis_34	0.065	(0.85)	0.088*	(1.81)			0.016	(0.51)	Yes
i_dis_35	-0.159	(-1.36)	<b>0.099**</b>	<b>(2.26)</b>			0.017	(0.55)	Yes
i_dis_36	-0.063	(-0.82)	<b>0.105**</b>	<b>(2.57)</b>			0.012	(0.41)	Yes
i_sr_2	0.073	(0.73)	0.011	(0.28)	<b>0.094**</b>	<b>(2.13)</b>	0.018	(0.56)	Yes
i_sr_3	-0.019	(-0.28)	0.035	(0.88)	<b>0.096**</b>	<b>(2.18)</b>	0.018	(0.57)	Yes
i_sr_4	<b>0.306**</b>	<b>(2.46)</b>	-0.018	(-0.51)	<b>0.091**</b>	<b>(2.05)</b>	0.013	(0.42)	Yes
i_sr_5	-0.223	(-1.42)	0.042	(1.18)	0.082*	(1.87)	0.018	(0.59)	Yes
i_rpt_11	0.054	(0.57)	-0.008	(-0.20)	<b>0.103**</b>	<b>(2.29)</b>	0.015	(0.48)	Yes
i_rpt_12	0.145	(1.34)	-0.042	(-0.90)	<b>0.101**</b>	<b>(2.29)</b>	0.012	(0.40)	Yes
i_rpt_13	-0.078	(-0.70)	0.018	(0.57)	<b>0.111**</b>	<b>(2.34)</b>	0.015	(0.46)	Yes
i_rpt_14	-0.069	(-0.78)	0.037	(0.92)	<b>0.096**</b>	<b>(2.19)</b>	0.016	(0.51)	Yes
i_rpt_15	-0.061	(-0.49)	0.042	(0.70)	<b>0.096**</b>	<b>(2.12)</b>	0.016	(0.50)	Yes

**Panel C. Korea**

Number of observations (firms) is 3,104 (644). Within  $R^2$  ranges [0.356-0.416]. Korea Ownweship index has only one element and Shareholder Rights, only 2. Thus, these 3 elements are not represented in this table.

Governance Element	Coef. (t-value)	Rest of Subindex (t-value)	DIS (t-value)	BS (t-value)	other indices
k_bs_4	<b>0.040*** (2.85)</b>	<b>0.021*** (3.50)</b>	<b>0.020*** (2.77)</b>		Yes
k_bs_5	0.038* (1.84)	<b>0.026*** (3.98)</b>	<b>0.020*** (2.79)</b>		Yes
k_bs_8	-0.033 (-0.35)	<b>0.029*** (4.87)</b>	<b>0.020*** (2.72)</b>		Yes
k_bs_11	0.028 (1.59)	<b>0.022*** (3.41)</b>	<b>0.019*** (2.67)</b>		Yes
k_bs_15	0.023 (0.93)	<b>0.028*** (4.05)</b>	<b>0.019*** (2.66)</b>		Yes
k_bs_16	0.048 (1.39)	<b>0.027*** (4.46)</b>	<b>0.019*** (2.67)</b>		Yes
k_bs_17	0.011 (0.80)	<b>0.027*** (4.44)</b>	<b>0.019*** (2.63)</b>		Yes
k_bp_1	-0.006 (-0.54)	0.007 (1.19)	<b>0.016** (2.28)</b>	<b>0.028*** (3.93)</b>	Yes
k_bp_5	0.009 (0.41)	0.003 (0.49)	<b>0.019** (2.51)</b>	<b>0.030*** (4.26)</b>	Yes
k_bp_10	0.012 (0.97)	0.002 (0.40)	<b>0.019*** (2.64)</b>	<b>0.031*** (4.45)</b>	Yes
k_bp_14	0.009 (0.69)	0.002 (0.37)	<b>0.020*** (2.73)</b>	<b>0.031*** (4.48)</b>	Yes
k_bp_15	0.002 (0.20)	0.003 (0.58)	<b>0.020*** (2.79)</b>	<b>0.029*** (4.49)</b>	Yes
k_bp_16	<b>-0.056** (-2.09)</b>	0.004 (0.73)	<b>0.019*** (2.65)</b>	<b>0.032*** (4.67)</b>	Yes
k_bp_18	0.019 (0.67)	0.008 (1.30)	0.014* (1.86)	<b>0.029*** (4.00)</b>	Yes
k_bp_19	<b>0.020** (2.06)</b>	-0.003 (-0.47)	<b>0.022*** (2.81)</b>	<b>0.031*** (4.19)</b>	Yes
k_bpa_3	-0.004 (-0.36)	0.006 (0.94)	<b>0.020*** (2.74)</b>	<b>0.029*** (4.04)</b>	Yes
k_bpa_7	-0.015 (-0.54)	0.013 (0.80)	0.007 (0.51)	0.010 (0.60)	Yes
k_bpa_8	0.005 (0.47)	0.004 (0.58)	<b>0.020** (2.49)</b>	<b>0.024*** (3.37)</b>	Yes
k_bpa_9	0.017 (0.64)	0.007 (0.43)	0.000 (0.01)	-0.004 (-0.26)	Yes
k_dis_2	<b>0.052*** (3.12)</b>	0.004 (0.59)		<b>0.032*** (4.69)</b>	Yes
k_dis_7	-0.004 (-0.08)	<b>0.020*** (2.82)</b>		<b>0.032*** (4.47)</b>	Yes
k_dis_26	0.004 (0.25)	<b>0.021*** (2.93)</b>		<b>0.032*** (4.62)</b>	Yes

**Panel D. Turkey**

Number of observations (firms) is 1,092 (195). Within  $R^2$  ranges from [0.465-0.485].

Governance Element	Coef. (t-value)	Rest of Subindex (t-value)	DIS (t-value)	BS (t-value)	other indices
t_bs_1	0.042 (1.02)	-0.019 (-0.92)	<b>0.065***</b> (3.10)		Yes
t_bs_2	-0.010 (-0.20)	0.001 (0.04)	<b>0.065***</b> (3.09)		Yes
t_bs_7	0.013 (0.32)	-0.004 (-0.23)	<b>0.065***</b> (3.10)		Yes
t_bs_12	-0.045 (-1.50)	0.013 (0.74)	<b>0.062***</b> (2.99)		Yes
t_bs_13	0.029 (0.64)	-0.013 (-0.60)	<b>0.065***</b> (3.11)		Yes
t_bs_18	-0.003 (-0.08)	-0.002 (-0.10)	<b>0.065***</b> (3.11)		Yes
t_bp_13	0.028 (0.75)	-0.012 (-0.64)	<b>0.064***</b> (3.04)	-0.002 (-0.12)	Yes
t_bp_14	0.057* (1.91)	-0.019 (-1.00)	<b>0.070***</b> (3.24)	-0.005 (-0.27)	Yes
t_bpa_1	-0.038 (-0.99)	0.010 (0.57)	<b>0.065***</b> (3.09)	-0.006 (-0.31)	Yes
t_bpa_2	-0.035 (-0.90)	0.004 (0.25)	<b>0.065***</b> (3.07)	0.002 (0.08)	Yes
t_bpa_4	-0.030 (-0.78)	0.006 (0.30)	<b>0.066***</b> (3.12)	-0.005 (-0.27)	Yes
t_dis_3	0.009 (0.19)	<b>0.097**</b> (2.35)		-0.004 (-0.20)	Yes
t_dis_5	0.033 (0.77)	<b>0.086**</b> (2.15)		-0.003 (-0.16)	Yes
t_dis_6	0.015 (0.33)	<b>0.094***</b> (2.61)		-0.003 (-0.19)	Yes
t_dis_7	0.057 (1.60)	<b>0.083**</b> (2.33)		-0.003 (-0.17)	Yes
t_dis_12	0.021 (0.43)	<b>0.095***</b> (2.97)		-0.003 (-0.19)	Yes
t_dis_15	0.022 (0.60)	<b>0.091**</b> (2.44)		-0.003 (-0.19)	Yes
t_dis_16	0.007 (0.21)	<b>0.099***</b> (2.74)		-0.004 (-0.20)	Yes
t_dis_17	0.050 (1.45)	<b>0.084***</b> (2.59)		-0.003 (-0.17)	Yes
t_dis_18	-0.007 (-0.13)	<b>0.102**</b> (2.39)		-0.003 (-0.19)	Yes
t_dis_19	0.013 (0.37)	<b>0.096***</b> (3.07)		-0.003 (-0.19)	Yes
t_dis_20	-0.012 (-0.34)	<b>0.110***</b> (3.04)		-0.003 (-0.19)	Yes
t_dis_21	0.040 (1.10)	<b>0.091***</b> (2.81)		-0.005 (-0.25)	Yes
t_dis_22	0.047 (1.16)	<b>0.092***</b> (2.89)		-0.005 (-0.29)	Yes
t_dis_23	0.021 (0.49)	<b>0.098***</b> (3.00)		-0.004 (-0.21)	Yes
t_dis_24	-0.011 (-0.21)	<b>0.102***</b> (3.31)		-0.003 (-0.18)	Yes
t_dis_25	-0.016 (-0.47)	<b>0.108***</b> (3.04)		-0.003 (-0.16)	Yes
t_dis_26	0.028 (0.86)	<b>0.092***</b> (2.58)		-0.004 (-0.22)	Yes
t_dis_27	<b>-0.047**</b> (-2.05)	<b>0.124***</b> (3.71)		-0.001 (-0.07)	Yes
t_dis_28	0.007 (0.17)	<b>0.100***</b> (2.97)		-0.003 (-0.19)	Yes
t_dis_29	-0.001 (-0.02)	<b>0.101***</b> (3.21)		-0.004 (-0.20)	Yes
t_dis_30	0.004 (0.13)	<b>0.102***</b> (2.99)		-0.004 (-0.20)	Yes
t_dis_31	0.019 (0.50)	<b>0.096***</b> (2.96)		-0.003 (-0.18)	Yes
t_dis_32	-0.013 (-0.38)	<b>0.106***</b> (3.18)		-0.004 (-0.20)	Yes
t_own_1	0.012 (0.04)	0.016 (0.71)	<b>0.063***</b> (2.93)	-0.002 (-0.11)	Yes
t_own_3	-0.263 (-0.96)	0.020 (0.91)	<b>0.063***</b> (2.91)	-0.003 (-0.14)	Yes
t_own_6	<b>0.140***</b> (2.97)	-0.041 (-1.59)	<b>0.068***</b> (3.17)	-0.004 (-0.22)	Yes
t_own_7	-0.055 (-0.83)	0.026 (1.47)	<b>0.063***</b> (2.97)	0.001 (0.04)	Yes
t_own_8	-0.049 (-0.84)	0.030 (1.23)	<b>0.066***</b> (3.11)	-0.006 (-0.32)	Yes
t_sr_2	-0.038 (-1.13)	0.008 (0.39)	<b>0.069***</b> (3.24)	-0.009 (-0.47)	Yes
t_sr_4	0.032 (0.85)	-0.016 (-0.80)	<b>0.068***</b> (3.19)	-0.005 (-0.29)	Yes
t_sr_8	-0.079 (-1.02)	0.001 (0.03)	<b>0.068***</b> (3.19)	-0.004 (-0.23)	Yes
t_sr_9	-0.096 (-1.18)	0.004 (0.20)	<b>0.069***</b> (3.23)	-0.009 (-0.52)	Yes
t_sr_10	0.008 (0.20)	-0.006 (-0.34)	<b>0.068***</b> (3.23)	-0.006 (-0.34)	Yes
t_sr_11	0.051 (1.40)	-0.020 (-0.98)	<b>0.068***</b> (3.23)	-0.012 (-0.67)	Yes

**Table A6. Effects of Different Indices for Subsamples**

Table reports firm FE regressions of  $\ln(\text{Tobin's } q)$  on normalized subindices for subsamples as shown. All regressions include firm-level covariates and year dummies. Pooled sample regressions include firm-level covariates, separately for each country, and country-year interactions. Pooled sample weighted results give equal weight to each country, instead of to each firm. Subsamples for size, growth, profitability, and age are split at the country median, across all sample years. Sample sizes exclude firms observed only once, which will not affect FE results.  $t$ -statistics based on firm clusters are in parentheses. \*, \*\*, and \*\*\* indicate 10%, 5%, and 1% significance levels. Significant differences between subsamples, at 5% level or better, in boldface; differences at 10% level in *italics*.

**Panel A. Manufacturing vs. Non-Manufacturing Firms**

Subindex	Subsample	Brazil	India	Korea	Turkey	Pooled Sample Weighted	Pooled Sample
DIS	Manufacturing	-0.041 (-0.56)	<b>0.117**</b> (2.16)	<b>0.026***</b> (3.07)	<b>0.070***</b> (2.63)	<b>0.030**</b> (2.21)	<b>0.030***</b> (3.19)
	Non-Manufacturing	0.221*** (4.53)	-0.005 (-0.06)	0.018* (1.68)	0.058* (1.78)	0.071*** (4.06)	0.042*** (3.99)
	Man. – Non Man.	<b>-0.261***</b> (-3.46)	0.122 (1.37)	0.008 (0.70)	0.011 (0.30)	<b>-0.041**</b> (-2.11)	-0.012 (-0.93)
BS	Manufacturing	-0.026 (-0.47)	0.020 (0.49)	<b>0.037***</b> (3.61)	0.029 (1.29)	0.022 (1.58)	<b>0.028***</b> (2.64)
	Non-Manufacturing	<b>0.107***</b> (2.64)	0.033 (0.56)	<b>0.028***</b> (3.14)	-0.017 (-0.61)	0.014 (0.74)	<b>0.023**</b> (2.27)
	Man. – Non Man.	<b>-0.132***</b> (-2.24)	-0.013 (-0.17)	0.009 (0.70)	0.046 (1.50)	0.008 (0.36)	0.005 (0.37)
BP	Manufacturing	0.006 (0.15)	-0.025 (-0.45)	0.004 (0.46)	-0.016 (-0.74)	-0.009 (-0.89)	-0.001 (-0.14)
	Non-Manufacturing	0.014 (0.26)	-0.032 (-0.45)	0.014 (1.44)	0.011 (0.41)	0.001 (0.04)	0.007 (0.66)
	Man. – Non Man.	-0.008 (-0.15)	0.007 (0.09)	-0.010 (-0.086)	-0.027 (-0.83)	-0.010 (-0.49)	-0.008 (-0.66)
SR	Manufacturing	0.013 (0.16)	0.006 (0.15)	0.003 (0.24)	0.016 (0.81)	0.018 (1.01)	0.012 (0.83)
	Non-Manufacturing	-0.089 (-0.89)	0.018 (0.20)	-0.002 (-0.10)	-0.013 (-0.54)	-0.025 (-1.16)	-0.020 (-1.19)
	Man. – Non Man.	0.102 (0.46)	-0.012 (-0.12)	0.004 (0.27)	0.028 (0.93)	0.043 (1.59)	0.032 (1.62)
OWN	Manufacturing	-0.081 (-0.85)		-0.023** (-2.00)	0.063* (1.83)	-0.004 (-0.20)	-0.007 (-0.59)
	Non-Manufacturing	-0.114** (-2.19)		-0.004 (-0.41)	0.050 (0.77)	-0.024 (-1.18)	0.003 (0.25)
	Man. – Non Man.	0.033 (0.33)		-0.019 (-1.47)	0.0135 (0.19)	(0.80)	(-0.68)
RPT	Manufacturing	-0.001 (-0.89)	0.016 (0.44)			-0.016 (-0.34)	-0.014 (-0.31)
	Non-Manufacturing	-0.001 (-1.47)	0.085 (1.53)			-0.018 (-0.51)	-0.019 (-0.51)
	Man. – Non Man.	-0.000 (-0.09)	-0.069 (-1.06)			0.002 (0.04)	0.005 (0.08)
Manufacturing Firms		27	126	468	130	751	751
Firms		81	198	644	193	1,116	1,116
$R^2$		0.634	0.473	0.394	0.492	0.427	0.407

**Panel B. Large Firms vs. Small Firms (based on assets)**

Subindex	Subsample	Brazil	India	Korea	Turkey	Pooled Sample Weighted	Pooled Sample
DIS	Large Firms	<b>0.170***</b> (2.84)	0.014 (0.38)	<b>0.027***</b> (3.30)	<b>0.063**</b> (2.08)	<b>0.047***</b> (3.62)	<b>0.039***</b> (4.80)
	Small Firms	<b>0.170**</b> (2.35)	0.150** (2.14)	0.003 (0.22)	0.089*** (3.15)	0.037** (2.05)	0.015 (1.24)
	Large – Small	0.000 (0.00)	-0.136* (-1.89)	0.024* (1.76)	-0.025 (-0.69)	0.010 (0.57)	0.024* (1.92)
BS	Large Firms	-0.071 (-1.46)	-0.001 (-0.02)	<b>0.021***</b> (2.78)	0.020 (0.85)	0.013 (1.01)	<b>0.023***</b> (2.66)
	Small Firms	<b>0.149***</b> (3.07)	0.046 (0.75)	<b>0.037**</b> (2.09)	-0.000 (-0.01)	0.036 (1.26)	0.025 (1.31)
	Large – Small	<b>-0.220***</b> (-3.61)	-0.047 (-0.69)	-0.016 (-0.88)	0.020 (0.65)	-0.023 (-0.85)	-0.002 (-0.14)
BP	Large Firms	0.032 (0.85)	-0.001 (-0.02)	0.012 (1.32)	-0.001 (-0.07)	-0.002 (-0.15)	0.006 (0.76)
	Small Firms	-0.014 (-0.24)	-0.003 (-0.04)	-0.000 (-0.04)	-0.029 (-0.89)	-0.011 (-0.68)	-0.004 (-0.35)
	Large – Small	0.045 (0.80)	0.002 (0.03)	0.012 (1.05)	0.027 (0.72)	0.009 (0.52)	0.01 (0.79)
SR	Large Firms	-0.069 (-0.95)	-0.032 (-0.87)	0.025* (1.73)	-0.000 (-0.02)	-0.003 (-0.16)	0.004 (0.33)
	Small Firms	-0.075 (-0.48)	0.060 (0.94)	-0.026* (-1.88)	0.025 (0.87)	0.024 (1.05)	-0.003 (-0.17)
	Large – Small	0.006 (0.04)	-0.092 (-1.36)	<b>0.050***</b> (2.95)	-0.025 (-0.75)	-0.027 (-1.08)	0.007 (0.40)
OWN	Large Firms	-0.106** (-2.23)		-0.004 (-0.49)	0.069** (2.15)	-0.014 (-0.92)	-0.001 (-0.13)
	Small Firms	-0.059 (-0.83)		-0.028** (-2.00)	0.031 (0.36)	0.002 (0.09)	-0.006 (-0.39)
	Large – Small	-0.047 (-0.63)		0.024 (1.55)	0.038 (0.42)	-0.016 (-0.66)	0.005 (0.31)
RPT	Large Firms	-0.002* (-1.75)	-0.003 (-0.08)			-0.019 (-0.50)	-0.018 (-0.46)
	Small Firms	-0.000 (-0.32)	0.056 (1.03)			-0.012 (-0.33)	-0.011 (-0.30)
	Large – Small	-0.001 (-1.40)	-0.059 (-0.77)			-0.007 (-0.17)	-0.007 (-0.14)
Firms		81	198	644	193	1,116	1,116
R <sup>2</sup>		0.636	0.424	0.396	0.485	0.452	0.421

**Panel C. High Growth Firms vs. Low Growth Firms**

Subindex	Sub-sample	Brazil	India	Korea	Turkey	Pooled Sample Weighted	Pooled Sample
DIS	High Growth	<b>0.224***</b> (4.70)	<b>0.156**</b> (2.01)	<b>0.027**</b> (2.56)	<b>0.078**</b> (2.27)	<b>0.071***</b> (4.18)	<b>0.055***</b> (5.16)
	Low Growth	-0.159 (-1.42)	0.013 (0.34)	0.016* (1.81)	<b>0.066**</b> (2.45)	<b>0.028**</b> (2.52)	<b>0.025***</b> (3.19)
	High – Low	<b>0.383***</b> (3.13)	0.143 (1.67)	0.010 (0.80)	0.011 (0.30)	<b>0.043***</b> (3.25)	<b>0.030***</b> (3.07)
BS	High Growth	0.064 (1.38)	0.104* (1.75)	<b>0.040***</b> (4.20)	0.009 (0.34)	0.013 (0.71)	<b>0.023**</b> (2.03)
	Low Growth	-0.081 (-1.20)	-0.024 (-0.69)	0.021** (2.29)	0.025 (1.11)	0.018 (1.36)	<b>0.025***</b> (3.13)
	High – Low	<i>0.145*</i> (1.89)	<i>0.128*</i> (1.90)	0.018 (1.50)	-0.015 (-0.52)	-0.005 (-0.33)	-0.002 (-0.18)
BP	High Growth	0.030 (0.79)	-0.046 (-0.81)	0.005 (0.50)	-0.019 (-0.71)	-0.007 (-0.46)	-0.000 (-0.03)
	Low Growth	0.025 (0.35)	0.027 (0.62)	0.006 (0.88)	-0.000 (-0.02)	-0.004 (-0.39)	0.003 (0.41)
	High – Low	0.005 (0.07)	-0.073 (-1.23)	-0.001 (-0.10)	-0.018 (-0.53)	-0.003 (-0.18)	-0.003 (-0.30)
SR	High Growth	-0.096 (-1.20)	-0.031 (-0.47)	0.011 (0.81)	0.010 (0.55)	0.005 (0.31)	-0.002 (-0.17)
	Low Growth	0.193 (1.30)	0.034 (0.90)	-0.008 (-0.56)	0.005 (0.20)	0.004 (0.22)	0.004 (0.26)
	High – Low	-0.288 (-1.60)	-0.065 (-0.94)	0.019 (1.10)	0.005 (0.19)	0.001 (0.07)	-0.006 (-0.48)
OWN	High Growth	-0.092* (-1.80)		-0.011 (-1.00)	0.014 (0.37)	-0.008 (-0.44)	0.004 (0.34)
	Low Growth	0.028 (0.33)		-0.020* (-1.71)	<b>0.150***</b> (3.57)	-0.009 (-0.64)	-0.005 (-0.51)
	High – Low	-0.119 (-1.21)		0.009 (0.64)	<b>-0.135**</b> (-2.43)	0.001 (0.12)	0.009 (0.94)
RPT	High Growth	0.000 (0.02)	0.080 (1.48)			-0.008 (-0.21)	-0.006 (-0.15)
	Low Growth	<b>-0.002**</b> (-2.53)	-0.015 (-0.50)			-0.053 (-1.10)	-0.050 (-1.07)
	High – Low	<i>0.002*</i> (1.98)	0.095 (1.61)			0.045 (0.60)	0.044 (0.59)
Firms		81	198	644	193	1,116	1,116
R <sup>2</sup>		0.666	0.466	0.396	0.494	0.431	0.409

**Panel D. High vs. Low Profitability Firms**

Subindex	Sub-sample	Brazil	India	Korea	Turkey	Pooled Sample Weighted	Pooled Sample
DIS	High Profitability	<b>0.192***</b> (3.88)	<b>0.133**</b> (2.03)	<b>0.028***</b> (3.08)	0.054* (1.85)	<b>0.047***</b> (3.38)	<b>0.047***</b> (5.41)
	Low Profitability	0.068 (0.37)	0.009 (0.21)	0.010 (0.93)	<b>0.084***</b> (2.89)	<b>0.038***</b> (2.69)	<b>0.018**</b> (2.03)
	High – Low	0.124 (0.67)	0.124 (1.55)	0.017 (1.25)	-0.029 (-0.77)	0.009 (0.63)	<b>0.029***</b> (3.07)
BS	High Profitability	<b>0.075**</b> (2.03)	0.037 (0.69)	<b>0.038***</b> (3.66)	0.028 (1.39)	<b>0.031**</b> (2.06)	<b>0.034***</b> (3.67)
	Low Profitability	-0.063 (-0.68)	0.024 (0.58)	<b>0.031***</b> (3.98)	0.004 (0.14)	0.005 (0.34)	<b>0.018**</b> (2.12)
	High – Low	0.138 (1.44)	0.013 (0.18)	0.007 (0.61)	0.023 (0.78)	<b>0.026**</b> (2.13)	<b>0.016**</b> (2.00)
BP	High Profitability	0.005 (0.15)	-0.005 (-0.08)	0.013 (1.54)	0.019 (0.93)	0.007 (0.67)	0.009 (1.21)
	Low Profitability	0.058 (0.79)	-0.034 (-0.75)	-0.004 (-0.49)	-0.046 (-1.55)	-0.021 (-1.51)	-0.007 (-0.84)
	High – Low	-0.052 (-0.68)	0.029 (0.33)	0.017 (1.50)	<i>0.064*</i> (1.90)	<i>0.028*</i> (1.85)	<i>0.016*</i> (1.79)
SR	High Profitability	-0.031 (-0.44)	0.012 (0.23)	-0.003 (-0.22)	0.030 (1.47)	0.007 (0.39)	-0.004 (-0.25)
	Low Profitability	0.038 (0.19)	-0.001 (-0.02)	-0.002 (-0.18)	-0.022 (-1.07)	0.003 (0.18)	0.009 (0.70)
	High – Low	-0.068 (-0.32)	0.013 (0.21)	-0.000 (-0.05)	0.052 (1.77)	0.004 (0.25)	-0.013 (-0.92)
OWN	High Profitability	-0.035 (-0.63)		-0.018 (-1.58)	<i>0.074**</i> (2.22)	-0.001 (-0.07)	0.003 (0.28)
	Low Profitability	<b>-0.263**</b> (-2.38)		-0.010 (-0.94)	-0.022 (-0.36)	-0.019 (-1.26)	-0.009 (-1.01)
	High – Low	<i>0.228*</i> (1.90)		-0.007 (-0.51)	0.095 (1.39)	0.018 (1.29)	0.012 (1.41)
RPT	High Profitability	-0.001 (-0.44)	0.020 (0.45)			-0.050 (-1.17)	-0.051 (-1.19)
	Low Profitability	-0.003** (-2.63)	0.018 (0.46)			-0.000 (-0.01)	0.003 (0.11)
	High – Low	0.002 (1.26)	0.002 (0.03)			-0.05 (-1.07)	-0.054 (-1.17)
Firms							
$R^2$		0.632	0.465	0.396	0.500	0.433	0.412

**Panel E. Business Group (BG) vs. Non-Business Group Firms**

Subindex	Sub-sample	Brazil	India	Korea	Turkey	Pooled Sample Weighted	Pooled Sample
DIS	BG	-0.509 (-1.53)	<b>0.101**</b> ( <b>2.06</b> )	<b>0.031***</b> ( <b>3.03</b> )	<b>0.080**</b> ( <b>2.28</b> )	<b>0.056***</b> ( <b>3.44</b> )	<b>0.048***</b> ( <b>4.53</b> )
	Non- BG	<b>0.195***</b> (3.69)	0.060 (0.68)	0.009 (1.02)	<b>0.067**</b> ( <b>2.32</b> )	<b>0.034**</b> ( <b>2.08</b> )	0.017* (1.70)
	BG – Non-BG	<b>-0.703**</b> ( <b>-2.16</b> )	0.041 (0.43)	<i>0.022*</i> (1.74)	0.013 (0.31)	0.022 (1.03)	<b>0.031**</b> ( <b>2.27</b> )
BS	BG	<b>-0.219**</b> ( <b>-2.40</b> )	0.048 (1.35)	<b>0.022**</b> ( <b>2.58</b> )	<b>0.052**</b> ( <b>2.13</b> )	<b>0.033**</b> ( <b>2.36</b> )	<b>0.033***</b> ( <b>3.80</b> )
	Non- BG	0.075* (1.72)	0.009 (0.11)	0.032** (2.41)	-0.002 (-0.09)	0.005 (0.23)	0.006 (0.46)
	BG – Non-BG	<b>-0.293***</b> ( <b>-3.10</b> )	0.039 (0.42)	-0.009 (-0.63)	<i>0.054*</i> (1.93)	0.028 (1.44)	<i>0.027*</i> (1.77)
BP	BG	0.240* (1.85)	-0.016 (-0.38)	0.002 (0.19)	0.017 (0.77)	0.010 (0.70)	0.009 (0.83)
	Non- BG	-0.001 (-0.04)	-0.066 (-0.69)	0.006 (0.85)	-0.028 (-1.07)	-0.012 (-1.03)	-0.001 (-0.14)
	BG – Non-BG	<i>0.241*</i> (1.89)	0.05 (0.49)	-0.003 (-0.24)	0.045 (1.37)	0.022 (1.22)	0.01 (0.80)
SR	BG	0.525 (1.57)	-0.019 (-0.45)	0.032* (1.86)	0.005 (0.23)	0.004 (0.24)	0.008 (0.56)
	Non- BG	-0.033 (-0.43)	0.057 (0.87)	-0.021 (-1.62)	0.006 (0.29)	0.006 (0.28)	-0.003 (-0.16)
	BG – Non-BG	0.558 (1.62)	-0.076 (-1.06)	<b>0.053***</b> ( <b>2.73</b> )	-0.001 (-0.05)	-0.002 (-0.07)	0.011 (0.52)
OWN	BG	-0.242* (-1.91)		-0.005 (-0.56)	0.071* (1.70)	-0.000 (-0.01)	0.005 (0.52)
	Non- BG	-0.080 (-1.38)		-0.025* (-1.92)	0.037 (0.77)	-0.024 (-1.10)	-0.016 (-1.14)
	BG – Non-BG	-0.161 (-1.25)		0.020 (1.35)	0.033 (0.53)	0.023 (0.90)	0.021 (1.30)
RPT	BG	<b>-0.002**</b> ( <b>-2.47</b> )	0.035 (1.04)			<b>-0.071**</b> ( <b>-2.43</b> )	<b>-0.068**</b> ( <b>-2.23</b> )
	Non- BG	-0.001 (-1.03)	0.023 (0.35)			-0.013 (-0.41)	-0.012 (-0.37)
	BG – Non-BG	-0.001 (-0.88)	0.012 (0.15)			-0.058 (-1.15)	-0.056 (-1.06)
Business Group Firms		9	118	196	70	393	393
Firms		81	198	644	193	1,116	1,116
$R^2$		0.623	0.470	0.400	0.498	0.429	0.411

**Panel F. Old vs. Young Firms**

Subindex	Sub-sample	Brazil	India	Korea	Turkey	Pooled Sample Weighted	Pooled Sample
DIS	Old Firms	<b>0.217***</b> (2.64)	0.092 (1.27)	<b>0.035***</b> (3.44)	<b>0.106***</b> (3.40)	<b>0.049***</b> (3.85)	<b>0.038***</b> (4.80)
	Young Firms	<b>0.168**</b> (2.16)	0.062 (0.99)	0.012 (1.36)	-0.006 (-0.18)	0.026 (1.32)	0.016 (0.90)
	Old – Young	0.049 (0.53)	0.03 (0.28)	<i>0.023*</i> (1.79)	<b>0.111***</b> (2.70)	0.023 (1.19)	0.022 (1.18)
BS	Old Firms	<b>0.093**</b> (2.15)	0.005 (0.10)	<b>0.019**</b> (2.47)	0.006 (0.24)	0.009 (0.61)	<b>0.022***</b> (2.62)
	Young Firms	0.014 (0.18)	<b>0.088**</b> (1.97)	<b>0.044***</b> (3.73)	-0.000 (-0.01)	0.052** (2.58)	<b>0.037**</b> (2.53)
	Old – Young	0.079 (0.89)	-0.083 (-1.21)	<i>-0.025*</i> (-1.83)	0.005 (0.20)	<b>-0.043**</b> (-2.22)	-0.015 (-1.04)
BP	Old Firms	-0.047 (-0.77)	-0.023 (-0.40)	0.011 (1.13)	-0.001 (-0.03)	-0.002 (-0.21)	0.003 (0.51)
	Young Firms	0.035 (0.70)	-0.031 (-0.46)	0.002 (0.21)	-0.011 (-0.36)	-0.007 (-0.39)	-0.002 (-0.15)
	Old – Young	-0.081 (-1.12)	0.008 (0.10)	0.008 (0.73)	0.010 (0.27)	0.005 (0.26)	0.005 (0.37)
SR	Old Firms	-0.046 (-0.44)	0.030 (0.53)	0.011 (0.81)	0.004 (0.16)	0.003 (0.15)	0.001 (0.09)
	Young Firms	-0.015 (-0.14)	-0.031 (-0.63)	-0.008 (-0.57)	0.013 (0.89)	0.015 (0.96)	0.006 (0.46)
	Old – Young	-0.031 (-0.20)	0.061 (0.83)	0.019 (1.09)	-0.009 (-0.34)	-0.012 (-0.52)	-0.005 (-0.29)
OWN	Old Firms	-0.092 (-1.37)		-0.011 (-1.22)	0.046 (1.17)	-0.017 (-1.14)	-0.006 (-0.64)
	Young Firms	-0.069 (-0.91)		-0.015 (-1.31)	<b>0.128***</b> (2.93)	0.020 (0.98)	0.009 (0.65)
	Old – Young	-0.022 (-0.23)		0.004 (0.28)	-0.082 (-1.42)	0.049 (-2.00)	0.06 (-1.15)
RPT	Old Firms	-0.001 (-0.82)	0.016 (0.43)			0.001 (0.03)	0.001 (0.02)
	Young Firms	-0.002 (-1.15)	0.044 (0.88)			-0.066* (-1.76)	-0.059 (-1.50)
	Old – Young	0.000 (0.35)	-0.028 (-0.43)			0.067 (1.25)	0.06 (1.04)
Firms		81	198	644	193	1,116	1,116
R <sup>2</sup>		0.623	0.470	0.400	0.498	0.429	0.411

**Panel G. US Cross-listed Firms (CL) vs. Non-Cross-listed Firms (NCL)**

Subindex	Sub-sample	Brazil	India	Korea	Turkey	Pooled Sample Weighted	Pooled Sample
DIS	Cross-Listed (CL)	0.114 (0.55)	0.020 (0.31)	0.041 (1.63)	-0.005 (-0.17)	0.000 (0.01)	0.027 (1.14)
	Non-cross-listed (NCL)	<b>0.181***</b> <b>(3.89)</b>	0.092* (1.84)	<b>0.021***</b> <b>(2.64)</b>	<b>0.070***</b> <b>(2.86)</b>	<b>0.046***</b> <b>(3.67)</b>	<b>0.034***</b> <b>(4.44)</b>
	CL – NCL	-0.067 (0.32)	-0.071 (-0.95)	0.019 (0.79)	<b>-0.074***</b> <b>(2.58)</b>	-0.045 (-1.35)	-0.007 (-0.32)
BS	Cross-Listed (CL)	-0.080* (-1.86)	0.065 (0.92)	0.006 (0.36)	0.024 (0.58)	-0.022 (-0.80)	0.016 (0.74)
	Non-cross-listed (NCL)	<b>0.110***</b> <b>(2.75)</b>	0.019 (0.53)	<b>0.034***</b> <b>(4.56)</b>	0.021 (0.99)	0.023 (1.62)	<b>0.027***</b> <b>(3.13)</b>
	CL – NCL	<b>-0.190***</b> <b>(3.86)</b>	0.046 (0.63)	-0.027 (1.53)	0.003 (0.08)	-0.045 (-1.66)	-0.011 (-0.52)
BP	Cross-Listed (CL)	0.046 (0.57)	0.007 (0.08)	0.014 (0.35)	0.009 (0.22)	-0.002 (-0.05)	0.004 (0.15)
	Non-cross-listed (NCL)	-0.018 (-0.45)	-0.026 (-0.54)	0.006 (0.89)	-0.010 (-0.53)	-0.006 (-0.65)	0.001 (0.22)
	CL – NCL	0.064 (0.71)	0.033 (0.39)	0.008 (0.20)	0.019 (0.48)	0.004 (0.15)	0.002 (0.10)
SR	Cross-Listed (CL)	-0.034 (-0.44)	-0.033 (-0.58)	-0.004 (-0.17)	-0.050 (-1.31)	-0.021 (-0.62)	-0.026 (-0.88)
	Non-cross-listed (NCL)	-0.009 (-0.11)	0.016 (0.37)	-0.002 (-0.16)	0.010 (0.58)	0.009 (0.57)	0.004 (0.32)
	CL – NCL	-0.025 (0.28)	-0.048 (-0.85)	-0.002 (0.10)	-0.059 (1.51)	-0.029 (-0.85)	-0.030 (-1.00)
OWN	Cross-Listed (CL)	<b>-0.147**</b> <b>(-2.54)</b>		0.053* (1.73)	<b>0.129**</b> <b>(2.15)</b>	-0.073* (-1.77)	-0.006 (-0.19)
	Non-cross-listed (NCL)	-0.003 (-0.06)		-0.016* (-1.80)	0.048 (1.47)	-0.002 (-0.16)	-0.002 (-0.26)
	CL – NCL	<b>-0.144**</b> <b>(2.13)</b>		<b>0.069**</b> <b>(2.12)</b>	0.081 (1.47)	-0.070* (-1.74)	-0.004 (-0.12)
RPT	Cross-Listed (CL)	0.001 (0.02)	0.013 (0.27)			0.032 (0.68)	0.049 (0.78)
	Non-cross-listed (NCL)	-0.040 (-1.58)	0.034 (1.02)			-0.030 (-1.14)	-0.031 (-1.16)
	CL – NCL	0.040 (0.94)	-0.020 (-0.38)			0.062 (1.32)	0.080 (1.30)
US Cross-listed Firms		20	35	25	25	105	105
Firms		81	199	644	193	1,119	1,119
$R^2$		0.655	0.416	0.384	0.487	0.424	0.403

**Table A7. Governance Indices and Firm Value:  $\ln(\text{market value})$  as Outcome Variable**

Table shows coefficients for firm fixed effects (FE) regressions of  $\ln(\text{market value})$  on governance indices, covariates, year dummies, and constant term. Indices are normalized (mean =0;  $\sigma=1$ ). See text Tables 6 and 9 for similar regressions with  $\ln(\text{Tobin's } q)$  as the outcome variable. Covariates are listed in text Table 5. Time-invariant dummy variables (industry, business group, US cross listing, MSCI) drop out with firm fixed effects. Covariates, year dummies, and constant term are interacted with country dummies in the pooled regressions. Reported sample size exclude firms observed only once, which will not affect FE results. *t*-statistics, using firm clusters, are in parentheses. \*, \*\*, and \*\*\* respectively indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% level or better) are in **boldface**.

Sample Specification	Brazil FE	Brazil FE	India FE	India FE	Korea FE	Korea FE	Turkey FE	Turkey FE	BIKT FE	BIKT FE	BIKT Weighted FE	BIKT Weighted FE
Disclosure	<b>0.182***</b> (3.81)		<b>0.095**</b> (2.14)		0.020* (1.80)		<b>0.070***</b> (2.95)		<b>0.048***</b> (4.83)		<b>0.058***</b> (4.19)	
Financial Disclosure		<b>0.147**</b> (2.06)		0.044 (0.95)		<b>0.028**</b> (2.48)		0.028 (1.56)		<b>0.043***</b> (4.46)		<b>0.038***</b> (3.09)
Non-financial Disclosure		0.040 (0.94)		0.079* (1.80)		0.002 (0.24)		0.045* (1.71)		<b>0.020**</b> (2.32)		<b>0.032***</b> (2.77)
Board Structure	<b>0.081**</b> (2.24)		0.022 (0.68)		0.026* (1.82)		0.019 (0.91)		<b>0.027**</b> (2.44)		0.019 (1.41)	
Board Independence		<b>0.093**</b> (2.54)		0.023 (0.75)		0.019 (1.20)		0.039* (1.96)		<b>0.027**</b> (2.36)		<b>0.029**</b> (2.30)
Board Committees		-0.008 (-0.17)		-0.005 (-0.14)		0.012 (0.85)		-0.022 (-1.11)		0.002 (0.18)		-0.012 (-0.96)
Board Procedure	-0.004 (-0.11)	-0.007 (-0.20)	-0.027 (-0.59)	-0.034 (-0.78)	0.011 (1.24)	0.015 (1.63)	-0.008 (-0.43)	-0.005 (-0.29)	0.003 (0.39)	0.006 (0.70)	-0.006 (-0.57)	-0.004 (-0.42)
Shareholder Rights	-0.015 (-0.24)	-0.017 (-0.26)	0.021 (0.54)	0.022 (0.59)	-0.021 (-1.19)	-0.016 (-0.88)	0.006 (0.38)	0.001 (0.04)	-0.003 (-0.26)	-0.002 (-0.12)	0.003 (0.21)	0.002 (0.12)
Ownership Structure	-0.093* (-1.95)	-0.098* (-1.97)			<b>0.038**</b> (2.41)	<b>0.039**</b> (2.31)	0.049 (1.46)	0.050 (1.52)	0.013 (0.96)	0.014 (1.00)	-0.001 (-0.09)	-0.002 (-0.11)
RPTs	-0.028 (-1.16)	-0.027 (-1.10)	0.025 (0.85)	0.014 (0.48)					0.028 (1.19)	0.024 (1.02)	0.016 (0.78)	0.014 (0.71)
Observations	198	198	405	405	3,105	3,105	1,090	1,090	4,798	4,798	4,798	4,798
Firms	81	81	198	198	644	644	193	193	1,116	1,116	1,116	1,116
Within $R^2$	0.874	0.876	0.447	0.452	0.512	0.509	0.701	0.703	0.567	0.569	0.618	0.621

**Table A8. Governance Indices and Firm Value:  $\ln(\text{Industry-adjusted Tobin's } q)$  as Outcome Variable**

Table is similar to Table A7, but shows coefficients for firm fixed effects (FE) regressions of  $\ln(\text{industry-adjusted Tobin's } q)$  on governance indices, covariates, year dummies, and constant term. Industry is defined using closest match in each country to 2-digit US SIC codes.  $t$ -statistics, using firm clusters, are in parentheses. \*, \*\*, and \*\*\* respectively indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% level or better) are in **boldface**.

Sample Specification	Brazil FE	Brazil FE	India FE	India FE	Korea FE	Korea FE	Turkey FE	Turkey FE	BIKT FE	BIKT FE	BIKT Weighted FE	BIKT Weighted FE
Disclosure	<b>0.165***</b> (3.49)		0.099* (1.87)		<b>0.022***</b> (3.09)		0.024 (1.07)		<b>0.034***</b> (3.61)		<b>0.042***</b> (2.80)	
Financial Disclosure		0.101 (1.40)		0.046 (0.82)		<b>0.022***</b> (3.04)		0.005 (0.25)		<b>0.028***</b> (3.39)		<b>0.030**</b> (2.36)
Non-financial Disclosure		0.066* (1.70)		0.070 (1.36)		0.005 (0.79)		0.015 (0.58)		0.011 (1.52)		0.019 (1.52)
Board Structure	<b>0.090**</b> (2.12)		0.011 (0.29)		<b>0.033***</b> (3.99)		-0.033 (-1.28)		0.011 (1.16)		-0.004 (-0.28)	
Board Independence		<b>0.090**</b> (2.33)		0.003 (0.08)		<b>0.017**</b> (2.43)		0.015 (0.67)		0.014* (1.85)		0.011 (0.98)
Board Committees		0.016 (0.36)		0.011 (0.30)		<b>0.020***</b> (2.67)		<b>-0.061***</b> (-2.87)		-0.002 (-0.26)		-0.019 (-1.40)
Board Procedure	-0.028 (-1.21)	-0.026 (-1.19)	-0.046 (-1.00)	-0.052 (-1.16)	0.006 (0.88)	0.005 (0.81)	-0.009 (-0.39)	-0.006 (-0.29)	-0.000 (-0.04)	-0.000 (-0.02)	-0.008 (-0.65)	-0.007 (-0.61)
Shareholder Rights	-0.016 (-0.32)	-0.011 (-0.20)	0.019 (0.57)	0.017 (0.51)	-0.001 (-0.12)	-0.001 (-0.10)	0.018 (0.95)	0.009 (0.49)	0.015 (1.20)	0.016 (1.27)	0.019 (1.34)	0.019 (1.32)
Ownership Structure	-0.054 (-1.32)	-0.053 (-1.20)			-0.011 (-1.22)	-0.011 (-1.26)	0.021 (0.69)	0.022 (0.75)	-0.008 (-0.89)	-0.009 (-0.96)	-0.002 (-0.17)	-0.003 (-0.22)
RPTs	-0.002 (-0.08)	0.005 (0.17)	0.027 (0.83)	0.015 (0.45)					0.044 (1.31)	0.043 (1.26)	0.043 (1.27)	0.041 (1.23)
Observations	158	158	411	411	3,105	3,105	1,090	1,090	4,609	4,609	4,609	4,609
Firms	81	81	199	199	644	644	193	193	1,037	1,037	1,037	1,037
Within $R^2$	0.677	0.683	0.468	0.471	0.760	0.760	0.545	0.550	0.621	0.621	0.546	0.547

## Stata Code for Lower Bounds Analysis

### (1) HHH (2010) Sensitivity Bounds Approach

We provide here an example using Brazil and Brazil Disclosure Index, to demonstrate the computational steps in the HHH (2010) lower bounds analysis. Using the notation introduced in part 2.4 of the text, consider the FE estimates from Eq. (1) and a single omitted covariate  $u$ .

$$\ln(q_{i,t}) = \beta_0 + \beta_1 \times \text{CGI}_{i,t} + \beta_2 \times \mathbf{x}_{i,t} + g_t + f_i + \varepsilon_{i,t} \quad (1)$$

Let  $\beta_{\text{long}}$  be the coefficient on CGI (which in this example is Brazil Disclosure Index) from a “long” regression of  $q$  on CGI which includes an unobserved variable  $u$ . Similarly, let  $\beta_{\text{short}}$  be the coefficient on CGI from a “short” regression of  $q$  on CGI which excludes the unobserved variable  $u$ . Equation (1) above corresponds to the “short” regression, so that  $\beta_1 = \beta_{\text{short}}$ .

HHH show that the omitted variable bias (OVB) from not including  $u$  in the actual estimation of Eqn. (1) is:

$$|\beta_{\text{short}} - \beta_{\text{long}}| = |\rho(q, u)_{\mathbf{x}, \text{CGI}} * [s.e.(\beta_{\text{short}}) * t_u]| \quad (4)$$

Here  $s.e.(\beta_{\text{short}})$  is the standard error of CGI and  $t_u$  is the  $t$ -statistic on  $u$  from the long regression.

Let  $R_{\text{short}}^2$  be the  $R^2$  for the short regression that omits  $u$  and  $R_{\text{long}}^2$  be the  $R^2$  for the long regression that includes  $u$ .

As HHH show, Eqn. (4) can be generalized to a vector of omitted variables  $\mathbf{u}$ . First, replace  $t_u$  with  $(F_u)^{0.5}$ , where  $F_u$  is the F-statistic for the joint significance of the elements of  $\mathbf{u}$  in the long regression, with a degrees of freedom correction:  $t_u = \{F_u * [(k * df_{\text{short}}) / (df_{\text{short}} + 1 - k)]\}^{1/2}$ . Here  $\mathbf{u}$  has rank  $k$  and the short regression has  $df_{\text{short}}$  degrees of freedom. Second, define  $\rho^2(a, \mathbf{u})_b$  as the fractional decrease in unexplained variance from adding  $\mathbf{u}$  to the short regression:

$$\rho^2(a, \mathbf{u})_b = \frac{(1 - R_{\text{short}}^2) - (1 - R_{\text{long}}^2)}{(1 - R_{\text{short}}^2)} \quad (5)$$

Then equation (4) remains valid for vector  $\mathbf{u}$ . The HHH results are for OLS, but carry through immediately to FE, because firm-demeaning in FE is equivalent to adding firm dummies in OLS.

OVB arises if, and to the extent that,  $u$  partially correlates with *both* CGI and the outcome  $q$ . The HHH idea is to make plausible assumptions about the strength of these partial correlations, based on the known correlations for the observed variables. One approach is to assume that  $\mathbf{u}$

(partially) predicts *CGI* as strongly (same *t*-statistic for a single omitted variable *u*; same F-statistic for vector **u**) as the strongest included covariate (call this variable  $x_1$ ) in a regression of *CGI* on all covariates, and then to make assumptions about plausible values for the partial correlation between *u* and the outcome *q*.  $\rho(q, \mathbf{u})_{\mathbf{x}, CGI}$ . HHH suggest values from .01-.10. A second approach, which we followed here, is to assume that this correlation  $\rho(q, \mathbf{u})_{\mathbf{x}, CGI}$  is as large as the largest correlation observed in the data for any observed covariate  $x_2$ ,  $\rho(q, x_2)_{(\text{rest of } \mathbf{x}), CGI}$ . One can allow  $x_2$  to be either the same as or different than  $x_1$ . The HHH approach uses ordinary (not robust or clustered) standard errors.

## (2) Implementation in Stata

### (A) Single omitted variable

The HHH approach to setting lower bounds on coefficient estimates, to reflect potential OVB, involves using the observed data to estimate two unobserved quantities:  $t_u$  and  $\rho(q, \mathbf{u})_{\mathbf{x}, CGI}$ . For each, we replace the omitted variable *u* with values observed in the data for the observed covariates **x**:  $t_{x_1}$  and  $\rho(q, x_2)_{(\text{rest of } \mathbf{x}), CGI}$ . Here  $x_1$  and  $x_2$  can be the same or different variable. We illustrate this process by providing code to compute the estimate for Brazil Disclosure Index shown in row 1 of Table 8, Panel A.

**Step 1.** To measure  $t_{x_1}$ , regress the outcome *q* [for us,  $\ln(\text{Tobin's } q)$ ] on covariates, following Eqn. (1). The Stata code below uses the variable names in our dataset; for example, *ln\_tq* is  $\ln(\text{Tobin's } q)$  and *c\_bs\_n* is Board Structure Index. This produces the coefficients and *t*-statistics for covariates reported in column (3) of Table A4, except that the HHH analysis uses ordinary, rather than robust or clustered *t*-statistics. Observe that the strongest covariate -- with the highest *t*-statistic in predicting  $\ln(\text{Tobin's } q)$  -- in Brazil is *ln(Assets)*: coef = -0.273, *t* = 3.18. We therefore use this covariate to estimate a lower bound on the coefficient on Brazil Disclosure Index in Table 8, Panel A, row (1).

```
* Brazil regression following Eqn. (1)

xtreg ln_tq c_bs_n c_bp_n c_dis_n c_sr_n c_own_n c_rpt_n ln_list ln_asset
leverage sales_gr3 ppe_sale inc_assets ebit_sale turn_all inside_own xlist
state yd_2004 yd_2006 yd_2009 if country=="brazil", fe

* Extract relevant statistics, needed to compute eqns. (4) and (5).

scalar se_dis=_se[_c_dis_n]
```

```
scalar r1=e(r2_w) // Note: this R-squared value is required in eqn. (5)
```

**Step 2.** In the lower bound estimate in Table 8, Panel A, row (1), we use  $\ln(\text{assets})$  as both  $x_1$  and  $x_2$ . To obtain  $\rho(q, x_2)_{(\text{rest of } x), \text{CGI}}$ , begin by regressing Brazil Disclosure Index (variable name *c\_dis\_n*) on all covariates and retrieve the coefficient and the standard error of *ln\_asset*.

```
xtreg c_dis_n c_bs_n c_bp_n c_sr_n c_own_n c_rpt_n ln_list ln_asset leverage
sales_gr3 ppe_sale inc_assets ebit_sale turn_all inside_own xlist state
yd_2004 yd_2006 yd_2009 if country=="brazil" & e(sample), fe

scalar coef_lnasset= _coef[ln_asset]

scalar se_lnasset =_se[ln_asset]
```

**Step 3.** To obtain the value of  $\rho(q, x_2)_{(\text{rest of } x), \text{CGI}}$  using Eq. (5), exclude the variable with strongest *t*-value in the Tobin's *q* equation in Step 1 (*ln\_asset*) and retrieve the corresponding  $R^2$ . Then compute the difference in the  $R^2$  values from Step 1 and from this step.

```
xtreg ln_tq c_bs_n c_bp_n c_dis_n c_sr_n c_own_n c_rpt_n ln_list leverage
sales_gr3 ppe_sale inc_assets ebit_sale turn_all inside_own xlist state
yd_2004 yd_2006 yd_2009 if country=="brazil", fe

scalar r2 =e(r2_w) // Note: this R-squared value is required in eqn. (5)

scalar delta_r =sqrt((r2-r1)/r1)
```

**Step 4.** Following Eqn. (4), compute the OVB that would result from excluding this hypothetical omitted variable *u*:

```
gen bias_1 = abs(delta_r* se_dis *(coef_lnasset /se_lnasset))

* Obtain the mean of the variable bias_2 (which is the same for all
observations) and display it

summarize bias_1
```

The code to generate the estimate for Brazil Disclosure Index shown in **row 2** of Table 8, Panel A, is similar. The only change is that we use, as both  $x_1$  and  $x_2$ , the observed variable that most strongly predicts Brazil Disclosure Index (which is Brazil Shareholder Rights Index, *c\_sr\_n*), rather than the observed variable that most strongly predicts  $\ln(\text{Tobin's } q)$ , which was  $\ln(\text{assets})$ :

```
* Brazil regression following Eqn. (1)

* Step 1
```

```

xtreg ln_tq c_bs_n c_bp_n c_dis_n c_sr_n c_own_n c_rpt_n ln_list ln_asset
leverage sales_gr3 ppe_sale inc_assets ebit_sale turn_all inside_own xlist
state yd_2004 yd_2006 yd_2009 if country=="brazil", fe

* Extract relevant statistics, needed to compute eqns. (4) and (5).

scalar se_dis=_se[_c_dis_n]

scalar r1=e(r2_w) // Note: this R-squared value is required in eqn. (5)

* Step 2: Regress Brazil Disclosure Index (c_dis_n) on all covariates and
retrieve the coefficient and the standard error of c_sr_n

xtreg c_dis_n c_bs_n c_bp_n c_sr_n c_own_n c_rpt_n ln_list ln_asset leverage
sales_gr3 ppe_sale inc_assets ebit_sale turn_all inside_own xlist state yd_2004
yd_2006 yd_2009 if country=="brazil" & e(sample), fe

scalar coef_sr= _coef[c_sr_n]

scalar se_sr=_se[c_sr_n]

* Step 3: exclude c_sr_n in the Tobin's q equation and retrieve the
corresponding R-squared Then compute the difference in the R-squared values
from Step 1 and from this step.

xtreg ln_tq c_bs_n c_bp_n c_dis_n c_own_n c_rpt_n ln_list ln_asset leverage sales_gr3
ppe_sale inc_assets ebit_sale turn_all inside_own xlist state yd_2004 yd_2006 yd_2009
if country=="brazil", fe

scalar r2 =e(r2_w) // Note: this R-squared value is required in eqn. (5)

scalar delta_r =sqrt((r2-r1)/r1)

* Step 4: compute OVB from excluding a hypothetical omitted variable with the same
power to predict ln(Tobin's q) and Brazil Disclosure Index as c_sr_n

gen bias_2 = abs(delta_r* se_dis *(coef_sr/se_sr))

* Obtain and display the mean of the variable bias_2

summarize bias_2

```

### ***B) Two or more omitted variables***

We illustrate the computation of potential OVB arising from two or more omitted variables  $\mathbf{u}$ , by assuming that these omitted variables, if included, would have the same power to affect the observed regression coefficient as two or more observed variables. We use the specific example that leads to the lower bound estimate for Brazil Disclosure Index in Table 8, Panel A, **row 3**, which uses both the variable that most strongly predicts  $\ln(\text{Tobin's } q)$ , which is  $\ln(\text{assets})$ , and the variable that most strongly predicts Brazil Disclosure Index, which is Brazil Shareholder Rights Index. We imagine that the omitted variables  $\mathbf{u}$  predict both Tobin's  $q$  and Brazil Disclosure Index as strongly as (i)  $\ln\_asset$  and Shareholder Rights index ( $c\_sr\_n$ ) taken together. We provide code to compute the estimate for Brazil Disclosure Index shown in **row 3** of Table 8, Panel A.

**Step 1.** As we did above for a single omitted variable  $u$ , begin by regress  $\ln(\text{Tobin's } q)$  on covariates and retrieve the value of the  $R^2$ :

```
* Brazil regression following Eqn. (1) using two assumed omitted variables

xtreg ln_tq c_bs_n c_bp_n c_dis_n c_sr_n c_own_n c_rpt_n ln_list ln_asset leverage
sales_gr3 ppe_sale inc_assets ebit_sale turn_all inside_own xlist state yd_2004
yd_2006 yd_2009 if country=="brazil", fe

scalar se_dis=_se[_c_dis_n]

scalar r3=e(r2_w)
```

**Step 2.** Regress Brazil Disclosure Index on all covariates and retrieve the value of the joint significance tests (F-test) of  $\ln\_asset$  and  $c\_sr\_n$

```
* Step 2: Regress Brazil Disclosure Index (c_dis_n) on all covariates and retrieve the
F-statistic of ln_asset and c_sr_n

xtreg c_dis_n c_bs_n c_bp_n c_sr_n c_own_n c_rpt_n ln_list ln_asset leverage sales_gr3
ppe_sale inc_assets ebit_sale turn_all inside_own xlist state yd_2004 yd_2006 yd_2009
if country=="brazil" & e(sample), fe

testparm ln_asset c_sr_n

scalar F1= r(F) // the F-statistics = 6.42
```

To approximate the value of  $\rho^2(a, \mathbf{u})_b$  using Eq. (5), we exclude both  $\ln\_asset$  and  $c\_sr\_n$  in the Tobin's  $q$  equation and retrieve the value of the  $R^2$ :

```
xtreg ln_tq c_bs_n c_bp_n c_dis_n c_own_n c_rpt_n ln_list leverage sales_gr3
ppe_sale inc_assets ebit_sale turn_all inside_own xlist state yd_2004 yd_2006
yd_2009 if country=="brazil", fe

scalar r4=e(r2_w)
```

The OVB from excluding this hypothetical  $\mathbf{u}$  is:

```
gen bias_3 = abs(sqrt((r4-r3)/r4)*se_dis*sqrt(F1))
* Obtain and display the mean of the variable bias_3
Summarize bias_3
```

In Table 8, Panel A, **Row 4**, we assume that omitted variables  $\mathbf{u}$  predict both Tobin's  $q$  and Disclosure Index as strongly as all of the included covariates, taken together. The code to generate the lower bound estimate for Brazil Disclosure Index is similar to the case with two omitted variables described above. The only change is that we use all of the independent variables (except for Brazil Disclosure Index and the time dummies), instead of  $\ln\_asset$  and  $c\_sr\_n$ :

**Step 1.** As we did above for two omitted variables  $\mathbf{u}$ , begin by regress  $\ln(\text{Tobin's } q)$  on covariates. Then retrieve the value of the  $R^2$  and the value of the joint significance tests (F-test) of all independent variables, other than the Disclosure index and time dummies:

```
xtreg ln_tq c_bs_n c_bp_n c_dis_n c_sr_n c_own_n c_rpt_n ln_list ln_asset leverage
sales_gr3 ppe_sale inc_assets ebit_sale turn_all inside_own xlist state yd_2004
yd_2006 yd_2009 if country=="brazil", fe
scalar r3=e(r2_w)
```

**Step 2.** Regress Brazil Disclosure Index on all covariates and retrieve the value of the joint significance tests (F-test) of all covariates other than time dummies:

```
* Step 2: Regress Brazil Disclosure Index (c_dis_n) on all covariates and retrieve the
F-statistic of the joint significance test on all covariates other than time dummies
xtreg c_dis_n c_bs_n c_bp_n c_sr_n c_own_n c_rpt_n ln_list ln_asset leverage sales_gr3
ppe_sale inc_assets ebit_sale turn_all inside_own xlist state yd_2004 yd_2006 yd_2009
if country=="brazil" & e(sample), fe
testparm c_bs_n c_bp_n c_sr_n c_own_n c_rpt_n ln_list ln_asset leverage sales_gr3
ppe_sale inc_assets ebit_sale turn_all inside_own xlist state
scalar F2= r(F)
```

To approximate the value of  $\rho^2(a, \mathbf{u})_b$  using Eq. (5), we exclude all included covariates and retrieve the  $R^2$ :

```
xtreg ln_tq c_dis_n yd_2004 yd_2006 yd_2009 if country=="brazil", fe
scalar r5 =e(r2_w)
```

The OVB from excluding this hypothetical  $\mathbf{u}$  is:

```
gen bias_4 = abs(sqrt((r5-r3)/r5)*se_dis *sqrt(F2))
* Obtain and display the mean of the variable bias_4
Summarize bias_4
```