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

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Abstract. There is evidence that well-constructed overall "corporate governance indices" can predict higher firm values in emerging markets, but little evidence on which aspects of governance drive that overall relationship. We study that question across four major emerging markets (Brazil, India, Korea, and Turkey). We build overall country-specific governance indices, comprised of indices for disclosure, board structure, ownership structure, shareholder rights, board procedure, and control of related party transactions. We find that disclosure (especially financial disclosure) predicts higher market value across all four countries. Board structure (principally board independence) takes a positive coefficient in all countries and is significant in two of the four countries. The other indices do not predict firm value. These results suggest that regulators and investors, in assessing governance, and firm managers, in responding to investor pressure for better governance; and would do well to focus on disclosure and board structure.

Keywords: Brazil, Korea, India, Turkey, corporate governance, boards of directors, disclosure, shareholder rights.

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

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1 – Introduction

A large body of research provides evidence that firm-level corporate governance (CG) matters for firm value and performance.[1] However, which aspects of firm-level CG (for example, disclosure, board structure, or board procedures) affect value remains an open question. This question is especially important in emerging markets, because of the extra risks they pose for investors, regulators and firms (Claessens and Yurtoglu, 2013; Karolyi, 2015). For instance, suppose that a firm wants to adjust its CG. Given that CG mechanisms are costly, which aspects should it concentrate on (Leuz and Wysocki, 2016)? This article provides evidence on which aspects of CG appear to drive firm value in emerging markets and, perhaps of equal practical importance, which do not.

A core challenge in assessing the impact of particular aspects of CG is the need to control for other aspects of CG. Otherwise, an apparent correlation between disclosure and firm value (such as the one we find here) could reflect omitted variable bias, due to failure to control for other aspects of CG. Studies of particular aspects of CG (e.g., Dahya, Dimitrov, and McConnell, 2008, for board independence; Durnev and Kim, 2005; Francis, Khurana, and Pereira, 2005; Garay et al., 2013; Gelos and Wei, 2005; Hail and Leuz, 2006; and Leuz, Lins, and Warnock, 2010, for disclosure; and Lang, Lins and Maffett, 2012, for transparency) do not control for other aspects. We are not aware of any article that investigates the power of specific aspects of CG to predict firm value, in a panel data framework with firm effects, controlling for other aspects of CG.

The debate around the "G" index illustrates the importance of these controls.[2] Gompers, Ishii and Metrick (2003) build a CG index (the G-index) for U.S. firms, composed of 24 elements and provide evidence that this construct predicts firm market value and performance. Some elements are chosen by firms and others by the states where they incorporate. Bebchuk, Cohen,

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[1] Evidence from cross-coutry studies: Durnev and Kim (2005); Klapper and Love (2004); Doidge, Karolyi and Stulz (2007); and Dahya, Dimitrov, and McConnell (2007); Black et al. (2014). Evidence from individual country studies come from Brazil: Braga-Alves and Shastri (2011); Black, de Carvalho and Gorga (2012); Black, de Carvalho, and Sampaio (2014); Leal and Carvalhal da Silva (2007); Hong Kong: Cheung et al.(2007 and 2011); Lei and Song (2012); India: Balasubramanian, Black and Khanna (2010); Sarkar, Sarkar and Sen (2012); Korea: Black, Jang and Kim, (2006a), Black and Kim (2012); Russia: Black, Love and Rachinsky (2006); Black (2001); Kuznecovs and Pal (2012); Thailand: Limpaphayom and Connelly (2004); Kouwenberg (2006); and Turkey: Ararat, Black, and Yurtoglu (2017).

[2] Two studies examine specific aspects of CG, controlling for other aspects in emerging markets: Chen, Chen, and Wei (2009); and Black, de Carvalho and Gorga (2012). However, both use only cross-sectional data.

and Ferrell (2009) show that the overall effect of the G-index on firms' performance is driven by their E-index, composed of only six firm-chosen elements (4 related to shareholders' voting power, 1 to poison pills, and 1 to golden parachutes).[3] They do so by including both the E-index and the O-index (composed of the remaining elements of the G-index) in the same regression. However, this debate has limited relevance for emerging markets, because the G-index focuses on takeover defenses, which do not matter in most emerging markets, due to concentrated ownership.

The challenges in understanding which aspects of CG matter increase substantially if one has to consider several aspects of CG (e.g., disclosure and board structure), or moves from developed to emerging markets. This is the first article to investigate which aspect of firm-level CG matter, controlling simultaneously for its different aspects. We study six broad aspects, for which there is reason from theory, in some cases supported by empirical evidence to believe these aspects can affect firm performance or value to minority investors: board structure, disclosure, ownership, shareholder rights, board procedures, and control of related party transactions (RPTs). We do so with a strong empirical specification, using firm effects and extensive covariates, using country-specific CG indices for four main emerging markets (Brazil, India, Korea, and Turkey) that are known from prior work to predict firm value taking these indices as a whole. We assess which aspects of these overall indices drive that predictive value, and which do not.

The generalizability of results from four countries is uncertain. However, these four countries differ in many ways, including legal traditions, language, culture, geographic location, and background legal rules. Thus, our results are likely to be representative of other major emerging markets, even if not every single market. Furthermore, we are not aware of any reliable panel data on CG practices covering several aspects of corporate governance in a larger set of countries. The available multi-country indices apply a US-centric view of what constitutes good CG; apply the same CG elements across many countries, rendering some elements irrelevant in some countries; and cover only the largest firms in each country. None of them has power to predict firm value in emerging markets.[4]

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[3] Straska and Waller (2014) report that the 18 other measures, treated as an "O" (for other) index, predict takeover likelihood. Karpoff, Schonlau and Wehrly (2017) build a "D" index from a different subset of the G-index elements, and report that their index also predicts takeover likelihood.

[4] Among the available multicountry indices, ISS covers only developed markets. ASSET4, Thomson-Reuters, and Bloomberg cover both developed and emerging markets, but only the largest firms in each country. Bloomberg also

Our panel data design, with firm and year fixed effects (FE), extensive covariates is not a true causal design, but can be seen as the best research design that is realistically available for studying CG in a multi-country setting.[5] We also apply bounds analysis, to assess the sensitivity of our results to potential omitted variable bias (OVB). We calculate lower bounds on both parameters and t-statistics: the values one would obtain if omitted variables had specified strength to predict both CG and the outcome variable (in our case, Tobin's q). We use two separate sets of bounds, proposed respectively by Hosman, Hansen and Holland (2010), and Altonji, Elder and Taber (2005) extended by Oster (2017). The bounds analysis does not address the potential for reverse causation, with firm performance predicting CG. However, the existing studies on what factors predict CG practices (Black, Jang and Kim, 2006b, Ararat, Black and Yurtoglu, 2017) suggest that reverse causation is a limited concern in emerging markets.

We report three main results. First, additional firm-level disclosure, above each country's minimum requirements, predicts higher market value in each individual country and when we pool across all four countries (pooled sample), with both firm random effects (RE) and firm fixed effects (FE) specifications. In the bounds analysis, the value of disclosure is robust to severe assumptions about the level of OVB for the pooled sample, Brazil and Turkey, and robust to less severe assumptions for Korea and India. Financial disclosure is a stronger predictor of firm value than non-financial disclosure. This effect is economically meaningful. For example a one standard deviation (SD) increase in disclosure predicts a 4.0% increase in Tobin's q for the pooled sample.[6]

Second, board structure has predictive value in Brazil, Korea, and the pooled sample, which is consistent across econometric specifications (it does not have predictive value in India and Turkey). However, in the bounds analysis, this result is robust to reasonable levels of OVB only in Korea. The effect of board structure on firm value comes principally from board independence rather than the existence and structure of board committees (e.g., an audit committee). A one SD increase in disclosure predicts a 2.0% increase in Tobin's q for the pooled sample. A combined

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focuses on social and environmental issues. In Black et al. (2018), we study the ASSET4 and Thomson-Reuters indices and find that they have no power to predict firm value.

[5] In a single country setting, researchers can sometimes exploit "natural experiments" – usually legal changes in a particular country's CG rules. However, most shock-based studies rely on a single shock, in a single country, to a particular aspect of governance. It is unlikely that one would find exogenous shocks for several aspects of CG, or find similar shocks in a representative number of countries.

[6] This and other discussions of economic significance use coefficients from FE regressions.

index of disclosure and board structure is positive and statistically significant in all countries and the pooled sample. This effect is robust in our bounds analysis except in India. A one SD increase in the combined disclosure-board structure index predicts a 4.8% increase in Tobin's q for the pooled sample.

Third, once one controls for disclosure and board structure, the remaing indices, despite their theoretical plausibility, do not predict Tobin's q, either individually or combined into a single index, in any of our four countries. To be sure, lack of predictive power could reflect either the unimportance of these CG aspects, or our failure to measure them well. But the consistent unimportance of these aspects across all four countries suggests that our results do simply reflect weak measures.

The predictive power of disclosure and board structure for Tobin's q is consistent with prior theoretical work. Two broad channels could explain these relationships: share liquidity and firm profitability. First, improved disclosure reduces information asymmetry, this can enhance liquidity, increase share prices, and thus reduce cost of capital (Amihud and Mendelson, 1988; Diamond and Verrecchia, 1991 Leuz and Wysocki, 2016). Second, improved disclosure and board structure may increase firm value by increasing cash flows to minority shareholders. A combination of well functioning board and good disclosure reduces agency conflicts between minority shareholders and insiders, and can improve firm decision making (Adams, Hermalin and Weisbach, 2010). Improved disclosure and greater board independence could also reduce the risk that controllers will tunnel value away from minority shareholders. See Shleifer and Wolfenzon (2002) for theory and Black et al. (2015) for natural experiment-based evidence for this channel for Korea. This channel can involve both higher reported cash flows due to reduced current tunneling, and higher valuation for the same reported cash flows, due to reduced risk of future tunneling (Atanasov, Black, and Ciccotello, 2014). However, below we investigate evidence for these two channels, and do not find consistent support for either channel by itself.

As an example of the importance of the FE specification, both theory and prior empirical evidence also supports an impact of ownership structure on firm value, including the "wedge" between the control groups voting and economic ownership (see the review by Adams and Ferreira, 2009). However, a recent study of dual-class firms by Anderson et al. (2018) find that

the predictive power of the wedge variable disappears with firm FE, consistent with our failure to find predictive power for Ownership Structure Index.

Our results have important policy implications. They suggest that both firms, in responding to investor demands for good governance; investors, in assessing CG quality; can do reasonably well in focusing on disclosure and board structure. Given that CG regulations can potentially have costs that outweigh their benefits (Bruno and Claessens, 2010; Litvak, 2007), regulators, in seeking to strengthen their capital markets, might also want to focus on these CG aspects.

This paper proceeds as follows. Section 2 presents our methodology concerning on how to measure governance, econometric methods and how to address omitted variable bias. Section 3 describes our data. Section 4 presents our results on which aspects of governance predict firm value. Section 5 concludes. An Appendix provides additional results, including for subsamples and individual governance elements, and using an alternative measure of firm value.

2 – Methodology

2.1 – Corporate Governance Indices

We are interested in what aspects of CG drive the relation between an overall CG index and firm value. To measure CG one can use either objective indices (composed of objectively measurable elements) or subjective indices (containing at least some elements that are not objectively measurable). There are obvious concerns with using subjective elements in a CG index. Indices can also be classified as common (using the same set of elements in all countries) or country specific (using different elements in different countries). The main problem with common, objective indices is that there are few elements that are both measurable and meaningful in a cross-section of emerging markets (our focus here), even if one studies a limited number of of countries. Local rules and insitutions render some potential CG elements mandatory while others are forbidden. Still others are nearly universal or quite rare in particular countries and are not useful measures of firm-level CG in those countries. Black et al. (2014) show that common, objective indices have no power to predict firm value in our sample countries.

Several commercial CG indices exist, some of which cover emerging markets firms. However, all use subjective elements, and all also use common indices. The elements of these indices reflect a US-centric approach, which may not fit well with the aspects of CG that matter in

emerging markets. Black et al. (2018) study the two best available commercial indices covering a substantial number of emerging markets, from ASSET4 and Thomson-Reuters, and find that neither these indices as a whole, nor subindices, predict firm value in a panel data specification with firm effects. We, therefore, choose to use objective, but country-specific indices, whose elements are tailored to local rules and institutions.

In building country-specific indices, we include an element if (i) there is theoretical reason to believe to correspond to good governance (sometimes with empirical support, but often not, because for many specific elements, little is known about whether they affect firm value or performance, either alone or in combination with other elements); (ii) we have reasonably complete data across firms; (iii) there is reasonable variation across the firms in our sample; and (iv) the element is not too similar to another element.

As an example of how we build the country-specific indices, , consider board structure index, for which we first construct subindices for independence and board committees, and consider the board independence subindex. In Brazil there are no rules requiring a minimum number of independent directors, and many firms have no independent directors at all. Even the Novo Mercado segment of the Bovespa stock exchange, which has higher minimum governance rules than a "regular" listing, requires only 20% independent directors. At the other extreme, only a few firms have a majority of independent directors. Given this pattern, we include five elements in the Brazil board independence subindex: (i) firm has at least one independent director; (ii) firm has at least 30% independent directors; (iii) firm has at least 50% independent directors; (iv) separation of roles between the CEO and the board chairman; and (v) audit committee or fiscal board includes a minority shareholder representative.

In India, in contrast, board independence rules are much stricter. These rules require firms to have either (i) one-third independent directors and separation of the CEO and board chair roles; or (ii) at least 50% independent directors. Given these rules, and the observed behavior of Indian firms, the first two elements of the Brazil index would be meaningless in India. We include five elements in the India board independence subindex: (i) firm has at least 50% independent directors; (ii) firm has a strict majority of independent directors; (iii) firm has at least 50%

independent directors *and* separation of the CEO and board chair roles; (iv) firm complies with the legal rule stated above;[7] and (v) audit committee has majority of outside directors.

We could similarly discuss specific features of Korean and Turkish board independence rules, norms, and available data. These features lead to differences across each of the countries in how one could meaningfully measure board independence.

While we believe that building country-specific CG indices is the best, and perhaps the only feasible road to follow in emerging markets, this approach also has important limitations. First, we cannot add additional countries. Each country requires both local knowledge and substantial work.[8] Second, due to both limited number of countries, and our indices that differ across countries, we cannot readily explore the relative importance of country versus firm characteristics in explaining corporate governance (cf. Doidge, Karolyi and Stulz, 2007).

Next we provide summary information on how we construct indices in each country. We refer to Black et al. (2014) for additional details.[9] Table 1 lists the elements of the Board Structure and Disclosure indices; Appendix Table A1 lists all elements of all indices. For each element, it indicates in which countries the element is used (elements in boldface), which elements are available (or potentially available without great difficulty), but not used, because they are too similar to another element or too rare or common for there to be meaningful differences across firms (not meaningful, NM). We also indicate whether an element is non-public (NP), non-public and not collected in our private surveys (NA).

Brazil. We build indices for Board Structure (7 elements); Disclosure (11 elements); Board Procedure (6 elements); RPTs (4 elements); Shareholder Rights (6 elements) and Ownership Structure (5 elements); overall, 39 elements.

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[7] In our other three countries, there is no value in including legally required elements in our governance index. India is an exception; 9.6% of firm-year observations do not meet the board independence rules.

[8] For this project, each country-specific index draws on the local knowledge of laws and institutions, and local experience, of one of the coauthors. In prior work using overall CG indices (Black et al., 2014), we were able to include Russia as a fifth country; we cannot include Russia here we relied on Russian indices built by others, and lack subindices that have good overlap with our own subindices.

[9] Further details on how we build governance indices in each country are available from our single country studies. For Brazil, see Black, de Carvalho and Gorga (2012). For India, see Balasubramanian, Black and Khanna (2010). For Korea, see Black, Jang and Kim (2006a). For Turkey, see Ararat, Black and Yurtoglu (2017).

India We build indices for Board Structure (6 elements); Disclosure (13 elements); Board Procedure (13 elements); RPTs (6 elements); and Shareholder Rights (4 elements); overall, 42 elements. We cannot construct a meaningful ownership index because India has a one share, one vote rule, and few pyramids.[10] We use similar elements in Brazil and India to the extent feasible. Nonetheless, the Brazil and India indices have only 12 common elements.

Korea. Board Structure (7 elements); Disclosure (3 elements); Board Procedure (12 elements); Ownership (1 element); and Shareholder Rights (4 elements); overall, 27 elements. We lack the data to construct an RPT index, but Shareholder Rights Index contains one element related to RPTs. We again use similar elements to the other countries, where feasible. Nonetheless, the Brazil and Korea indices have only 6 common elements.

Turkey: Board Structure (6 elements); Disclosure (23 elements); Board Procedure (5 elements); Ownership (5 elements); and Shareholder Rights (8 elements); overall, 47 elements. We lack the data to construct an RPT index, but Shareholder Rights Index contains two elements related to RPTs. The Brazil and Turkey indices have only 10 common elements.

Most elements are dichotomous (coded as "1" if a firm has the attribute and "0" otherwise). We normalize continuous variables to run from 0~1. Within each index, we weight each element equally.[11] If an element value is missing, we compute the index using the average score for the non-missing values. We rescale each index to run from 0~100. For use in regressions, we normalize each index to mean = 0, standard deviation =1. We also define an overall country Corporate Governance Index (e.g., *Brazil CGI* or *BCGI*) as the equally weighted average of the specific indices.

2.2 – Econometric Methods

Our outcome variable is Tobin's *q*, which measures the value of minority shares, and does not capture the value of the control block. To reduce the influence of high-*q* outliers, we use the

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[10] Masulis, Pham and Zein (2011) report that 29% of the Indian firms in their sample belong to business groups. However, only a few groups use pyramids; they report that only 6% of firms have pyramidal ownership. Bertrand et al. (2002) examine tunneling within business groups in India, but do not examine where expropriation tends to occur within a pyramid, nor how ownership-control separation within a group affects firm performance. We control for the potential effect of business group membership on firm value by using a dummy variable for business group membership as a control variable.

[11] Brazil RPT Subindex is an exception. See Appendix for details.

natural logarithm of q and also exclude outliers (year by year), for which a studentized residual from regressing ln(Tobin's q) on country $CGI > |1.96|$.

We run RE and FE regressions in each country using an unbalanced panel, with standard errors clustered on firm. Our model is:

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

Here $\mathbf{CGI}_{i,t}$ is a vector of our governance indices; $\mathbf{x}_{i,t}$ is a vector of covariates, which we assume to be exogenous, g_t are year dummies, and f_i are firm effects (Wooldridge, 2010, § 10.2).[12]

We also pool observations across our four countries and construct pooled indices. This involves the strong assumption that the country-level indices capture the same underlying construct in each country. Pooling can help to make sense of results across a number of countries; we also need to pool our results to compare them to other multicounty studies. But pooled results should be interpreted with caution.

For pooled regressions, we modify Model (1) as follows. We use only covariates available in all four countries (we lose foreign ownership, advertising/sales, R&D/sales, exports/sales, market share, and MSCI dummy); convert country-specific industry dummies to 2-digit US-equivalent SIC codes; and interact the covariates, year dummies, and the constant term with country dummies. This lets the impact of each of these variables vary across countries and provides, in effect, a country-specific "response surface." For pooled results one would be concerned that the overall results could be driven by a particular country with a large sample. To address this possibility, we also run an FE specification weighting the sample so that each country receives equal weight, by using 1/(number of firms) as weights. Weighting is not feasible for RE. Letting c index countries, d_c be country dummies, and suppressing the FE weights, the FE specification is:

$$\ln(q_{c,i,t}) = \beta_0 \times d_c + \boldsymbol{\beta_1} \times \mathbf{Pooled\ CGI}_{c,i,t} + \boldsymbol{\beta_2} \times \mathbf{x}_{c,i,t} \times d_c + f_i + (g_t \times d_c) + \varepsilon_{c,i,t} \qquad (2)$$

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[12] In robustness checks, we use ln(market value) (the numerator of Tobin's q) as an alternative outcome variable, with similar results. See Appendix.

We also test for equivalence of FE and RE coefficients, using both the well-known Hausman test and the less-known but more flexible correlated random effects (CRE) model.[13]

2.3 – Sensitivity Bounds for Omitted Variable Bias

With limited exceptions, we do not have exogenous shocks to the elements of our governance indices (we have shocks to board structure in Korea in 2001 and in Turkey in 2012). Thus, reverse causation and omitted variable bias are important concerns.[14] Consider first reverse causation, with firm value predicting CG. In separate work for India, Korea, and Turkey (we have not studied Brazil),[15] we find that non-time varying firm characteristics (e.g., firm, industry, business group) strongly predict CG, but time-varying firm characteristics do so only weakly. Therefore an FE specification should greatly reduce reverse causation concerns. We also limit the potential for reverse causation by measuring CG in the first part of a year and Tobin's q at year-end.

The more important endogeneity concern is likely to be omitted time-varying variables, which are associated with both CG and Tobin's q. Here, FE or RE with a broad CG index and extensive covariates can reduce but not eliminate the potential for OVB. We therefore assess how sensitive our results are likely to be to omitted variables, by adapting to panel data two approaches, one from statistics (Hosman, Hansen, and Holland, 2010; below HHH) and one from economics (Altonji, Elder, and Taber, 2005; Altonji et al., 2011; Oster, 2017; below, ACETO). Both use the influence of known covariates on the coefficient of interest to provide bounds on that coefficient, if there are similarly influential but omitted covariates. This approach gains credibility if one begins with a rich set of included covariates, as we seek to do here.

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[13] See Wooldridge (2013), § 14.3. The CRE model adds time-demeaned variables $\overline{\mathbf{x}}$ and $\overline{CGI}$ to the random effects model in eqn. (3). We prefer the CRE test because: (i) one can use clustered standard errors; (ii) one can test for different FE and RE coefficients for specific variables, not only for all coefficients together; and (iii) in practice, the Hausman test often fails to run (for us, it fails in India). Both tests assume exogenous $\mathbf{x}$'s.

[14] In Korea, large firms (assets > 2 trillion won) face a legal shock to governance which comes into force in 2000-2001, during our study period; we study that shock elsewhere (Black, Jang and Kim, 2006a; Black and Kim, 2012). There is also a legal shock to board structure in Turkey in 2012 (see Ararat, Black, and Yurtoglu, 2017, for details). Some studies address endogeneity by instrumenting for CG, Tobin's q, or both. We find the instruments used for CG unconvincing, and do not pursue this approach here.

[15] See Black, Jang and Kim (2006b) (Korea); Balasubramanian, Black and Khanna (2010) (India); and Ararat, Black and Yurtoglu (2017) (Turkey).

We summarize these approaches here, and provide sample Stata code to implement them in the Appendix. Consider FE (Equation 1) and a single omitted covariate u, and let β_{long} (β_{short}) be the coefficient on a governance measure *CGI* from a "long" ("short") regression of an outcome, denoted as q, on *CGI* which includes (excludes) an unobserved variable u. A standard econometric result is:

$$| \beta_{short} - \beta_{long} | = | \rho(q,u)_{\mathbf{x},CGI} * \rho(CGI,u)_{\mathbf{x}} | \tag{3}$$

Here $\rho(a,u)_{\mathbf{b}}$ is the partial correlation between a and u, conditioned on a vector of covariates $\mathbf{b}$.[16] We take absolute values for convenience, since the signs of the partial correlation coefficients are not known, and the principal concern is upward bias in β_{short}. HHH show that (3) can be rewritten as:

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

Here s.e.(x) is the standard error of x and t_u is the *t*-statistic on u from the long regression. Eqn. (4) can be generalized to allow multiple omitted variables $\mathbf{u}$. Let R^2_{short} (R^2_{long}) be the R² value from a short (long) regression that omits (includes) $\mathbf{u}$, and let $\mathbf{u}$ have rank k, the short regression have df_{short} degrees of freedom, and $F_{\mathbf{u}}$ be the F-statistic for the joint significance of the elements of $\mathbf{u}$ in the long regression. Define $t_{\mathbf{u}}$ as the positive square root of $F_{\mathbf{u}}$ with a degrees of freedom correction $t_{\mathbf{u}} = \{F_{\mathbf{u}}*[(k*df_{short})/(df_{short}+1-k)]\}^{1/2}$ and define $\rho^2(a,\mathbf{u})_{\mathbf{b}}$ as the fractional decrease in unexplained variance from adding $\mathbf{u}$ to the regression

$$\rho^2(a,\mathbf{u})_{\mathbf{b}} = \frac{(1-R^2_{short})-(1-R^2_{long})}{(1-R^2_{short})} \tag{5}$$

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 to the extent that an omitted variable partially correlates with *both* CGI and the outcome q. The HHH idea is to imagine that an omitted variable u (partially) predicts *CGI* as strongly (same *t*-statistic) as the strongest included covariate (call this variable x_1) in a regression

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[16] More formally: Regress a on c and constant term, determine the residual $\ddot{a}$, and similarly for b, then compute $Corr(\ddot{a}, \ddot{b})$. See, e.g., Angrist and Pischke (2009), § 3.2.2.

of *CGI* on all covariates, and then to make assumptions about plausible values of $\rho(q,\mathbf{u})_{\mathbf{x},CGI}$. HHH suggest values from .01-.10. An alternate approach, followed here, is to assume that $\rho(q,\mathbf{u})_{\mathbf{x},CGI}$ = largest value of $\rho(q,x_2)_{(\text{rest of } \mathbf{x}),CGI}$ for any included covariate x_2 (which may be different than x_1). For multiple omitted variables $\mathbf{u}$, one imagines that the omitted vector of variables $\mathbf{u}$ predicts *CGI* as strongly (same *F*-statistic) as the strongest one or more of the included covariates $\mathbf{x}$. The HHH approach uses ordinary (not robust or clustered) standard errors.

The HHH approach lets us construct a lower bound β_{lower} as β_{short} - $|\beta_{short} - \beta_{long}|$ estimated from Eqn. (4) using one or more included covariates that strongly predict both CGI and q. The intuition that if $|\beta_{short} - \beta_{long}|$ is small – if coefficient estimates do not change much as one adds more covariates to a regression, it is less likely that the estimates would change greatly if one could include additional omitted variables as well.

The ACETO approach begins with the difference between the coefficient $\hat{\beta}_{narrow}$ from a limited regression that includes only clearly exogenous covariates (in our FE model, only the year and firm effects). One then assumes that there are omitted variables which: (i) have the same effect on β as all other covariates; and (ii) would reduce the β estimate.[17] This produces a lower bound on the true FE coefficient:

$$\hat{\beta}_{ACETO} = \hat{\beta}_{FE} - |\widehat{\beta}_{narrow} - \hat{\beta}_{FE}| \tag{6}$$

The ACETO lower bound is similar to an HHH lower bound in which one assumes that the omitted variables have the same power as all included variables.

3 – Data

3.1 – Data for Country-Specific Governance Indices

Brazil: we rely on nonpublic data from three firm surveys that we conducted in 2004, 2006 and 2009. We also obtain information from, firm charters, and firm annual reports available at the CVM and BOVESPA websites. *India*: we rely on nonpublic data from firm surveys that we conducted in 2006, 2007 and 2012. The data collection through surveys in Brazil and India greatly improves data quality compared to public data or commercial surveys, but also limits sample size

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[17] ACETO assume that adding covariates will reduce β, and thus use $(\hat{\beta}_{FE} - \hat{\beta}_{narrow})$ instead of the absolute value $|\hat{\beta}_{FE} - \hat{\beta}_{narrow}|$. For our study, adding covariates sometimes increases the β estimate. We therefore use $|\widehat{\beta}_1 - \beta_{narrow}|$., which we see as consistent with the spirit of their approach.

and available years. *Korea*: our sample covers the 1998-2004 period. For 1998-2000, we rely on nonpublic data from yearly surveys conducted by ourselves and the Korea Corporate Governance Service (2001-2004). *Turkey*: we rely on hand collected data for 2006-2012 from firm corporate governance reports, annual reports, charters, financial statement footnotes, and firm websites.[18]

We exclude state-controlled firms, subsidiaries of foreign companies, and banks. In Brazil the respondents represent 72% of the market capitalization of eligible firms. The sample consist of 236 firm-year observations, but only 72 firms answered two or more surveys. India poses similar concerns with sample selection bias and an unbalanced panel.[19] In contrast, we have nearly complete coverage of public firms in Korea and Turkey.[20] Table 2 provides summary information on the Brazil sample; Appendix Table A2 contains similar information for the other countries

Table 3 provides summary statistics for the non-normalized indices and overall country CGI, for each country. Figure 1 shows how the indices evolve over time. There is a strong overall increase in governance scores over our sample period in Korea; an increase in Turkey, but mostly in 2012 (due to board structure reforms that took effect then, see Ararat, Black, and Yurtoglu, 2017); some increase in Brazil (mostly following the creation of Novo Mercado, see Black, De Carvalho and Sampaio, 2014), but little change over time in India.

Table 4 shows the correlations between indices within each country. The correlations are generally positive and are often high enough to give rise to concern about OVB, if one were to study one aspect of governance, without controlling for other aspects. Consider disclosure, for example. The correlation between Disclosure Index and its "Index Complement" (the sum of the other indices) is 0.58 in Brazil, 0.53 in Turkey, 0.46 in Korea, and 0.18 in India. At the same time, the inter-index correlations are not so high as to make it infeasible to obtain statistically significant results for one index, controlling for the other indices.

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[18] In Turkey, in a handful of cases, where an element is missing in year *t* for a particular firm, but equals 1 for that firm in both the previous year and the next year, we assume it equals 1 in the year where it is missing, and similarly for an element that is missing in year *t* but equals 0 in the previous year and the next year.

[19] In both countries, many nominally "public" firms are small, and have limited public trading. These smaller firms were, unsurprisingly, less likely to respond to our surveys.

[20] For details on Brazilian surveys, see Black, de Carvalho and Gorga (2010) and Black, de Carvalho, and Sampaio (2014); for India, see Balasubramanian, Black and Khanna (2010); for Korea Black and Kim (2012), and for Turkey, Ararat, Black and Yurtoglu (2017).

3.2 – Covariates

Black et al. (2014) report that the predictive power of CG indices on Tobin's q generally shrinks in magnitude if one adds additional covariates. Thus, to reduce the possibility for OVB, we include an extensive set of covariates. Table 5 defines our principal covariates and indicates which is available in each country.

We use the following time-varying covariates, when available. *Firm size: ln*(assets) to control for the effect of firm size on Tobin's q; *Firm age*: ln(years listed +1), because younger firms are likely to be faster-growing and more intangible asset-intensive, which can lead to higher Tobin's q; *Leverage*: total liabilities/total assets. Leverage can influence Tobin's q by affecting income tax benefits and reducing free cash flow problems; it is also mechanically related to Tobin's q. *Growth prospects:* geometric sales growth over the last 3 years (or available period, if shorter), because growth prospects directly affect Tobin's q. *Profitability:* we use both net income/assets and *EBIT*/sales, because profitability directly affects Tobin's q. *Capital intensity and asset tangibility:* we use PPE/sales, capex/PPE, R&D/sales, and advertising/sales. Asset tangibility can both predict Tobin's q and affect what type of governance a firm needs. *Liquidity*: We use share turnover (traded shares/total shares) and free float, since share prices may be higher for firms with more liquid shares. *Ownership*: fractional ownership by the largest shareholder, by foreign investors, and the state, since ownership can affect firm value. *Product market competition:* exports/sales and domestic market share in the firm's principal industry, because competition can substitute for governance in imposing discipline on managers.

In RE regressions we also include *Industry dummies*, defined separately in each country (9 dummies for Brazil, 11 for India, 4-digit Korean SIC codes for Korea, and 2-digit US-equivalent SIC codes for Turkey); *US cross-listing dummy* and *MSCI index dummy*, to proxy for liquidity and foreign investor interest; and *Business group dummy,* because group firms may behave differently than stand-alone firms. Appendix Table A3 reports summary statistics on our outcome variables and covariates and indicates our data sources.

4 – Empirical Results

This section investigates the power of each index to predict Tobin's q. We suppress results for covariates, but present them in Appendix Table A4. For each country, we test for equivalence

of FE and RE coefficients[21], using both the well-known Hausman test and the less-known but more flexible correlated random effects (CRE) model.[22] In Table 6, the CRE test rejects equivalence of the coefficients only in Turkey and only mildly ($p = 0.07$). This suggests that RE is a reasonable specification, perhaps except in Turkey. Nonetheless, we place principal reliance on the FE results. Because we use normalized indices, the coefficients on CG indices can be directly interpreted as indicating the predicted effect on Tobin's q of a one standard deviation increase in each index.

4.1 – Predictive Power of Disclosure and Board Structure Indices

Our first principal result is the consistent importance of Disclosure Index across all four countries in predicting Tobin's q. In Table 6, the coefficient on the Disclosure Index is significant at the 5% level or better in all samples and specifications. For the pooled sample, a one SD increase in disclosure predicts 4% higher Tobin's q. However, there is substantial variation in the coefficients on Disclosure Index across countries, from 2.3% in Korea to 19.4% Brazil.

Our second principal result is that Board Structure Index likely has some predictive value, although this is less clear than for disclosure. Board Structure takes a positive coefficient in all four countries and in the pooled sample . Board structure is highly significant (1% level or better) in Korea with both RE and FE. In Brazil, it is highly significant with RE and marginally significant with FE. In the pooled sample it is highly significant with both RE and FE, but not in the weighted FE specification. The weaker FE results for Brazil may reflect the lower power of FE, plus loss of sample size (the Brazil sample has 159 firms with RE but only 81 with FE). The weak results for India could reflect high legal minimums for board structure (as explained above, Indian firms must have either 50% outside directors or else one-third outside directors and a chair who is not also the CEO). Variation above these high minimum levels may not strongly affect firm value.

Our third result involves evidence that other aspects of governance appear not to matter – not to predict Tobin's q: The other indices – for Board Procedures, Shareholder Rights, Ownership Structure, and Related Party Transactions -- have no consistent predictive value. None of the

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[21] In each country, a Breusch-Pagan test strongly rejects the null of no firm effects, which implies that pooled OLS results will be inconsistent.

[22] We test for the equivalence of the two models for the coefficients on all indices taken together.

coefficients on these indices are significant for both RE and FE, and the signs on the coefficients are mixed.[23]

4.2 – Disclosure and Board Structure versus Rest of Governance

We have seen in Table 6 that Disclosure Index predicts firm value across all four countries, Board Structure Index does so in Korea and Turkey, but no other index is significant in any country. We further investigate these results by creating two combined indices: *Combined D-BS Index*, which includes the Disclosure and Board Structure indices; and *D-BS Index Complement,* which includes the remaining indices (both combined indices are normalized to mean = 0, standard deviation =1). Table 7 reports regressions including both combined indices and our usual covariates (we suppress the coefficients for the covariates).

There are two principal results from this analysis. First, the Combined D-BS Index predicts Tobin's *q* in all samples and specifications with both RE and FE (all coefficients are significant, except the FE coefficient for India, which is marginally significant). These strong results are consistent with the results for Disclosure Index and Board Structure Index separately.

The second main result from Table 7 is that even when combined, the other indices have no power to predict firm value. With RE, D-BS Index Complement is insignificant throughout; with FE, it is insignificant except for a marginally significant, *negative* coefficient in Brazil.

These results suggests that a governance index that includes disclosure and board structure can capture much of the overall effect of governance in predicting firm value. They further suggest that CG indices that do not assess disclosure (including the principal commercial indices covering emerging markets) are likely to have little power to predict firm value. Our results also suggest that firms, in responding to investor demands for good governance; and investors, in assessing governance quality, can do reasonably well by focusing on disclosure and board structure.

We cannot determine whether the weakness of the other indices in predicting firm value reflects the limited importance of the underlying governance aspects, weak proxies for those aspects, or some of both. Black et al. (2017) show that Disclosure Index has reasonable construct validity except in Korea (where we have only three disclosure elements), and Board Structure

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[23] Ownership structure takes a negative and marginally significant coefficient for Brazil with FE, but a much smaller, statistically insignificant coefficient with RE.

Index has reasonable construct validity except in India (which could help to explain why India Board Structure Index does not predict Tobin's q). However, construct validity may be a concern for the other indices.

4.3. Lower Bounds Analysis

Table 8 reports lower bounds for the FE coefficients on Disclosure Index (Panel A) and Board Structure Index (Panel B). Consider disclosure first. Rows (1)-(4) of Panel A report different lower bounds using the HHH approach, using increasingly severe assumptions about the power of omitted covariates to affect the coefficients on Disclosure Index. Row (5) reports the ACETO lower bounds. In row (1), we assume that there is a single omitted variable which has the same predictive power (to predict both Tobin's q and Disclosure Index) as the observed covariate that most *strongly predicts Tobin's q*. Row (2) is similar, except that we assume that the omitted variable has the same predictive power (to predict both Tobin's q and Disclosure Index as the covariate that most strongly *predicts Disclosure Index*. In row (3), we apply a more stringent test: We assume that there is a simple omitted variable that predicts Tobin's q as strongly as the variable used in row (1), *and also predicts* Disclosure Index as strongly as the (possibly different) variable used in row (2). In row (4), we assume that the omitted variable predicts both Tobin's q and Disclosure Index as strongly as *all* of the included covariates, taken together. In row (5), we switch to the ACETO bounds, which also assume an omitted covariate that predicts both Tobin's q and Disclosure Index as strongly as all included covariates taken together.

Consider Brazil as an example of the lower bounds analysis. In row (1), the covariate that most strongly predicts *Tobin's q* is *ln*(assets), with $t = 3.18$. *Ln*(assets) also predicts Disclosure Index ($t = 1.63$). If an omitted variable predicted both Tobin's q and Disclosure, with similar t-statistics, the coefficient on Disclosure Index would fall only slightly from 0.194 ($t = 3.74$) to 0.179 ($t = 3.60$). In row (2), the covariate that most strongly predicts Brazil Disclosure is Shareholder Rights, with $t = 3.21$. However, Shareholder Rights only weakly predicts Tobin's q ($t = 0.38$). Thus, a hypothetical omitted variable would reduce the coefficient on Disclosure only to 0.191 ($t = 3.82$). In row (3), we assume that a single omitted variable would strongly predict both Tobin's q ($t = 3.18$), *and* Disclosure ($t = 3.21$). The lower bound estimate is now 0.175 ($t = 3.51$). In row (4) we assume that an omitted variable or variables would have the same power to predict both *Tobin's q* and Disclosure as strongly as all included variables taken together (same *F*-statistic).

17

Including this strong omitted variable would reduce the coefficient on Disclosure to 0.108 ($t = $ 2.17). Row (5) uses the ACETO approach to gauge the potential for OVB. The coefficient on Disclosure drops slightly to 0.183 ($t = 3.68$). Thus, our finding that disclosure predicts Tobin's q in Brazil survives even quite strong assumptions about the level of OVB.

The lower bounds for Disclosure also remain statistically significant under all of these approaches in Turkey and for the pooled sample. For India and Korea, the results for Disclosure are significant or marginally significant in rows (1)-(2), but lose significance and have varying signs under the more stringent approaches in rows (3)-(5). Thus, the lower bound analysis suggests that the results for Disclosure are robust to potential OVB in two of our four countries and in the pooled sample. The weaker robustness for India and Korea could reflect the limitations of the disclosure indices in these countries: In India, minimum disclosure rules are fairly high, and in Korea we have a limited Disclosure Index, with only three elements.

Panel B reports lower bounds for the FE coefficients on Board Structure. The statistically significant results that we found for Korea and pooled sample show some vulnerability to OVB. The Korea results are reasonably strong, remaining significant in rows (1)-(3). The pooled results are weaker, and survive only in rows (1)-(2).

Panel C reports lower bounds for the FE coefficients of the Combined D-BS Index. The lower bounds remain statistically significant at the 1% level under all assumptions for Brazil, Korea, and the pooled sample. In Turkey, the lower bounds are significant at the 5% level in rows (1)-(3), and lose significance only under the strong assumptions of rows (4)-(5). In India, Combined D-BS Index was not statistically significant, so the lower bounds are also not insignificant. Taken as a whole, the lower bounds exercise supports the power of Combined D-BS Index to predict Tobin's *q*.

These results suggest the importance of the lower bounds analysis. On the one hand, even apparently strong results, such as those for Korea Board Structure Index, which has $t = 4.57$ in Table 6, can be vulnerable to OVB concerns. Compare Nasev, Black and Kim (2018), who compare FE results to those obtained with causal methods, and find a tendency for FE to generate false positives. At the same time, for results which survive under the bounds analysis, one gains confidence that they are unlikely to be explained by OVB.

4.4 – Aspects of Disclosure and Board Structure Indices

Table 9 drills down into the Disclosure and Board Structure indices. We split the Disclosure Index into subindices for financial and non-financial disclosure and the Board Structure Index, into subindices for board independence and board committees. A caution: In some countries, we have a small number of index elements, especially when we separate indices into subindices. Thus, a statistically insignificant result could mean that the aspect of governance captured by a particular index is not relevant or that the index poorly captures the underlying construct.[24]

For Disclosure Index, we find stronger predictive value for financial disclosure than for non-financial disclosure. Financial disclosure subindex takes a positive coefficient in all countries, and is statistically significant in the pooled sample and in all countries except India. This suggests that firms' choices to provide improved financial disclosure, above the minimum specified in each country's rules, are valued by investors. Non-financial disclosure also takes a positive coefficient in all countries, but is statistically insignificant in all countries with FE (it is marginally significant in India). Nonetheless, non-financial disclosure is statistically significant when we pool results across all four countries. The differences between the pooled and country-specific results are further evidence of the value of looking at each country separately within a multicountry study, rather than jumping to pooled results.

For Board Structure Index, we find stronger predictive value for board independence subindex than for board committees subindex. With FE, board independence subindex takes a positive coefficient in all four countries and is statistically significant in Brazil, Korea, and the pooled sample, and nearly so in Turkey. The weaker results for India could reflect India's high legal minimum for board independence; this could limit the value that investors ascribe to additional independence, above that minimum. The results for board committees subindex are much weaker. This subindex is positive and significant only in Korea, and has mixed signs for Brazil, Turkey and the pooled sample. These weak results for Board Committees may explain why

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[24] In Korea, for example, Disclosure Index has only three elements: English language disclosure; firm has regular meetings with analysts, and board member backgrounds are disclosed. We place the first two elements into financial disclosure subindex and the third into non-financial disclosure subindex.

the results for Board Independence (Table 10) are stronger than those for Board Structure (Table 6).

4.5 – Possible Channels: Effects on Profitability or Liquidity?

Our results indicate that firm level country-specific disclosure and board structure indices predict firm value. As discussed above, Board Structure and Disclosure may affect firms' value through two different channels: liquidity and profitability. In this section, we assess the evidence for each of these channels, using a firm FE specification. Table 10 investigates the relation between governance indices and profitability, measured by return on assets (ROA).   Only scattered coefficients take on significant coefficients, suggesting a weak link between better governance and reported profitability. Board Structure Index is not significant in any country. Disclosure Index is positive and significant in Brazil, but takes a small, insignificant, and sometimes negative coefficient in other countries, and in the pooled regressions.

The other indices do not predict Tobin's q, so we would not expect them to predict ROA. Actual results are scattered and mixed: Board Procedure Index takes a positive, marginally significant coefficient in India and Turkey; Shareholder Rights Index takes a negative, significant coefficient in Brazil and Turkey; Ownership Structure Index is insignificant in all four countries; all indices are insignificant for the pooled sample. We conclude that better governance appears to principally improve the price investors are willing to pay for the same reported cash flows, rather than affecting the magnitude of these cash flows.

Next, we assess the liquidity channel. Our measure of liquidity is the fraction of trading days with zero returns for each year. This is a crude measure, but Lesmond (2005) provides evidence that zero return days are a better proxy for liquidity than volume or several other measures in international settings, and shows that measures of transaction costs such as bid-ask spreads, computed from transaction-level data, are correlated with zero return days. Similarly, Ashbaugh-Skaife, Gassen, and LaFond (2006) find that zero-return-days provide a useful summary measure of the extent to which firm-specific information is impounded in price.

We report results from firm FE regressions in Table 11. The coefficients on Disclosure Subindex are negative (better disclosure predicts fewer zero-return days) except for India, but none of the coefficients is statistically significant. If we separate disclosure into financial and non-

financial disclosure, some coefficients on these sub-subindices are significant but there is no consistent pattern across countries. The coefficients on Board Structure Subindex are negative in all countries except for Brazil, but not statistically significant. The results for the other subindices are also mixed. Collectively these results hint that improved disclosure may lead to improved liquidity, but no more than this.

4.6 – Results for Individual Elements, Subsamples, and Alternate Outcome Measure

4.6.1. Individual Governance Elements

In Appendix Table A5, we assess whether the power of Disclosure Index and Board Structure Index to predict Tobin's q comes from specific individual elements or from the combined power of a number of different elements. For Disclosure Index, there is no evidence that individual elements have power, when we control for the remaining elements of Disclosure Index (and the remaining indices), in a single regression. Compare Black, Jang and Kim (2006b), who find predictive power for Korean governance as a whole, but limited predictive power for individual elements. On the other hand, across all disclosure elements and all four countries, 37 of the 50 coefficients on country-specific disclosure elements are positive (p = .0009 in a sign test). The tendency for disclosure elements to take positive coefficients in predicting Tobin's q is consistent with investors valuing overall disclosure, rather than specific disclosure items.

For Board Structure Index, we again find limited power for individual elements, except for Korea. In Korea, whether a firm has *at least* 50% independent directors takes a strong positive coefficient (0.040; $t = 2.85$); whether a firm has *more than* 50% independent directors takes a positive and marginally significant coefficient (0.038; $t = 1.84$); and both elements, included in a single regression, are jointly powerful (F = 6.42; $p = 0.002$). Thus, we find evidence that in Korea, investors value firms having majority-independent boards.

4.6.2. Results for Subsamples

In Appendix Table A6, we also assesses how our results vary across 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 U,S-cross-listed versus other firms. Very few coefficients are significantly different across subsamples, and the differences are not consistent

across countries. These results suggest that our overall results on the value of disclosure and board structure apply generally to most firms, rather than being limited to particular subsamples.[25]

The differences between the cross-listed and non-cross-listed subsamples are not significant. This likely reflects a limited number of cross-listed firms (with FE, only xx firms in Brazil; ww in India; yy in Korea; and zz in Turkey. However, there is some evidence that Disclosure Index and Board Structure Index predict Tobin's q strongly for non-cross-listed firms, perhaps (the strongest statement we can make) more so than for (statistically signi coefficient, and less strongly

4.6.3. Alternative Outcome: Ln(Market Value)

Tobin's q has well-known limitations as a measure of firm value (e.g., Bartlett and Partnoy, 2018). In Appendix Table A7, we therefore use ln(market value), with market value = market value of equity + book value of debt) (the numerator for Tobin's q), as an alternative measure. Our results for Disclosure and Board Structure indices weaken in Korea, but remain marginally significant. Results for other countries and the pooled sample are similar to those we find with Tobin's q as an outcome variable.

5 – Conclusion

Prior research provides evidence that broad, country-specific CG indices can predict firm market value in emerging markets. We assess here which aspects of governance drives this result, using the strongest available empirical strategy, with firm FE, extensive covariates, and controls for other aspects of governance, combined with a lower bounds analysis in which we assess how likely it is that OVB could explain our results.

We find that country-specific disclosure indices, which capture firm-level disclosure choices, predict Tobin's q across four major emerging markets: Brazil, India, Korea, and Turkey, and when pooled across countries. The power of disclosure to predict Tobin's q comes primarily

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[25] For cross-listing, the differences between the U.S.-cross-listed and non-U.S.-cross-listed subsamples are not significant. This likely reflects a limited number of cross-listed firms (with FE, only xx firms in Brazil; ww in India; yy in Korea; and zz in Turkey). However, there is some evidence that Disclosure Index and Board Structure Index predict Tobin's q strongly for non-cross-listed firms, perhaps (the strongest statement we can make) more so than for cross-listed firms. This provides hints that cross-listing may substitute, in part, for the value that improved disclosure and board structure would otherwise provide.

from financial disclosure. We also find that country-specific board structure indices predict Tobin's q, but only in some countries. The power of our board structure indices to predict Tobin's q comes primarily from board independence, rather than board committees. Our lower bounds estimates provide evidence that our principal results, for Disclosure Index, and Combined D-BS Index, are reasonably robust to OVB, but our Board Structure results are more vulnerable to plausible levels of OVB. A combined index comprising Disclosure and Board Structure indices predicts Tobin's q in all countries.

However, the other indices we study – board procedure, shareholder rights, ownership, and control of RPTs – have no predictive value in any of our four countries, when pooled across all four countries, or when combined into a single index.

Our results have important policy implications. They suggest that both firms, in responding to investor demands for good governance; and investors, in assessing governance quality, can do reasonably well in focusing on disclosure and board structure. Furthermore, since CG regulations are costly for firms, regulators could do well to focus on these two aspects.

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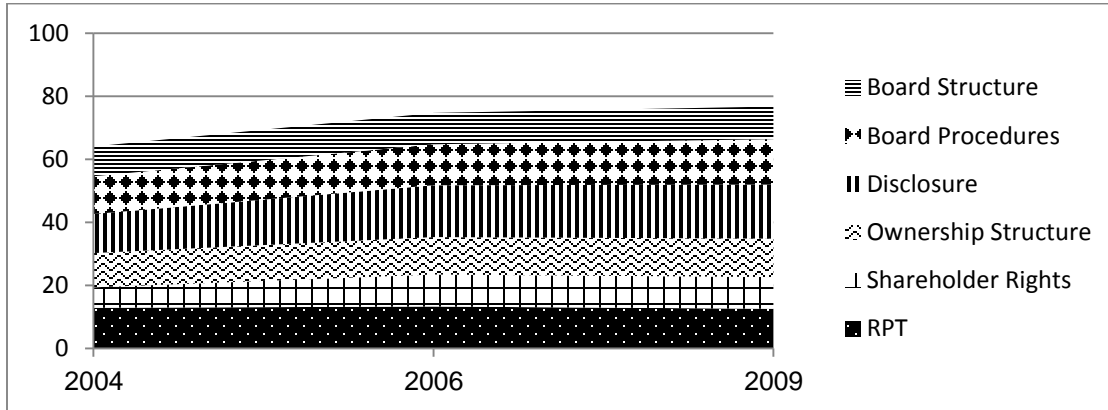
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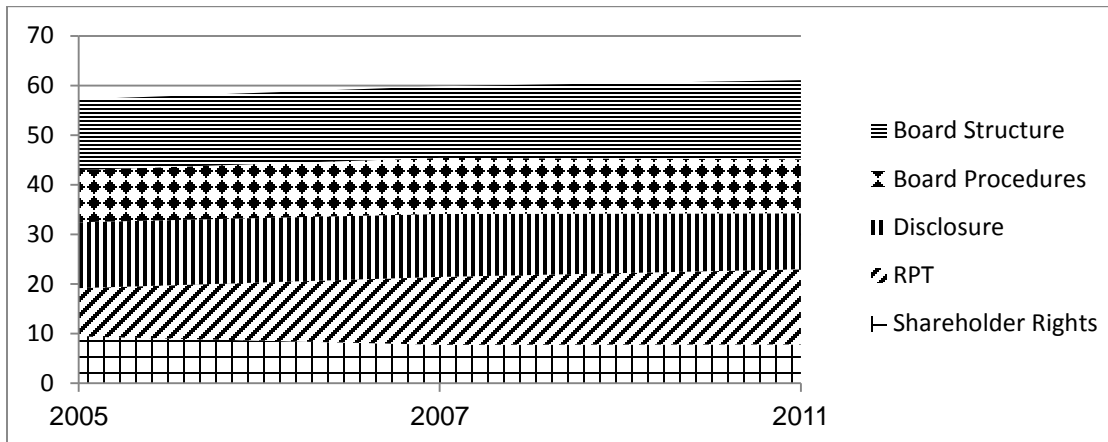
Figure 1. Change in Country *CGI* Indices and Component Indices over Time

Charts show mean values of country *CGI* and each component index over time. See Table 1 for sample sizes.
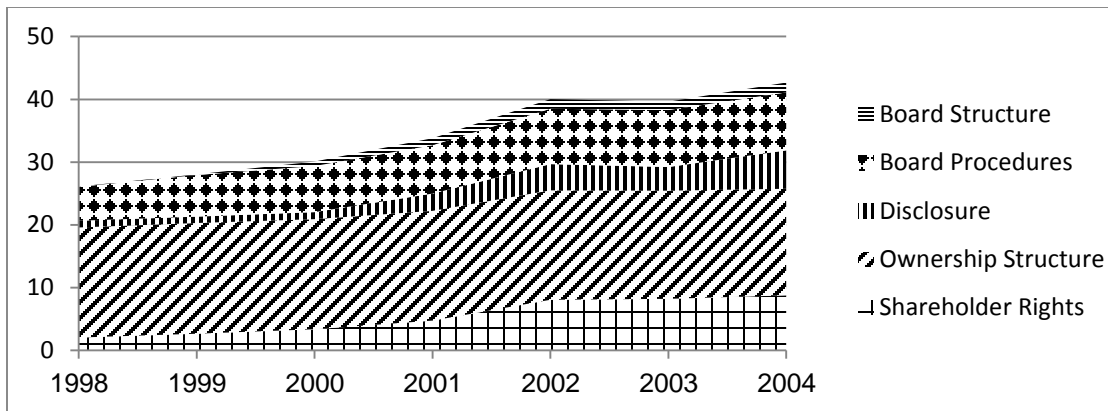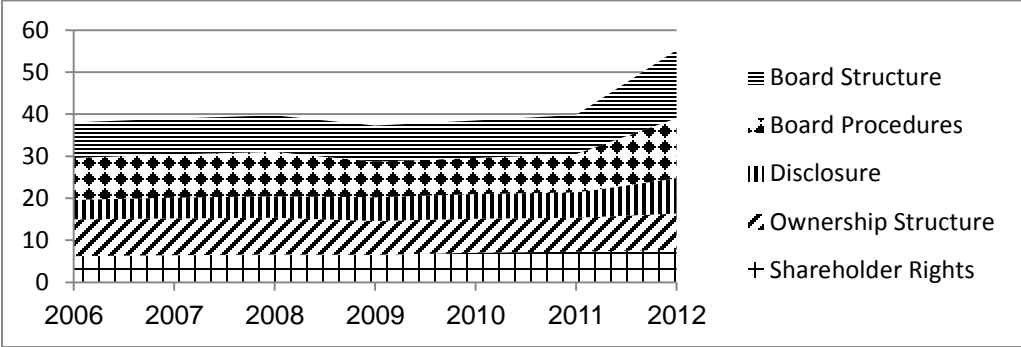
Brazil

India

Korea

Turkey

Legend:
- ≡ Board Structure
- ⋰ Board Procedures
- ||| Disclosure
- ⋰ Ownership Structure
- + Shareholder Rights

Table 1. List of Governance Elements in each Country

This table indicates the elements we used in each country for Board Structure Index and Disclosure Index. Appendix Table A1 contains similar information for all elements of all indices. In each 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
Board structure index *Independence elements*				
≥ 1 outside director on board	**b_bs_1 (NP)**	NM	NM	**t_bs_1**
> 1 outside director	b_bs_2 (NP)	NM	NM	**t_bs_2**
≥ 30% outside directors	**b_bs_3(NP)**	NM	NM	t_bs_3
≥ 50% outside directors	**b_bs_4 (NP)**	**i_bs_4**	**k_bs_4**	NM
strictly > 50% outside directors	NM	**i_bs_5**	**k_bs_5**	NM
CEO is NOT board chairman and ≥ 50% outside directors	**b_bs_7**	**i_bs_7**	NA	**t_bs_7**
Board chairman is outside director or firm has outside lead director	NM	NA	**k_bs_8**	NM
≥ 50% outside directors **or** ≥ 1/3 outside directors *and* CEO is not chairman[26]	b_bs_9 (NP)	**i_bs_9**	NA	NM
Audit comm. has outside director	NA	NA	NM	**t_bs_13**
Audit comm. has majority of outsiders	NM	**i_bs_14 (NP)**	k_bs_14	NA
Audit comm. has 2/3 outsiders	NM	i_bs_15 (NP)	**k_bs_15**	NA
Permanent fiscal board **or** audit comm. with minority shareholder representative exists	**b_bs_20**	NM	NM	NM
Committee elements				
Audit committee (comm.) exists	**b_bs_11**	NM	**k_bs_11**	NM
Audit comm. has non-executive chair	NA	NA	NM	**t_bs_12**
Compensation comm. exists	NM	**i_bs_16**	**k_bs_16**	NA
Outside director nominating comm. exists	NM	NA	**k_bs_17**	NA
Corporate Governance comm. exists	NM	NA	NM	**t_bs_18**
Permanent or near-permanent fiscal board exists	**b_bs_19**	NM	NM	NM
Disclosure index *Financial disclosure elements*				
RPTs are disclosed to shareholders	**b_dis_1 (NP)**	**i_dis_1**	NA	NM
Firm has regular meetings with analysts	**b_dis_2 (NP)**	**i_dis_2**	k_dis_2 (NP)	NA
Firm puts annual financial statements on firm website	**b_dis_3**	**i_dis_3**	NA	**t_dis_3**
Quarterly financial statements are consolidated	**b_dis_4**	NA	NA	NM
Firm puts quarterly financial statements on firm website	**b_dis_5**	**i_dis_5**	NA	**t_dis_5**
Firm puts annual report on firm website	NA	**i_dis_6**	NA	**t_dis_6**
English language financial statements exist	**b_dis_7**	NM	**k_dis_7 (NP for past data)**	**t_dis_7**

[26] This element is required by India's "Clause 49"; however, not all firms comply.

ELEMENTS	BRAZIL	INDIA	KOREA	TURKEY
Financial statements include statement of cash flows	**b_dis_8**	NM	NM	NM
Financial statements in IFRS or US GAAP	**b_dis_9**	NA	NM	NM
MD&A discussion in financial statements	**b_dis_10**	NM	NM	NA
Non-financial disclosure elements				
Firm discloses 5% shareholders	Feasible, (NM)	**i_dis_11**	NM	Feasible
Controlling shareholder disclosed	NM	NM	NM	**t_dis_12**
If shareholder agreement among controlling shareholders exists, it is disclosed (could be no control group or no agreement)	NA	**i_dis_13**	NA	NA
Firms puts directors' report on firm website	NM	**i_dis_14**	NM	NM
Firm puts corporate governance report on firm website	NM	**i_dis_15**	NM	**t_dis_15**
Firm discloses material events on firm website	NA	NA	NA	**t_dis_16**
Firm discloses annual agenda of corporate events	**b_dis_17**	NA	NA	**t_dis_17**
Firm charter are avail on firm website	NA	NA	NA	**t_dis_18**
Executive director compensation policy disclosed	NM	NA	NM	**t_dis_19**
Firm puts shareholder voting information on firm website	NM	NA	NA	**t_dis_20**
Firm discloses list of insiders	NM	NA	NA	**t_dis_21**
Firm discloses shareholding by individual directors	NM	NA	NM	**t_dis_22**
Governance charter or guidelines disclosed	NA	NA	NM from 2000	**t_dis_23**
Annual meeting results disclosed (attendance, agenda, voting results)	NM	NA	NM	**t_dis_24**
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**
Disclosure reliability elements				
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
RPTs require approval by noninterested shareholders	**b_rpt_10 (NP)**	NA	NA	NA
RPTs with *executives* approved by board, audit committee or shareholders	NA	**i_rpt_11**	NM	NA
RPTs with *executives* 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 *controlling shareholder* approved by board, audit committee or shareholders	NA	**i_rpt_14**	NA	NA
RPTs with *controlling shareholder* 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

Table 2. Sample Coverage for Brazil

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.

The coverage description for India, Korea and Turkey is in Table 2A in the Appendix. 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.

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%)
2004 & 2006	254	28		
2004 & 2009	254	21		
2006 & 2009	254	53		
all 3 surveys	254	17		
at least one survey	254	142 (56%)	1,191	854 (72%)

32

Table 3. Summary Statistics for Corporate Governance Indices

Sample is pooled across years. Country indices are non-normalized (average of non-normalized subindices, each 0~100). Between standard deviation is computed across firms $\left(=\sqrt{1/(N-1)\sum_i(\bar{x}_i-\bar{x})^2}\right)$; within standard deviation is computed within each firm over time $\left(=\sqrt{1/(NT-1)\sum_i\sum_t(x_{it}-\bar{x}_i)^2}\right)$, where N = number of firms, T = number of years, x_{it} is governance index of firm i in year t, $\bar{x}_i$ is the mean value for firm i, and $\bar{x}$ is the mean value over all firms and years.

Subindex	Brazil							India						
	Mean	Median	Overall	Between	Within	Min	Max	Mean	Median	Overall	Between	Within	Min	Max
Disclosure	78.78	90.91	24.65	24.37	7.98	18.2	100	63.15	61.54	20.11	17.40	24.68	15.4	100
Financial disclosure	80.09	88.89	26.48	26.32	8.31	11.1	100	62.47	60.00	30.00	25.40	18.92	0	100
Non-financial disclosure	72.87	100.00	29.32	28.05	12.94	0	100	62.16	50.00	27.67	23.15	18.09	0	100
Board Structure	50.02	57.14	21.67	19.92	9.41	0	100	73.54	83.33	19.75	18.00	10.45	0	100
Board independence	55.52	50.00	25.49	24.71	11.51	0	100	67.78	75.00	25.05	23.11	13.15	0	100
Board committees	42.69	66.67	35.58	33.60	12.78	0	100	85.06	100.00	26.18	22.89	15.81	0	100
Ownership Structure	58.95	57.44	15.95	15.06	5.71	26.3	91.3							
Board Procedure	66.4	66.67	25.03	23.22	11.78	0	100	54.43	53.85	17.07	15.35	9.38	7.7	100
Minority Shareholder Rights	46.37	57.14	26.32	25.34	7.35	0	100	41.91	50.00	17.33	14.80	10.86	0	100
Related Party Transactions	64.42	80.00	30.82	27.72	16.03	0	100	62.70	66.67	29.13	24.70	18.43	0	100
Country *CGI*	60.82	63.03	13.63	12.98	4.99	20.1	90.1	59.17	59.87	10.78	9.58	6.22	24.6	86.9

Subindex	Korea							Turkey						
	Mean	Median	Overall	Between	Within	Min	Max	Mean	Median	Overall	Between	Within	Min	Max
Disclosure	14.33	0	23.71	19.76	13.98	0	100	60.98	65.22	22.59	18.99	13.38	0	100
Financial disclosure	12.74	0	24.95	21.01	14.38	0	100	76.88	80.00	28.15	22.43	17.94	0	100
Non-financial disclosure	17.55	0	37.68	31.46	22.60	0	100	55.42	58.82	22.73	19.26	13.18	0	100
Board Structure	9.09	0	18.36	15.28	10.97	0	100	49.21	50.00	24.92	20.01	16.39	0	100
Board independence	8.38	0	23.85	19.80	14.75	0	100	52.72	40.00	24.20	20.23	14.66	0	100
Board committees	11.80	0	23.36	18.33	15.13	0	100	43.25	33.33	35.53	26.86	25.07	0	100
Ownership Structure	86.99	94.00	16.29	15.80	7.02	10.2	100	42.01	36.98	17.50	17.79	5.32	0	100
Board Procedure	38.88	40.00	17.31	14.25	11.23	0	100	50.70	60.00	27.46	22.63	16.42	0	100
Minority Shareholder Rights	40.17	25.00	36.99	27.69	22.49	0	100	34.23	25.00	20.12	16.25	12.90	0	100
Related Party Transactions														
Country *CGI*	33.93	32.07	11.00	8.78	7.23	7.9	88.3	47.43	46.82	14.26	12.02	8.49	10.2	83.0

Table 4. Correlations between Indices

Correlations between indices, and between each index and country *CGI* (average of all indices) and index complement (average of other indices). Significant coefficients, at 5% or less, are in **boldface**.

	Disclosure	Board Structure	Board Procedure	Ownership Structure	Shareholder Rights	RPTs
Brazil CGI	**0.762**	**0.485**	**0.564**	**0.376**	**0.702**	**0.453**
Index complement	**0.579**	**0.244**	**0.298**	**0.182**	**0.471**	0.086
Disclosure	1					
Board Structure	0.197	1				
Board Procedure	0.406	0.284	1			
Ownership Structure	0.241	-0.105	0.052	1		
Shareholder Rights	0.614	0.232	0.158	0.296	1	
RPTs	0.103	0.051	-0.001	0.044	0.074	1
India CGI	**0.696**	**0.336**	**0.674**		**0.231**	**0.513**
Index complement	**0.177**	**0.093**	**0.242**		0.045	**0.138**
Disclosure	1					
Board Structure	0.039	1				
Board Procedure	0.197	0.076	1			
Shareholder Rights	0.078	-0.013	0.139		1	
RPTs	0.095	0.090	0.170		-0.048	1
Korea CGI	0.706	0.741	0.696	0.264	0.619	
Index complement	0.462	0.519	0.470	-0.097	0.479	
Disclosure	1					
Board Structure	0.424	1				
Board Procedure	0.368	0.446	1			
Ownership Structure	-0.067	-0.061	-0.124	1		
Shareholder Rights	0.384	0.397	0.398	-0.048	1	
Turkey *CGI*	0.930	0.653	0.689	0.174	0.346	
Index complement	0.533	0.421	0.539	0.057	0.268	
Disclosure	1					
Board Structure	0.429	1				
Board Procedure	0.526	0.407	1			
Ownership Structure	0.055	0.011	0.041	1		
Shareholder Rights	0.203	0.147	0.278	0.058	1	

Table 5. Definitions for Outcomes and Non-Governance Covariates

Income statement (balance sheet) amounts are measured for each year t (at end of year t). * = winsorized at 99% (** = winsorized at 1%/99%) in Tables 6-8. See Appendix Table A3 for data sources.

	Definitions	Avail
Tobin's q	(book value of debt + market value of common stock)/ book value of assets	BIKT
ln (assets)	natural logarithm of book value of assets in USD	BIKT
ln(market value)		BIKT
zero return days		BIKT
ROA (EBIT/assets)		BIKT
ln (listed years)	natural logarithm of (years since public listing + 1) India: years since incorporation	BIKT
Leverage*	(Total liabilities)/assets. India: total debt	BIKT
Net Income/assets**	Ratio of net income over assets	BIKT
EBIT/sales**	Earnings before interest and tax (EBIT)/total sales	BIKT
3-yr sales growth**	Geometric average sales growth during past three years (or available period if less)	BIKT
PPE/sales*	Ratio of property, plant, and equipment (PPE) to sales	BIKT
Share turnover*	(shares traded in year t)/(shares outstanding), adjusted for share issuances and splits	BIKT
Inside ownership	Fractional ownership of common (and equivalent) shares by largest shareholder	BKT
Foreign ownership	Fractional ownership by foreigners	IKT
State ownership	Fractional ownership by the state	BIKT
Free Float	Fraction of shares floating on the stock exchange (excludes shares held by insiders)	KT
Capex/PPE*	Ratio of capital expenditures to PPE	IKT
R&D/sales*	Ratio of R&D expenditures to total sales	IKT
Advertising/sales*	Ratio of advertising expense to total sales	IK
Exports/sales*	Ratio of export revenue to total sales	IKT
Market share	Firm's share of sales by all public firms in same industry	KT
Business group	1 if firm belongs to business group in year t, 0 otherwise	BIKT
MSCI	1 if firm belongs to Morgan Stanley Capital International Index (MSCI)	BIKT
US cross listing	1 if cross-listed in US (any level) in year t, 0 otherwise	BIKT
Industry dummies	country specific; mapped to US 2-digit SIC codes	BIKT

Table 6. Governance Indices and Firm Value across Countries

Table shows coefficients for firm random effects (RE) and firm fixed effects (FE) regressions of ln(Tobin's *q*) on governance indices, covariates, year dummies, and constant term. Indices are normalized (mean =0; σ=1). Covariates are listed in Table 5. Time-invariant dummy variables (industry, business group, US cross listing, MSCI) drop out with firm fixed effects. Random effects regressions include industry dummies. Covariates, year dummies, and constant term are interacted with country dummies in the pooled regressions. FE sample excludes firms observed only once. Observations are excluded as outliers if a studentized residual from regressing *ln*(Tobin's *q*) on country *CGI*, year-by-year > ±1.96. *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 (χ^2), and correlated random effects (CRE) F-test are *p*-values. Hausman (CRE) test is for joint significance of differences between RE and FE coefficients for all variables (governance indices). R^2 is overall R^2 for RE and within R^2 for FE regressions. Significant results (at 5% level or better) are in **boldface**.

Sample	Brazil		India		Korea		Turkey		Pooled BIKT Sample		
Specification	RE	FE	RE	FE	RE	FE	RE	FE	RE	FE	Weighted FE
Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Disclosure	**0.144***	**0.194***	**0.071**	**0.094**	**0.026***	**0.023***	**0.077***	**0.070***	**0.050***	**0.040***	**0.052***
	(4.14)	**(3.74)**	**(2.22)**	**(2.23)**	**(3.91)**	**(3.12)**	**(3.71)**	**(3.02)**	**(5.65)**	**(4.55)**	**(3.76)**
Board Structure	**0.082***	0.065	0.024	0.021	**0.028***	**0.033***	-0.001	0.016	**0.021***	**0.020**	0.011
	(3.09)	(1.57)	(0.97)	(0.59)	**(4.37)**	**(4.57)**	(-0.06)	(0.79)	**(2.64)**	**(2.26)**	(0.80)
Board Procedure	-0.006	-0.001	-0.025	-0.036	0.007	0.006	-0.003	-0.008	0.001	-0.001	-0.009
	(-0.27)	(-0.03)	(-0.91)	(-0.85)	(1.31)	(0.94)	(-0.17)	(-0.44)	(0.13)	(-0.14)	(-0.86)
Shareholder Rights	0.016	-0.028	0.011	0.025	0.001	0.001	0.011	0.006	0.007	0.007	0.011
	(0.48)	(-0.41)	(0.40)	(0.73)	(0.07)	(0.07)	(0.71)	(0.41)	(0.62)	(0.61)	(0.77)
Ownership Structure	-0.014	**-0.099***			*-0.012**	*-0.015**	0.013	*0.062**	-0.000	-0.003	-0.011
	(-0.50)	**(-2.04)**			*(-1.68)*	*(-1.74)*	(0.61)	*(1.97)*	(-0.04)	(-0.32)	(-0.73)
Related Party Transactions	-0.018	-0.033	0.011	0.027					0.009	0.022	0.011
	(-0.84)	(-1.32)	(0.42)	(0.95)					(0.42)	(0.93)	(0.55)
Joint significance	0.0000	0.0015	0.2311	0.2374	0.0000	0.0000	0.0052	0.0068	(0.0000)	(0.0000)	(0.0000)
Hausman test	0.0000		0.0032		0.0000		0.0000		0.0000		
CRE test	0.20		0.34		0.20		0.07		0.3202		
Random effects λ	0.384		0.309		0.614		0.715		0.691		
R^2	0.426	0.589	0.409	0.463	0.541	0.393	0.424	0.490	0.520	0.536	0.409
Number of firms	159	81	401	199	646	644	195	193		1,117	1,117
No. of observations	236	158	613	411	3,107	3,105	1,092	1,090			

Table 7. Combined Disclosure and Board Structure Index

Table shows coefficients for RE and FE regressions of ln(Tobin's q) on Combined D-BS Index, D-BS Index Complement, covariates, year dummies, and constant term. Combined D-BS Index is renormalized (sum of normalized Disclosure Index and normalized Board Structure Index). D-BS Index Complement is renormalized (sum of remaining normalized indices). Covariates and sample, and exclusion of outliers are same as in Table 6; coefficients on covariates are suppressed. 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**.

		Brazil	India	Korea	Turkey	BIKT Pooled	BIKT Pooled Weighted
RE	**Combined D-BS Index**	**0.176*** ** **(5.83)**	**0.063** ** **(2.02)**	**0.045*** ** **(6.21)**	**0.046** ** **(2.32)**	**0.057*** ** **(5.69)**	
	D-BS index complement	-0.015 (-0.59)	0.006 (0.24)	0.008 (1.14)	0.020 (1.02)	0.006 (0.77)	
	Observations	236	613	3099	1121	5175	
	Firms	158	401	645	195	1403	
FE	**Combined D-BS Index**	**0.194*** ** **(3.54)**	*0.078* *(1.77)*	**0.046*** ** **(5.85)**	**0.054** ** **(2.28)**	**0.050*** ** **(4.85)**	**0.051*** ** **(2.96)**
	D-BS index complement	*-0.057* *(-1.81)*	0.024 (0.82)	0.006 (0.86)	0.017 (0.78)	0.006 (0.65)	0.005 (0.38)
	Observations	158	411	3098	1119	4892	4892
	Firms	81	199	644	194	1120	1120

Table 8. Lower bounds on FE estimates for Disclosure and Board Structure Subindices

Table presents lower bounds on FE estimates for Disclosure Index (Panel A), Board Structure Index (Panel B), and Combined D-BS Index (Panel C) using Hosman, Hansen and Holland (2010) (HHH) and Altonji, Conley, Elder, Taber – Oster (ACETO) methods. *Lower bound 1*: HHH under the assumption that the omitted covariates have predictive power as strong as the strongest observed predictor of q (largest t-statistic or, for pooled regressions, largest F-statistic). *Lower bound 2*: HHH assuming that the omitted covariates have predictive power as strong as the strongest observed predictor of the governance index considered. *Lower bound 3*: HHH assuming the omission of a single variable that has power to predict q equal to the strongest of the strongest predictor of q (variable used in from row 1) *and* power to predict governance equal to the strongest predictor of governance (variable used in row 2). *Lower bound 4*: HHH assuming that the omitted covariates have predictive power as strong as all observed covariates. *Lower bound 5*: ACETO (same assumption as Lower bound 4 but distinct methodology). *t*-statistics are in parentheses. *, **, and *** respectively indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% level or better) are in **boldface**.

Omitted variables have same predictive power as strongest predictor of			Brazil	India	Korea	Turkey	BIKT Pooled
Panel A. Disclosure							
FE estimates from Table 6			**0.194***** **(3.74)**	**0.094**** **(2.23)**	**0.023***** **(3.12)**	**0.070***** **(3.02)**	**0.040***** **(4.55)**
HHH	(1)	q	**0.179***** **(3.60)**	0.079* (1.80)	**0.019***** **(2.47)**	**0.066***** **(2.77)**	**0.039***** **(4.43)**
	(2)	governance index	**0.191***** **(3.82)**	**0.090***** **(2.05)**	**0.019***** **(2.46)**	**0.066***** **(2.78)**	**0.039***** **(4.51)**
	(3)	**(1) + (2)**	**0.175***** **(3.51)**	0.046 (1.05)	-0.001 (-0.15)	**0.065***** **(2.75)**	**0.033***** **(3.80)**
	(4)	**all covariates**	**0.108**** **(2.17)**	-0.019 (-0.43)	-0.006 (-0.72)	**0.046**** **(1.96)**	**0.032***** **(3.62)**
ACETO	(5)	**all covariates**	0183*** **(3.68)**	-0.008 (-0.19)	0.012 (1.53)	**0.048** **(2.04)****	**0.031***** **(3.49)**
Panel B. Board Structure							
FE estimates from Table 6			0.065 (1.57)	0.021 (0.59)	**0.033***** **(4.57)**	0.016 (0.79)	**0.020**** **(2.26)**
HHH	(1)	q	0.059 (1.59)	0.006 (0.16)	**0.032***** **(4.41)**	-0.006 (-0.01)	**0.019**** **(2.12)**
	(2)	governance index	0.068* (1.82)	0.016 (0.41)	**0.032***** **(4.41)**	-0.006 (-0.01)	**0.020**** **(2.22)**
	(3)	**(1) + (2)**	0.056 (1.51)	-0.003 (-0.08)	**0.032***** **(4.41)**	-0.006 (-0.01)	0.014 (1.56)
	(4)	**all covariates**	0.007 (0.19)	-0.061 (-1.58)	0.007 (0.94)	-0.704 (-0.85)	0.011 (1.23)
ACETO	(5)	**all covariates**	0.039 (1.05)	-0.007 (-0.18)	0.013* (1.85)	-0.007 (-0.01)	0.009 (1.06)
Panel C. Combined Disclosure and Board Structure Indices							
FE estimates from Table 7			**0.194***** **(3.54)**	*0.078** *(1.77)*	**0.046***** **(5.85)**	**0.054**** **(2.28)**	**0.050***** **(4.85)**
HHH	(1)	q	**0.180***** **(3.73)**	0.072 (1.63)	**0.044***** **(5.60)**	**0.053***** **(2.14)**	**0.048***** **(4.69)**
	(2)	governance index	**0.191***** **(3.96)**	0.071 (1.62)	**0.046***** **(5.90)**	**0.053***** **(2.14)**	**0.049***** **(4.85)**
	(3)	**(1) + (2)**	**0.167***** **(3.47)**	0.047 (1.07)	**0.040***** **(5.14)**	**0.053***** **(2.14)**	**0.042***** **(5.85)**
	(4)	**all covariates**	**0.143***** **(2.98)**	0.010 (0.23)	**0.031***** **(4.01)**	0.030 (1.27)	**0.040***** **(3.97)**
ACETO	(5)	**all covariates**	**0.174***** **(3.62)**	0.065 (1.52)	**0.034***** **(4.40)**	0.017 (0.72)	**0.041***** **(4.04)**

Table 9. Aspects of Disclosure and Board Structure

Table shows coefficients for pooled OLS, RE, and FE regressions of ln(Tobin's q) on country indices and subindices, covariates, year dummies, and constant term. Indices are normalized (mean =0; σ=1). Covariates and sample are same as in Table 6. Observations are excluded as outliers if a studentized residual from regressing ln(Tobin's q) on country *CGI*, year-by-year > ±1.96. *t*-statistics, using firm clusters, are in parentheses. We also report *p*-values for joint significance (F test) for both disclosure subindices and both board structure subindices together; Breusch-Pagan (χ^2) test, and correlated random effects (CRE) test for joint significance of differences between RE and FE coefficients for all indices. *, **, and *** respectively indicate significance levels at 10%, 5%, and 1% levels. R^2 is overall R^2 for RE and within R^2 for FE regressions. Significant results (at 5% level or better) are in **boldface**.

Sample	Brazil		India		Korea		Turkey		BIKT Pooled		
Regression	RE	FE	RE	FE	RE	FE	RE	FE	RE	FE	weighted FE
Index or subindex	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Financial disclosure	**0.125*****	**0.144****	0.027	0.040	**0.027*****	**0.024*****	**0.040****	*0.031**	**0.042*****	**0.033*****	**0.034*****
	(3.57)	**(2.01)**	(0.70)	(0.86)	**(4.12)**	**(3.26)**	**(2.40)**	*(1.76)*	**(5.40)**	**(4.15)**	**(2.82)**
Non-financial disclosure	0.024	0.046	**0.075****	*0.078**	0.004	0.003	0.043*	0.042	**0.020*****	**0.016****	**0.030*****
	(0.89)	(1.10)	**(2.15)**	*(1.78)*	(0.84)	(0.58)	(1.79)	(1.62)	**(2.84)**	**(2.20)**	**(2.62)**
Board independence	**0.103*****	**0.093****	0.026	0.007	**0.018*****	**0.019*****	0.013	*0.037**	**0.022*****	**0.020*****	*0.021**
	(4.28)	**(2.54)**	(1.05)	(0.25)	**(3.30)**	**(3.19)**	(0.79)	*(1.96)*	**(3.02)**	**(2.61)**	*(1.84)*
Board committees	0.010	-0.011	0.012	0.002	**0.014****	**0.017*****	-0.016	-0.024	0.004	0.004	-0.007
	(0.36)	(-0.22)	(0.49)	(0.08)	**(2.26)**	**(2.69)**	(-0.96)	(-1.22)	(0.54)	(0.55)	(-0.58)
Board procedure	-0.008	-0.007	-0.033	-0.042	0.007	0.006	0.000	-0.005	0.001	-0.001	-0.009
	(-0.33)	(-0.21)	(-1.21)	(-1.02)	(1.27)	(0.91)	(0.03)	(-0.27)	(0.10)	(-0.11)	(-0.88)
Shareholder rights	0.001	-0.018	0.009	0.025	0.001	0.001	0.008	0.001	0.008	0.008	0.010
	(0.02)	(-0.28)	(0.36)	(0.76)	(0.13)	(0.12)	(0.54)	(0.07)	(0.64)	(0.64)	(0.69)
Ownership structure	-0.014	**-0.102****			*-0.012**	*-0.015**	0.013	**0.063****	-0.001	-0.003	-0.011
	(-0.50)	**(-2.01)**			*(-1.71)*	*(-1.77)*	(0.63)	**(2.04)**	(-0.10)	(-0.38)	(-0.75)
Related party transactions	-0.014	-0.028	0.002	0.015					0.005	0.018	0.009
	(-0.65)	(-1.15)	(0.06)	(0.55)					(0.25)	(0.78)	(0.43)
Joint significance (disclosure and board structure)	0.0000	0.0020	0.0156	0.1848	0.0000	0.0000	0.0008	0.0060	0.0000	0.0000	0.0005
Hausman test	0.0000		0.0000		0.0000		0.0000		0.0000		
CRE test: all indices	0.423		0.675		0.022		0.271		0.5220		
Random effects λ	0.387		0.307		0.622		0.717		0.691		
R^2	0.42	0.59	0.38	0.45	0.53	0.39	0.42	0.48	0.54	0.41	0.43
Observations	236	158	613	411	3,099	3,098	1,121	1,199	5,175	4,892	4,892
Firms	159	81	401	199	645	644	195	193	1,403	1,120	1,120

Table 10. Governance Indices and Profitability

Table shows coefficients for firm fixed effects (FE) regressions of profitability (EBIT/Assets$_{t+1}$) on governance indices, covariates, year dummies, and constant term. Indices are normalized (mean =0; σ=1). Covariates and sample are same as in Table 6 except for Net Income/assets and EBIT/Sales that are dropped. 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. FE sample excludes firms observed only once. Observations are excluded as outliers if a studentized residual from regressing profitability on country *CGI*, year-by-year > ±1.96. *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	Brazil	India	Korea	Turkey	BIKT Pooled	
Regresion	FE	FE	FE	FE	FE	Weighted-FE
Index or Subindex	(1)	(3)	(5)	(7)	(9)	(11)
Disclosure	**0.044****	-0.002	-0.004	0.002	-0.001	0.002
	(2.10)	(-0.52)	(-1.27)	(0.34)	(-0.24)	(0.60)
Board Structure	-0.022	0.004	0.005	-0.005	0.002	-0.003
	(-1.44)	(1.16)	(1.34)	(-1.05)	(0.65)	(-0.98)
Board Procedure	0.010	*0.009**	0.002	*0.007**	0.003	**0.005****
	(1.08)	*(1.85)*	(0.56)	*(1.66)*	(1.27)	**(2.17)**
Shareholder Rights	**-0.055*****	-0.002	0.005	**-0.007****	-0.000	-0.003
	(-2.94)	(-0.40)	(0.68)	**(-2.43)**	(-0.03)	(-1.22)
Ownership Structure	-0.015		-0.006	0.005	-0.003	-0.003
	(-0.99)		(-0.85)	(0.90)	(-0.44)	(-0.67)
RPTs	-0.008	0.001			-0.000	-0.001
	(-0.89)	(0.26)			(-0.08)	(-0.20)
Observations	159	411	3,098	1,119	4,892	4,892
Firms	81	199	644	193	1,120	1,120
Within-R²	0.750	0.374	0.174	0.208	0.217	0.304

40

Table 11. Governance Indices and Liquidity

Table shows coefficients for firm fixed effects (FE) regressions of ZERORET (the fraction of days in the fiscal year for which the stock price does not change) on governance indices, covariates, year dummies, and constant term. Indices are normalized (mean =0; σ=1). Covariates and sample are same as in Table 6 except they include the natural logarithm of Tobin's *q*. 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. FE sample excludes firms observed only once. *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	Brazil	India	Korea	Turkey	BIKT Pooled	
Specification	FE	FE	FE	FE	FE	Weighted FE
Regression	(1)	(3)	(5)	(7)	(9)	(11)
Disclosure	-0.050	*0.013**	*-0.003**	-0.000	-0.002	-0.002
	(-1.50)	*(1.95)*	*(-1.94)*	(-0.05)	(-1.38)	(-0.63)
Board Structure	-0.039	-0.003	*-0.003**	-0.007	**-0.005*****	**-0.008****
	(-1.58)	(-0.73)	*(-1.82)*	(-1.38)	**(-3.00)**	**(-2.37)**
Board Procedure	-0.020	-0.004	-0.001	-0.003	-0.001	-0.004
	(-0.63)	(-1.04)	(-0.51)	(-0.66)	(-0.91)	(-1.01)
Shareholder Rights	0.045	-0.005	0.002	**0.008****	**0.006****	**0.007*****
	(1.43)	(-1.53)	(0.86)	**(2.46)**	**(2.53)**	**(2.63)**
Ownership Structure	-0.006		0.003	-0.001	-0.000	-0.000
	(-0.25)		(1.05)	(-0.14)	(-0.16)	(-0.17)
RPTs	**0.050****	-0.006			**0.019****	**0.028****
	(2.42)	(-1.16)			**(2.26)**	**(2.32)**
Observations	111	242	2,494	897	3,971	3,971
Firms	59	170	495	157	1,032	1,032
Within-R^2	0.536	0.756	0.257	0.416	0.363	0.422