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Abstract

A central issue in evaluating the effects of corporate governance (CG) is how to measure it. Some researchers measure firm-level CG using country-specific indices (CSIs), tailored to each country's laws and institutions; several studies report that these indices can predict Tobin's q in emerging markets, in a panel data framework with firm fixed effects. In contrast, commercial CG ratings (CCGRs) apply the same or similar elements across many countries. However, their power to predict relevant outcomes is not known. We assess the three best available CCGRs that cover emerging markets over a reasonable time period, from Asset4, Thomson Reuters, and MSCI. We find that these ratings have no power to predict Tobin's q or profitability. We also provide suggestive evidence that the likely root cause is poor construction of the ratings, rather than whether a well-specified measure can predict Tobin's q. One possible reason: disclosure (beyond country-mandated minimums) is the governance aspect that most consistently predicts firm value in emerging markets in CSI-based studies, yet none of these ratings includes measures of disclosure. The CCGRs have other important limitations, including using U.S.-centric elements; vague or subjective definitions of some elements; and some elements reflecting firm outcomes rather than governance.

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

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

1 – Introduction

A substantial body of corporate governance (CG) research studies the extent to which *firm-level* CG choices, often captured in CG indices, predict firm value, profitability and other outcomes. This research involves whether "better" CG has a payoff in firm performance and which aspects of governance are indeed better, as well as what firm attributes predict governance. This research is important because it can guide firm choices of which governance measures to adopt, and investor decisions on which governance measures to support, and which firms to invest in. This research is necessarily conducted at the firm level. It can be conducted in individual countries, or across multiple countries, in both developed and emerging markets (EMs).

A related body of research, deriving from La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) studies the effects of *country-level* CG rules. Studies of the effects of country-level rules often rely on natural experiments involving changes in rules. But for firm-level choices natural experiments are, almost by definition, not available. One must instead rely on panel data, ideally with firm fixed effects, to study either individual governance elements (e.g., does a firm have an audit committee or a majority of independent directors) or broader indices which seek to capture the combined effect of multiple individual governance measures. Table 1 summarizes selected stronger or better-known papers across two dimensions: single versus multicountry, and use of a CSI versus a CCGR. See Claessens and Yurtoglu (2013) for a more complete review.

We contribute here to the literature on firm-level CG indices, by studying the relative value of country-specific indices (CSIs), constructed by researchers, versus commercial corporate governance ratings (CCGRs). Both approaches have been used in prior work. Each approach has potential advantages. CSIs can be tailored to address country-specific rules and customs, they can rely only on objective elements which the researchers believe are related to the imperfectly defined underlying concept of governance, and data can be collected for a broad range of firms in a given country. However, CSIs are expensive and time consuming to construct and collect the data for. Moreover, because the indices are country-specific, generalizability of results to other countries is unclear.

Multicounty CCGRs are a potentially attractive alternative. They can cover a large number of countries over a substantial time period, although usually only the largest firms in each country.

If CCGRs perform well, there might not be sufficient extra value from CSIs to justify building them. However, the available CCGRs have potential downsides. Often, they include subjective elements. How they are built is often not transparent – indeed, their commercial value depends on the CCGR not being easily replicable. Bond ratings face similar concerns but the value of the ratings can be assessed ex post by assessing how well they predict future default. CCGRs lack a natural *ex post* outcome, similar to default, that can be studied. The best one can do is assess the evidence for a basic property that a good CG measure should have – it should be correlated with firm value. One can potentially study other outcomes, such as profitability or share liquidity.

There is, however, a joint hypothesis problem in testing the the value of CSIs and CCGRs. One is jointly testing whether CG predicts firm value (or another outcome) and the construct validity question of whether the index does a good job of capturing important aspects of unobserved underlying governance (Black et al., 2017).

There is also a power issue. To observe a relationship between CG and firm value, one needs sufficient cross-sectional variation in CG in the sample. To use a classic panel data design with two way (firm and time) fixed effects (TWFE design), one further needs within-firm variation over time. Yet without firm FE, an observed correlation between CG and firm value could reflect unobserved firm characteristics which are correlated with both CG and firm vaue, rather than a causal relationship.[1] The power concern is greater in developed countries, which generally have strong CG laws and limited variation both across firms and across time within firm. Limited power may explain why it has been challenging for researchers to find a robust correlation between CG and value in developed countries, the US in particular. Compare the null results from, e.g., Daines, Gow, and Larcker (2010); Koehn and Ueng (2005); Bhagat, Bolton, and Romano (2008); and Ertugrul and Hedge (2009) with Ammann et al. (2011) (positive association in multicountry study between Governance Metrics International CCGR and firm value); and Guest and Nerino (2020) (event study of downgrades of U.S. firms using the ISS CCGR).

EMs may offer more fruitful ground for studying the impact of firm-level CG choices, for a number of reasons. Minimum standards, set by local rules, are often low, allowing for more

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[1] Gompers, Ishii, and Metrick (2003) report a positive correlation between their index (GIM) and firm value. However, Bebchuk, Cohen, and Ferrell (2009) show that the elements of GIM that are correlated to firm value measure takeover defenses rather than corporate governance more generally. Takeover defenses vary little over time, and the Gompers et al. Research design does not include firm FE.

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firm-level variation. Also, as firms and countries develop, and firms face investor pressure to improve their governance, firm choices can vary substantially over time. Moreover, unlike the situation in developed markets, a well-constructed CSI can predict firm value with a TWFE design (e.g., Black et al., 2014, Cheung et al., 2011). Thus, if a CCGR fails to predict firm value, the likely cause is lack of construct validity for the CCGR, not with whether CG, if measured in a manner that reflects country-specific rules and norms, can predict value. However, the predictive power of CCGRs for EMs has previously been studied only in cross-section, and involves older indices which are no longer available (e.g., Klapper and Love, 2004; Durnev and Kim, 2005).

How well CCGRs perform in EMs is an empirical question, that we study here. But we note initially that there are reasons for concern about CCGR quality. First, their elements of the available CCGRs are often US-centric and may poorly capture variation in governance in EMs. For example, the available CCGRs do not measure firm-level disclosure, perhaps because U.S. disclosure standards are relatively high, leaving less room for cross-sectional variation. Second, many U.S. firms have dispersed ownership, leading to different agency problems than in EMs, where most firms have a controlling family or group, which may need different CG strategies (Bebchuk and Hamdani, 2009).

This article investigates two basic questions with regard to CCGRs in Ems. First, do they predict firm value (measured by Tobin's q) or profitability (measured by EBIT/assets). We assess the value of the three available CCGRs -- Asset4, Thomson-Reuters (TR), and Morgan Stanley Capital International (MSCI) -- which cover a substantial number of EMs for significant time periods. We find no evidence that any of these ratings predict firm value or profitability in a TWFE framework, either across countries or in individual countries. We also find no predictive value using year FE and firm random effects (firm RE).

Second, we investigate the joint hypothesis issue, which has not been addressed in the prior CG literature. We provide evidence that the likely root cause of the failure of the CCGRs is poor construction of the ratings, rather than the ability of a well-specified measure to predict Tobin's q. We compare the power of the CCGRs to predict Tobin's q to the predictive power of the CSIs from Black et al. (2014, below BCKKY), for firm-year observations common to both samples, from Brazil, India, Korea, and Turkey. BCKKY show that their CSIs are known to have power to predict Tobin's q with TWFE in India, Korea, and Turkey, and with firm RE in Brazil. Despite

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the small size of the overlap samples, the BCKKY CSIs retain reasonable predictive power. Yet, for identical samples, the CCGRs have no predictive power.

We also investigate the correlation between different CCGRs, and, for overlapping samples, the correlation between the CCGRs and the BCKKY CSIs. The Asset4 and TR ratings correlate moderately with each other but this correlation is mechanical, since the TR index was built on the Asset4 index after Thomson-Reuters purchased Asset4. However, the Asset4 and TR ratings correlate poorly with the MSCI rating, and all three ratings correlate poorly with the BCKKY CSIs for the overlapping firm-year observations.[2] This low correlation further suggests that CCGR lack of predictive power likely derives from poor index construction. Thus, despite the limitations of CSIs, CCGRs do not currently offer a usable alternative, either for CG research or as guides to what aspects of CG firms or investors should value.

This paper proceeds as follows. Section 2 discusses the two approaches to building CG measures: CSIs versus CCGRs, and summarizes the Asset4, TR, and MSCI ratings and their coverage. Section 3 develops our methodology. Section 4 presents our results. Section 5 concludes.

2 – The Construction of CSIs and CCGRs

2.1. Principal Approaches for Measuring CG

CG indices can be classified along several dimensions. To measure CG, one can use objective measures, subjective measures, or a combination of both. There are several concerns with using subjective elements in a CG index. The most obvious one is that two different raters might assign different scores for the same aspect. The indices can be country specific, i.e., use different elements in different countries; or common, i.e., use the same or similar elements in all countries. Researchers can also choose to study either a single country, a small group of similar countries or examine a broader group of possibly dissimilar countries. And they can choose to study emerging markets, developed markets, or both. Table 1 summarizes prior research using

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[2] Inconsistent ratings across different sources are also observed for environmental-social-governance (ESG) scores in developed markets. See, e.g., Berg et al. (2020) and Gibson et al. (2020) (both US only).

CG indices by classifying them along three dimensions: CSIs vs. CCGRs, single vs. multicountry, and developed vs EMs.

Because CCGRs cover many countries, and allow researchers to rely on someone else's CG coding, they are frequently used in multicountry research. However, they have important limitations. CCGRs largely adopt the common elements approach. As a practical matter, many CCGR elements reflect a US-centric approach to governance. The common-elements approach creates an important construct validity concern (Black et al., 2017). Firms' governance choices are influenced by country-specific rules, norms, and institutions. Elements that are mandatory or followed by either very few or almost all firms in a country are not useful measures for that country. Some measures can be relevant in some countries but not in others. However, the CCGR producers do not release element-by-element scores.

On the other hand, CSIs also have limitations. First, each additional country requires substantial additional work. Second, due to variation in governance elements across countries, one must be cautious in pooling results across countries. Third, due to both the limited number of countries with available CSIs (validated in the sense of predicting important outcomes such as Tobin's q), and variation in index elements across countries, one cannot readily explore the relative importance of country versus firm characteristics in explaining firms' CG choices (cf. Doidge, Karolyi, and Stulz, 2007; Cumming, Hou, and Wu, 2017). And generalizability beyond the country or countries covered by the CSI is unclear.

Thus, the relative strengths and limitations of CSIs and CCGRs merit empirical analysis. Next we present the three well-known CCGRs that cover EMs.

2.2 – Asset4 Rating

In early 2000, Asset 4, a Swiss company specialized in providing environmental, social and governance information, began to provide its CCGR, also named Asset4 (Ribando and Bonne, 2010). In 2009, Thomson Reuters acquired Asset 4, incorporated many Asset4 elements into its own CCGR (TR rating), but continued to publish Asset4 as a separate rating, through 2016. The Asset4 rating is composed of 5 subratings covering the following aspects:

Board Functions: composed of 12 elements related to (in their own words) board activities and functions that reflect a company's capacity to have an effective board by setting up the essential board committees with allocated tasks and responsibilities;

Board Structure: composed of 11 elements related to a well-balanced membership of the board that reflect a company's capacity to ensure a critical exchange of ideas and an independent decision-making process through an experienced, diverse and independent board;

Compensation Policy: composed of 7 elements related to commitment to competitive and proportionate management compensation that reflect a company's capacity to attract and retain executives and board members with the necessary skills by linking their compensation to individual or company-wide financial or extra-financial targets;

Shareholder Rights: composed of 21 elements related to shareholder policy and equal treatment of shareholders that reflect a company's capacity to be attractive to minority shareholders by ensuring them equal rights and privileges and by limiting the use of anti-takeover devices; and

Vision and Strategy: composed of 7 elements related to the creation of an overarching vision and strategy integrating financial and extra-financial aspects. It reflects a company's capacity to convincingly show and communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes.

Table A1 lists the Asset4 elements. Most elements of Asset4 are coded as 0 or 1, but some are continuous with a (0, 1) range. We did not find a clear description of how elements are combined into subratings; e.g., what weighting is used, if any. Some elements are precise and clearly related to good corporate governance (e.g., does the company have a compensation committee?). However some elements are subjective, vague, or of uncertain value when applied to EMs. Here are some examples:

Score for particular firm is sample dependent, e.g., *firm score is 1 if the percentage of independent board members as reported by the company exceeds country median* (Independent Board Members element from Board Structure subrating);

Score seems subjective, e.g., *does the company integrate financial and extra-financial factors in the management discussion and analysis section of the annual report?* (Integrated Strategy element from Vision and Strategy subrating);

Element does not seem directly related to good governance, e.g., *number of board members greater than 10 or less than 8* and *average number of other corporate affiliations for the board member* (Size of Board element from Board Structure subrating). There is evidence that very small or large boards may not be optimal; optimal board size may also be endogenous, for example to firm size (Coles, Daniel and Naveen, 2008; Adams, Hermalin and Weisbach, 2010). But given that most boards have an odd number of members, it seems odd to give a firm credit for having exactly 9 board members, but not 7 or 11. It is also not clear whether other affiliations are good or bad or even how these are measured.

Element is not relevant for EM (because it does not matter or is rare), e.g., *does the company have a golden parachute or other restrictive clauses related to changes of control (compensation plan for accelerated pay-out)?* (Golden Parachute element from Shareholder

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Rights subrating). Golden parachutes can be relevant in developed markets, for firms with dispersed ownership, for which hostile takeovers are possible. They are rarely relevant in EMs.

Element measures outcome rather than CG, e.g., *is the company under the spotlight of the media because of a controversy linked to high executive or board compensation?* (Compensation Controversies element from Compensation Policy subrating).

Since the Vision and Strategy subrating is both subjective and not directly related to governance in any direct way, we study both the original Asset4 rating, and a *Modified Asset4* rating, which is the average of the other 4 subratings.

2.3 – TR Rating

The TR rating is based on two subratings: *Management* and *Shareholders*, which are composed of 46 elements (Table A2 lists the TR elements) As noted above, many of the elements overlap with the Asset4 elements. Thomson-Reuters explains that the Management subrating (composed of 34 elements) *measures a company's commitment and effectiveness towards following best practice corporate governance principles*. The Shareholders subrating (composed of 12 elements) *measures a company's effectiveness towards equal treatment of shareholders and the use of anti-takeover devices*. Most elements are coded as 0 or 1, but some are continuous variables with a (0, 1) range. We did not find a clear description of how elements are combined into subrating. Both the Management and Shareholders subratings are reported as percentile ranks, and indicate the percentage of ratings that are lower than this score. We compute the TR rating as the average of the Management and Shareholders percentile ranks.

2.4 – MSCI Rating

MSCI publishes an ESG (environmental, social and governance) score, which incudes an assessment of a company's governance and assigns governance scores from 0 (worst) to 10 (best). From 2009 through 2017, MSCI reported a single overall CG rating. Starting in 2018, MSCI also provides four subratings: Board (39 elements), Pay (23 elements), Ownership and Control (26 elements), and Accounting (8 elements). MSCI does not clearly explain how it constructs the subratings. MSCI (2020) states that the subrating scores are a weighted average of the individual elements (the weighting is not explained), which are then converted to industry-adjusted percentile ranks, which are then combined into an overall score for each company, to which MSCI may apply

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"committee-level overrides." MSCI also does not specify how the percentile ranks for the four subrating are combined to arrive at an overall score.

One problematic aspect of the MSCI rating is that some elements relate to firm performance, rather than governance, e.g., *whether the company auditors' have qualified their opinion* or *the company's ability to remain as a going concern* (a going concern qualification is a marker of financial distress, but need not reflect poor governance). A second issue is that some elements are subjective, e.g., *whether the company is experiencing difficulties obtaining needed financing or refinancing support*. Finally, some elements are not clearly defined, e.g., whether *the number of directors exceed local or regional standards*.

2.5 – Further Concerns on CCGRs

The CCGR providers disclose the individual elements that comprise the ratings, but not the scores on individual elements, nor their methodology to aggregate these elements into a subrating or an overall rating. This makes it infeasible to assess construct validity – are the elements of each rating, or each subrating internally consistent, either within or across countries?

The failure to disclose element-by-element scores also makes it infeasible for researchers to replicate the ratings – would an independent review assign the same or similar ratings to the same firms? This is a substantial concern, especially for elements that are not clearly defined, subjective, or both. Prior work shows the relevance of these concerns. For instance, Spamann (2010) recoded the antidirector rights index developed by La Porta et al. (1998) and found substantial coding errors, which when corrected destroyed the predictive value of the index. Frankenreiter et al. (2021) recoded the index of Gompers, Ishii and Metrick (2003) and found errors in over 80% of the index scores, which when corrected substantially weakened the reported results.

3 – Data, Variables, and Econometric Model

3.1 – Data Sources and Coverage

We combine different databases to construct our dataset. Asset4 and TR indices, and financial data come from the Thomson Reuters Eikon database. MSCI rating is provided by

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Morgan Stanley Capital International. Information on cross-listings come from databases maintained at the Bank of New York, Citibank, Deutsche Bank, and JP Morgan.

CCGRs generally cover only the largest publicly traded firms in each country. For smaller countries, they may cover only a small number of firms. We limit the sample for each rating to countries with at least 10 firms covered by that rating in at least two different years. This leaves the following 15 EMs; each covered by all three ratings: Brazil, Chile, India, Indonesia, Korea, Malaysia, Mexico, Philippines, Poland, Russia, Singapore, South Africa, Taiwan, Thailand and Turkey. Korea, Singapore and Taiwan (or KST) were considered EMs at the beginning of our sample period, but were high-income economies by the end of our sample period. For this reason, we study KST separately. There is missing data for some firms in some years. Since we use a firm fixed effects specification, we include only firms with at least two firm-year observations.

Table 2 reports data coverage in terms of both number of firms and market capitalization. The Asset4 sample comprises 3,924 firm-year observations of 713 firms, over 2002-2016. The TR sample comprises 4,164 firm-year observations of 867 firms over 2008-2018. The MSCI sample comprises 5,794 firm-year observations of 1,104 firms, over 2009-2018. Sample coverage is sometimes small for particular years, and can vary substantially across years. For example, the minimum coverage in Brazil in a single year is one firm (out of 357 listed firms in that year), while the maximum coverage is 64 firms (out of 346 listed firms in that year). There is substantial overlap in coverage between the Asset4 and TR ratings (3,233 firm-year observations), but lesser overlap of Asset4 and TR ratings with MSCI (1,657 and 1,386 firm-year observations, respectively).

3.2 Outcome Variables

A central goal of this paper is to investigate the power of CCGRs to predict firm value and profitability. To measure firm value we use the natural logarithm of Tobin's q, $ln(q)$. Tobin's q is calculated by dividing the market value of assets by the book value of assets. *Tobin's q* measures the value of the shares in the hands of minority shareholders, but does not capture the additional value of corporate control.[3] We apply the natural logarithm to reduce the influence of outliers.

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[3] In unreported analyses we also use ln(MV), the natural logarithm of the market value of a firm's shares, as a alternative to ln(Tobin's q). Results are very similar to the Tobin's q results.

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We measure profitability as earnings before interest and taxes divided by total assets (EBIT/assets).

To facilitate comparing the predictive power of CCGRs across indices and countries, we normalize CCGRs and their subratings to zero mean and standard deviation one within each country.

3.3 Econometric Model

We use a firm fixed effects (FE) regression specification, with standard errors clustered on firm. The firm FE control for unobserved, firm-invariant differences across firms; we also use industry-by-year fixed effects (with industries defined at the two-digit SIC level) to control for unobserved, time varying differences across industries.[4] We also conduct sensitivity analyses using firm RE and pooled OLS specifications.

For individual country estimations, we use the following econometric model:

$$ln(q_{i,t}) = \beta_0 + \boldsymbol{\beta_1} \times \boldsymbol{CGI_{i,t}} + \boldsymbol{\beta_2} \times \boldsymbol{X_{i,t}} + f_i + g_{jt} + \varepsilon_{i,t} \tag{1}$$

Here $\boldsymbol{CGI_{i,t}}$ is either a CCGR score or a vector of its subrating scores; $\boldsymbol{X_{i,t}}$ is a vector of covariates, which we assume to be exogenous, f_i are firm effects, and g_{jt} are industry-by-year fixed effects.

We also provide, albeit cautiously, estimates pooled across countries. Pooling results across countries involves making the strong assumption that the same normalized score has similar meaning across different countries even though: (i) for Asset4 and TR, many rating elements are measured relative to country means or medians and for MSCI, overall scores are both country- and industry-adjusted; and (ii) different governance elements may be more or less important in different countries. At the same time, pooling can help to make sense of results in a many-country study. In pooled regressions, we interact the covariates with country dummies. Effectively, this provides country-specific response surfaces for the covariates. In the pooled estimates with firm FE or OLS, we give equal weight to each country, rather than equal weight to each firm. To do

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[4] This specification will drop firm-years for which there is no other firm in the same industry-year. In robustness checks, we obtained similar results using country*year rather than industry*year FE.

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so, we weight each firm observation by the inverse of the number of firms in that country. We are not aware of a procedure to do similar weighting with firm RE.

Letting c index countries, d_c be country dummies, and omitting the country weights, the pooled regression specification is:

$$ln(q_{c,i,t}) = \beta_0 + \boldsymbol{\beta_1} \times \boldsymbol{CGI_{c,i,t}} + \boldsymbol{\beta_2} \times \boldsymbol{X_{c,i,t}} \times d_c + f_i + g_{jt} + \varepsilon_{c,i,t} \,. \tag{2}$$

We estimate Models 1 and 2 with an unbalanced panel (the number of observations per firm varies), with standard errors clustered on firm. We use three pooled samples of countries: the full sample including all EMs (EM), KST: the set of emerged markets (Korea, Singapore and Taiwan); and all EMs minus KST (EM – KST).

3.4 – Covariates

Many firm characteristics are potentially associated with both our outcomes (Tobin's q) and with governance. Failure to control for these characteristics (covariates) can lead to omitted variable bias. This is not just a theoretical concern, BCKKY report evidence that CG studies with "thin" covariates can produce false positives. Increasing the number of covariates generally causes the predicted effect of governance on Tobin's q to decline in magnitude and statistical significance. Therefore, to reduce potential omitted variable bias, we include an extensive set of covariates (listed in Table 3).

Our covariates include S*ize: ln*(assets) to control for the effect of firm size on Tobin's q; A*ge*: *ln*(years listed +1) to control for various life cycle effects on Tobin's q not captured by other covariates; *Leverage*: total liabilities/total assets. Leverage can influence Tobin's q by affecting tax benefits and reducing free cash flow problems; it is also mechanically related to Tobin's q. *Growth:* geometric sales growth over the last 3 years (or available period, if shorter), because growth prospects directly affect Tobin's q. *Ownership*: fractional ownership by the largest shareholder (inside ownership), since ownership can affect firm value. *Exports/sales*: because presence in competitive foreign markets imposes discipline on managers. We also use *PPE/sales*, *Capex/PPE*, *R&D/sales*, and *Advertising/sales* to capture capital intensity and asset tangibility. In Tobin's q regressions we also include *Net income/assets* and *EBIT*/*sales,* as measure of performance.

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In regressions using firm RE or pooled OLS, we also include several covariates which drop out under firm fixed effects, but remain with pooled OLS and RE. These covariates are *Industry dummies*, defined at the two digit level. *Cross-listing*: dummy variable assuming value one when the firm cross-lists in the U.S., and zero otherwise. *MSCI-index*, dummy variable assuming value one when the firm belongs to the MSCI country index, and zero otherwise. *Cross-listing* and *MSCI-index* proxy for liquidity and foreign investor interest.

Due to unavailability of data, not all covariates are included in all analyses. Regressions for the TR rating lack controls for *Ownership* and *Exports/sales*. Regressions with the Asset4 rating do not control for *Age*.

3.5 – Addressing Outliers

To address possible bias due to outliers, we winsorize the outcome variables and all covariates at 1% and 99%, except for *ln*(Assets). We also ran several robustness checks to assess whether our results are driven by this winsorizing approach. First, we reran the estimations by neither winsorizing nor excluding outliers. Second, we winsorized covariates, but not the dependent variables (*ln*(Tobin's *q*) or Profitability). Third, we also winsorized the CCGRs. Fourth, instead of winsorizing, we excluded outliers for which a studentized residual from regressing the dependent variable on CCGR (year-by-year) > |1.96|.

4 – Empirical Results

4.1 – The Predictive Power of CCGRs in Emerging Markets

Tables 4 to 6 report our analysis on the predictive power of the Asset4, TR, and MSCI ratings, and their subratings. In Panel A of each of the three tables, the dependent variable is *ln*(Tobin's *q*), and in Panel B, profitability (EBIT/Assets). The coefficients reported in Column 1 come from regressions using the pooled sample of all 15 EMs (we report only the coefficients on the CCGRs, omitting the coefficients on the covariates). In Column 2, the sample is the 12 emerging merkets (excluding three emerged markets: Korea, Singapore, and Taiwan, the KST countries). In Column 3, the sample is the KST countries. In Columns 4 to 18, the samples are individual countries. In the multicountry regressions in Columns 1 to 3, observations are weighted so that each country has equal weight. For Asset4, we report results with both the full rating, and the Modified Asset4 rating (excluding the Vision and Strategy subrating). Tables 4-6 report results

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with firm FE specification. We also provide results using firm RE and pooled OLS specifications in Table 7.

Our analysis has a straightforward conclusion: none of the CCGRs has power to predict either firm value or profitability. Furthermore, the economic impact of these CCGRs are very small. This is true for individual countries and pooled samples. For example, Panel A of Table 4 reports the coefficient on Asset4 rating and its subratings in ln(Tobin's q) regressions. Column 1 shows the coefficients on the Asset4 rating in regressions for a sample which pools all countries (including KST), which is the largest possible sample. The coefficient is 0.017 ($t = 1.42$). Because the CCGRs are normalized, a coefficient of 0.017 implies that a one standard deviation increase in the CCGR predicts a 1.7% increase in Tobin's q – a small change. Our point estimates are 0.007 ($t = 0.60$) for Modified Asset4 (Table 4, Panel A); -0.009 ($t = 1.38$) for TR (Table 5, Panel A); and 0.007 ($t = 1.56$) for MSCI (Table 6, Panel A). The 95% confidence intervals (not reported in the tables) are relatively tight, at [-0.017, 0.031] for Modified Asset4; [-0.023, 0.005] for TR; and [-0.001, 0.15] for MSCI. Thus, our null results reflect lack of predictive power for the CCGRs rather than lack of statistical power.

If we turn our attention to individual countries, we find some statistically significant coefficients. For example, in Table 4, Panel B, Column 5 the coefficient on Asset4 for profitability regression in Chile is 0.016 which is statisticaly significant at the 1% level. However, none of the remaining country coefficients on Asset4 is significant. Even more importantly, many times the coefficients are negative and statistically significant (reported in red). For instance, in Table 4, Panel A, Column 5 the coefficient on Asset4 for ln(Tobin's q) regression in Chile is -0.116 which is statisticaly significant at the 5% level. The null and negative coefficients that we find for CCGRs in general apply to their subratings.

If we scan the country-specific results, across the Modified Asset4, TR, and MSCI rating and 15 countries (thus, 45 regressions), for $ln(q)$ we find one positive and significant coefficient (MSCI rating; Singapore), but find five negative and significant coefficients (two for Modified Asset4, Chile and Indonesia: and three for TR, Brazil, Indonesia, and Poland). For profitability, we find three positive and significant coefficients (TR for Mexico and Phillipines; MSCI for S. Africa). Across both outcomes, 45 of the 90 coefficients are positive and 45 are negative. These scattered results are consistent with chance.

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Individual country results for the subrating of the Asset4 and TR ratings are similarly weak and mixed. Consider the *ln*(Tobin's *q*) outcome: Board Function is not statistically significant for any country; Board Structure is significant and positive only for Taiwan; Compensation Policy is positive and significant for Malaysia but negative and significant for Chile; and Shareholders Rights is negative and significant for three countries (Chile, Indonesia and Russia).

4.2 – Results with Firm RE or Pooled OLS

Some early studies find a positive correlation between CCGRs and firm value in EMs, but use either cross-sectional data or pooled OLS estimation, without either firm FE or even firm RE. For example, Klapper and Love (2004), using cross-sectional data, find a positive correlation between a Credit Lyonnais Securities Asia (CLSA) rating for 2001 and firm value. Durnev and Kim (2005) use the CLSA rating and an Standard & Poor's (S&P) disclosure rating for 2002, to study the association in cross-section between governance and country legal environment. A natural question is to what extent results with these specifications would change if one includes firm effects – either RE or FE. Panel data for the CLSA and S&P ratings is not available, but we can investigate this issue using the Asset4, TR, and MSCI ratings. In Table 7, we compare pooled results across all 15 countries, using pooled OLS, firm RE, and firm FE specification. The dependent variable is *ln*(Tobin's *q*) for Columns 1-3, and *Profitability* for Columns 4-6. For the pooled OLS and firm FE results, we report weighted regressions (each observation is weighted by the inverse of the number of firms in each country), thus giving equal weight to each country. Weighting is not feasible for the firm RE specification. Columns 1 and 4 provide pooled OLS results, and Columns 2 and 5 provide firm RE results. To ease comparison, Columns 3 and 6 repeat the firm FE results from Tables 4 to 6. Panels A, B, and C cover, respectively, the Asset4, TR, and MSCI ratings.

In Table 7, Panel A, with pooled OLS (Column 1), the Asset4 rating strongly predicts higher Tobin's *q*. This effect weakens but remains statistically significant with the Modified Asset4 rating. The coefficients drop by about 50% in magnitude with firm RE (Column 2), but remain statistically significant. However, with firm FE (Column 3), the coefficient drops again, and becomes insignificant. We also see that across specifications, the predictive value is much stronger for the full Asset4 rating than for the modified rating. Turning to profitability, the Asset4

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rating is mildly statistically significant with pooled OLS but not with the other specifications, and the Modified Asset4 rating is significant in all specifications.

In Panel B, the TR rating has no predictive value for either dependent variable, under any specification. In Panel C, the MSCI rating is statistically significant for Tobin's q, although only weakly so, but not with firm RE or FE, and is never significant for firm profitability.

Thus, results such that of Klapper and Love (2004) are likely to result either from weak estimation methods or lack of use of extensive set of covariates.

There are two takeaways from this analysis. First, a weaker specification, especially pooled OLS, can give rise to false positives – to an association between the CCGR and Tobin's q or profitability, which is not causal, and reflects association between the rating and omitted, time invariant firm characteristics. A pooled OLS specification is more likely to yield statistically significant results than firm-RE and FE, and firm-RE are more likely to yield statistically significant than firm-FE. Second, one can generate a positive association between a "governance" rating and Tobin's q or profitability by including inappropriate elements in the rating – for Asset4, the Vision and Strategy subrating. Thus, pooled OLS results showing an association between a governance measure and an outcome such as Tobin's q or profitability should not be treated as causal. A third concern with prior research is that the predictive power of governance indices also tends to weaken if one includes many versus few time-varying covariates. We avoid that issue here by including extensive time-varying covariates in all specifications. In unreported regressions, we find that without covariates, the MSCI rating predicts significantly higher Tobin's q with firm FE, but this predictive power is lost when we add our covariates.

4.3 – Comparison with CSIs for Brazil, India, Korea, and Turkey

We next provide evidence on the joint hypothesis issue: Do the weak results for the CCGRs arise because CG, even if well measured, does not predict Tobin's q? Or do the weak results arise primarily because the CCGRs do not do a good job of measuring CG?

We begin by observing that BCKKY (Table 3, principal results reproduced in Appendix Table A4) found that CSIs for India, Korea, and Turkey predicted significantly higher Tobin's q with firm FE and RE, and that a Brazil CSI predicted significantly higher Tobin's q with firm RE but was insignificant with FE (although with an economically meaningful point estimate). This

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suggests that the failure of the CCGRs to predict Tobin's q for these countries (Tables 4-6) reflects index construction concerns.

In Table 8, we seek to sharpen this inference by limiting the sample to firm-year observations in Brazil, India, Korea, and Turkey that are within both this study and the BCKKY sample. We then compare the predictive power of country CSIs and the CCGRs for the overlap samples. A limitation of this approach is that the overlap samples are relatively small. Still, if the country CSIs predict higher Tobin's q for the overlap samples, while the CCGRs do not, that would provide additional evidence that the lack of predictive power for the CCGRs likely reflects poor index construction.

In Panel A, we report the predictive power of the BCKKY CSIs with firm and year FE and our usual covariates, for the samples that overlap with each of the CCGRs. For example, the sample for Brazil in the Asset4 column is firm-years included in both the Asset4 regressions in Table 4, and the CSI regressions for Brazil in BCKKY, Table 3, and similarly for other countries and CCGRs. In Panel B, we report the predictive power of the indicated CCGR, for the sample overlap sample as in Panel A.

The Brazil CSI predicts significantly higher Tobin's q for both the Asset4 and MSCI overlap samples, and is nearly significant for the TR overlap sample. Yet, in Panel B, none of the CCGRs predicts significantly higher Tobin's q for the same sample, with a marginally significant negative coefficient (opposite from predicted) for the TR rating.

The India CSI predicts significantly higher Tobin's q for the Asset4 overlap sample. For the TR and MSCI overlap samples, India CSI is statistically insignificant but positive and economically meaningful in magnitude. In Panel B, none of the CCGRs predicts significantly higher Tobin's q for the same sample, with a marginally significant negative coefficient for MSCI and an economically substantial (although insignificant) negative coefficient for Asset4.

The Turkey CSI predicts significantly higher Tobin's q for all three overlap samples. In Panel B, In Panel B, none of the CCGRs predicts significantly higher Tobin's q for the same sample, although there is a marginally significant (but economically small) positive coefficient for MSCI.

For Korea, Korea CSI has no significant predictive power for any of the overlap samples. This contrasts with the statistically strong evidence in BCKKY, where for their full sample of 654

firms, Korea CSI takes a coefficient of 0.044 (t = 5.17). One explanation could simply be the smaller sample. However, a contributing factor is likely that the overlap firms are principally "large" (assets greater than the 2 trillion won threshold for Korea's special large-firm governance rules). For large firms, Tobin's q jumped in 1999, when the large-firm rules were adopted, but the rules came into effect, and thus affected Korea CSI, only in 2000 and 2001 (Black and Kim, 2012). This timing mismatch will weaken or reverse the contemporaneous correlation between Korea CSI and Tobin's q for large firms. In Panel B, none of the CCGRs predicts significantly higher Tobin's q for the same sample, with a marginally significant negative coefficient for TR.

Considering the four countries as a whole, the CSIs generally predict higher Tobin's q for the overlap samples, while the CCGRs do not. Across the 12 regressions in Panel A, the CSIs take positive and significant coefficients in six, and a marginally significant positive coefficient for one. In contrast, the CCGRs have no positive and significant coefficients, and of the four marginally significant coefficients, three are negative (opposite from predicted), The comparison between the predictive power of the CSIs versus the CCGRs for the same samples provides evidence that the weak predictive power of the CCGRs is likely to primarily reflect how the CCGRs are constructed, rather than the inability of a well constructed governance measure to predict Tobin's q.

4.4 – Correlations among the CCGRs and Between the CCGRs and CSIs

We further investigate the joint hypothesis issue by studying the Pearson correlations (i) between the CCGRs for all emerging markets and (ii) between each CCGR and the BCKKY CSIs for Brazil, India, Korea, and Turkey, for overlapping firm-year observations. Table 9, Panel A reports overall correlations between the CCGRs for the overlap samples between each pair of CCGRs. The number of overlapping observations is reported in parentheses. The Asset4 and TR ratings correlate reasonably well (r = 0.45), but this is essentially mechanical, since the TR rating was developed based on the Asset4 rating, after Thomson Reuters bought Asset4. However, the correlations between Asset4 and TR, on the one hand, and MSCI on the other hand, are quite low, at 0.12 for Asset4 vs. MSCI and only 0.03 (not significant) for TR vs. MSCI.

In Panel B, we limit the sample to Brazil, India, Korea, and Turkey and again report correlations. The BCKKY CSIs correlate weakly with all three CCGRs, with correlations ranging

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from 0.08 to 0.19. The correlations between CCGRs for the overlap samples within these four countries are similar to Panel A.

The low correlations between MSCI and either Asset4 and TR, and the low correlations of all three CCGRs with the BCKKY CSIs (which have predictive value for Tobin's q) reinforce the evidence from Table 8 that index construction choices by the CCGR providers may be a principal reason for the poor ability of the CCGRs to predict firm value.

5 – Discussion and Conclusion

Researchers and investors often seek to use governance indices to assess governance quality. Firms may also use governance indices as a benchmark for their own practices. Those who seek to use governance indices to study the effects of corporate governance have two options: (i) to use customized country-specific indices (CSIs); or (ii) to use CCGRs. We examined the predictive power in EMs of the three CCGRs with the most extensive EM coverage – Asset4, TR, and MSCI. Prior research has shown that carefully constructed CSIs can predict firm value in a panel data setting with firm FE and extensive covariates. We find, in contrast, that with a similar panel data design, neither these CCGRs as a whole, nor their subratings have predictive power for either Tobin's q and profitability.

One can find statistically significant correlations between CCGRs and Tobin's q (and to a lesser extent profitability), using pooled OLS and sometimes firm RE. However, the coefficients shrink in magnitude and lose statistical significance with firm FE. These differences confirm the importance of using panel data with firm FE to assess the predictive power of CCGRs (and CSIs).

The low predictive power of the CCGRs for Tobin's q appears to derive from poor index construction, rather than the inability of a well constructed governance index to predict Tobin's q. The low correlations between the CCGRs and the CSIs reinforces doubts as to whether the CCGRs are well designed, as does the low correlation between the MSCI rating and the other two ratings.

One could develop various explanations for why the CCGRs lack predictive power. For some individual countries, sample size is small, which could make it harder to find statistical significance. However, there are large samples in other countries and the multicountry samples are large for all three CCGRs. Moreover, small sample size cannot explain the comparative power

Electronic copy available at: https://ssrn.com/abstract=3225888

of the CSIs versus the CCGRs for the samples shown in Table 8, nor the low correlations with the CSIs, or between MSCI and the other CCGRs.

There could be other reasons why CCGRs lack predictive power. The CCGRs have the apparent advantage of using common elements across countries, but these elements may have different meanings in different local legal environments. In addition, some of the elements of CCGRs can be criticized for being sample dependent, not directly related to good governance, subjective, not relevant for EMs, measuring outcomes rather than corporate governance, or being related primarily to firm size. One possible explanation for weak predictive power is that none of the CCGRs examines disclosure. However, Durnev and Kim (2005) report that disclosure practices predict firm value across 27 developed and emerging economies, and Black et al. (2020) find that disclosure (specifially, financial disclosure) predicts firm value in four major EMs (Brazil, India, Korea and Turkey).

The CCGR purveyors do not provide enough information about individual elements to let us assess the construct validity of the ratings. But it is plausible that the CCGRs may poorly capture the governance aspects they intend to capture, perhaps due to use of common elements across countries, which may be appropriate only in some countries, or to use of ill-defined or subjective elements as part of the overall rating.

Whatever the explanations, the bottom line is clear: across all three CCGRs, and many robustness checks, the coefficients on the CCGRs remain insignificant when pooled across countries, with occasional significance in individual countries but no apparent pattern in the country-specific results. Thus, the principal available CCGRs for EMs are not currently useful for analysis of the value of governance. Nor are they useful as benchmarks against which firms can assess their own governance or investors can push firms to change their governance.

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Table 1. Overview of Types of CG Studies

Table classifies selected corporate governance studies based on whether they use country-specific indices (CSIs) or commercial corporate governance ratings (CCGRs), whether they cover multiple countries or a single country, and whether they primarily study emerging or developed markets.

	EMs		Developed Markets	
	CSI	**CCGR**	**CSI**	**CCGR**
Multi-country	Abdallah and Ismail (2017) for seven Middle Eastern countries; Al-Malkawi et al. (2014) for Bahrain, Kuwait, Qatar, Oman, Saudi Arabia, and UAE; Black et al. (2014, 2020) for Brazil, Korea, India, Turkey, and Russia; Munisi and Randøy (2013) for 10 Sub-Saharan African countries; Garay et al. (2013) for Latin America (Disclosure index for Argentina, Brazil, Colombia, Chile, Mexico, and Peru); Cheung et al. (2014) for China, Hong Kong, Indonesia, the Philippines, and Thailand.	Both emerging and developed markets: Klapper and Love (2004). Durnev and Kim (2005)		Aggarwal et al. (2009, ISS data); Chhaochharia and Laeven (2009, ISS); Bruno and Claessens (2010, ISS); Ammann, Oesch and Schmid (2011, Governance Metrics International (GMI) data).
Single Country	Brazil (Braga-Alves and Shastri, 2011; Black, de Carvalho and Gorga, 2012; Leal and Carvalhal da Silva, 2007); Hong Kong (Cheung et al., 2007, 2011; Lei and Song, 2012); India (Balasubramanian, Black and Khanna, 2010; Sarkar, Sarkar and Sen, 2012); Korea (Black, Jang and Kim, 2006, Black and Kim, 2012); Russia (Black, 2001; Black, Love, and Rachinsky, 2006; Kuznecovs and Pal, 2012); Thailand (Limpaphayom and Connelly, 2004; Kouwenberg, 2006; Connelly, Limpaphayom and Nagarajan, 2012); Turkey (Ararat, Black and Yurtoglu, 2017); and Ukraine (Zheka, 2007).		Gillan, Hartzell, and Starks (2006); Gompers, Ishii and Metrick (2003); Bebchuk, Cohen, and Ferrell (2009); Straska and Waller (2014); Karpoff, Schonlau and Wehrly (2017)	Spellman and Watson (2009); Brown and Caylor (2006); Daines, Gow, and Larcker (2010); Guest and Nerino (2020).

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Table 2. Sample Description

Descriptive statistics over time for Asset4, Thomson-Reuters (TR) and Morgan Stanley Capital International (MSCI) corporate governance ratings. The rows for *Number of firms per year*, Firms in Sample/Firms Listed, and MCap of Sample/Total MCap (market capitalization) report the maximum and the minimum yearly value observed over the sample period. Data for the total number of firms and their market capitalization are obtained from World Development Indicators (WDI) database from the World Bank for all countries except Taiwan, for which data come from the Statistics Database of the World Federation of Exchanges.

		Brazil	Chile	India	Indonesia	Korea	Malaysia	Mexico	Philippines	Poland	Russia	Singapore	South Africa	Taiwan	Thailand	Turkey
Panel A. Asset 4																
Sample Period	Begin	2002	2007	2007	2008	2002	2008	2002	2008	2007	2002	2004	2008	2002	2007	2008
	End	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Number of Firms per year	Min	1	1	5	2	1	7	3	0	1	1	11	9	1	1	5
	Max	64	19	72	32	94	43	24	16	17	27	34	87	114	26	17
Firms in Sample / Firms Listed	Min	0.28%	0.42%	0.10%	0.51%	0.06%	0.72%	2.31%	2.39%	0.28%	0.19%	2.05%	2.45%	1.32%	0.15%	2.00%
	Max	18.55%	8.52%	1.25%	6.14%	4.83%	4.82%	17.65%	6.15%	1.95%	10.76%	7.04%	27.53%	12.95%	4.07%	5.37%
MCap of Sample / Total MCap.	Min	2.10%	4.67%	8.02%	18.61%	2.32%	25.37%	15.72%	14.11%	5.05%	15.88%	9.56%	18.64%	21.00%	8.01%	20.71%
	Max	60.00%	51.32%	73.62%	46.70%	58.54%	58.17%	66.55%	40.86%	42.09%	72.29%	52.07%	38.14%	70.74%	43.17%	37.69%
Panel B. TR																
Sample Period	Begin	2008	2008	2008	2009	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008	2008
	End	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018
Number of Firms per year	Min	5	1	3	3	5	1	2	3	6	4	7	3	4	4	9
	Max	73	35	44	28	105	33	41	21	21	32	32	63	117	69	121
Firms in Sample / Firms Listed	Min	1.31%	0.43%	0.06%	0.76%	0.28%	0.10%	1.60%	1.22%	0.93%	0.71%	1.53%	0.82%	0.55%	0.75%	0.00%
	Max	21.86%	17.07%	0.87%	4.52%	4.80%	3.66%	29.29%	7.95%	3.70%	14.48%	6.64%	21.43%	12.38%	13.14%	48.79%
MCap of Sample / Total MCap	Min	6.93%	2.37%	3.40%	9.41%	6.29%	4.42%	3.92%	1.50%	17.36%	19.56%	19.38%	5.80%	0.85%	13.73%	0.00%
	Max	57.48%	51.05%	25.82%	84.21%	58.92%	39.47%	75.05%	14.47.%	23.38%	63.01%	32.95%	24.21%	52.89%	59.82%	72.94%
Panel C. MSCI																
Sample Period	Begin	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009
	End	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018
Number of Firms per year	Min	21	7	38	8	66	20	10	3	5	12	29	23	49	10	8
	Max	57	15	115	68	111	139	36	36	18	29	88	86	114	71	24
Firms in Sample / Firms Listed	Min	5.57%	3.02%	0.77%	2.01%	3.71%	2.10%	7.69%	1.20%	1.06%	1.71%	6.28%	6.52%	6.49%	1.87%	3.23%
	Max	16.52%	6.73%	1.98%	12.86%	5.70%	15.62%	26.28%	13.74%	2.09%	12.61%	18.37%	28.38%	12.82%	11.11%	9.73%
MCap of Sample / Total MCap	Min	14.43%	26.61%	41.06%	25.22%	55.24%	35.64%	34.65%	10.68%	19.48%	41.00%	25.66%	23.65%	42.27%	37.52%	24.47%
	Max	47.30%	39.96%	64.80%	54.25%	65.52%	68.10%	78.40%	67.00%	35.12%	59.80%	40.10%	31.69%	73.80%	57.63%	54.60%

Table 3. Definitions for Outcomes and Non-Governance Covariates

Income statement (balance sheet) amounts are measured for each year *t* (at end of year *t*). All Variables are winsorized at 1% and 99%. Table indicates which variables are available and reasonably complete for which rating.

Outcome variables	Definitions	Asset4	TR	MSCI
Tobin's *q*	(book value of debt + market value of common stock)/ book value of assets	yes	yes	yes
Market value	book value of debt + market value of common stock	yes	yes	yes
Profitability (EBIT/assets)	Earnings before interest and tax (EBIT)/assets	yes	yes	yes
Covariates				
ln (assets)	natural logarithm of book value of assets in USD	yes	yes	yes
ln (listed years)	natural logarithm of (years since public listing + 1)	no	yes	yes
Leverage	Total debt/assets	yes	yes	yes
Net Income/assets	net income/assets	yes	yes	yes
EBIT/sales	Earnings before interest and tax (EBIT)/total sales	yes	yes	yes
3-yr sales growth	Geometric average sales growth over past three years (or available period if less)	yes	yes	yes
	Ratio of property, plant, and equipment (PPE) to sales	yes	yes	yes
Inside ownership	Fractional ownership of common (and equivalent) shares by largest shareholder	yes	no	no
Free Float	Fraction of shares floating on the stock exchange (excludes shares held by insiders)	yes	yes	yes
Capex/PPE	Ratio of capital expenditures to PPE	yes	yes	yes
R&D/sales	Ratio of R&D expenditures to total sales	yes	yes	yes
Advertising/sales	Ratio of advertising expense to total sales	yes	yes	yes
Exports/sales	Ratio of export revenue to total sales	yes	no	no
US cross listing	1 if cross-listed in US (any level) in year *t*, 0 otherwise	yes	yes	yes
MSCI-index	1 if the firm is included in the MSCI country index, 0 otherwise	yes	yes	yes
Industry dummies	US 2-digit SIC codes	yes	yes	yes

Table 4. Predictive Value of Asset4 Rating in Emerging Markets

Panel A: Coefficients from firm fixed effects regressions for 2002-2016 of ln(Tobin's q) on normalized Asset4 Rating (top section); normalized Modified Asset4 Rating (middle section), and normalized subrating of Modified Asset4 Rating, included in a single regression (bottom section). Firm fixed effects regressions in Columns 1-3 use country weights = (1/no. of firms). Covariates are listed in Table 4, with firm and year FE (industry×year for pooled regressions), and constant term (coefficients are suppressed). Pooled regressions use separate response surfaces for each country. Variables are winsorized at 1% and 99%, except for ln(assets). Asset4 Rating is average of five subrating; Modified Asset4 Rating excludes "Vision and Strategy" subrating. 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** (red for negative coefficients).

Panel A. Asset4 Rating and ln(Tobin's q)

Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Sample	Full Sample	EMs	KST	Brazil	Chile	India	Indonesia	Korea	Malaysia	Mexico	Philippines	Poland	Russia	Singapore	South Africa	Taiwan	Thailand	Turkey
Asset4 Rating	0.017	0.014	0.037	0.048	**-0.116****	0.041	-0.100*	0.012	-0.000	0.027	0.013	-0.039	-0.035	0.051	-0.012	0.037*	-0.054	-0.001
	(1.42)	(0.98)	(1.63)	(1.40)	**(-2.29)**	(1.13)	(-2.03)	(0.49)	(-0.01)	(0.16)	(0.31)	(-0.34)	(-1.09)	(0.98)	(-0.45)	(1.66)	(-0.66)	(-0.01)
Within R^2	0.615	0.634	0.684	0.894	0.993	0.804	0.874	0.751	0.870	0.942	0.974	0.981	0.899	0.859	0.806	0.681	0.882	0.992
Modified-Asset4 Rating	0.007	0.005	0.029	0.036	**-0.060****	0.015	**-0.146****	0.004	-0.001	0.098	-0.011	0.079	-0.025	0.036	-0.031	0.017	-0.095	0.050
	(0.60)	(0.36)	(1.37)	(1.08)	**(-2.73)**	(0.41)	**(-2.42)**	(0.19)	(-0.02)	(0.49)	(-0.23)	(1.15)	(-0.74)	(0.68)	(-1.28)	(0.76)	(-1.21)	(0.71)
Within R^2	0.615	0.633	0.683	0.893	0.992	0.802	0.880	0.751	0.870	0.944	0.974	0.982	0.898	0.858	0.807	0.679	0.885	0.993
Asset 4 subrating																		
Board Functions	0.013	0.020	0.014	0.048	-0.055	0.035	-0.058	0.027	-0.022	0.095	-0.022	-0.034	0.065	-0.026	0.026	0.020	-0.123	0.004
	(1.36)	(1.59)	(0.92)	(0.96)	(-1.31)	(1.00)	(-0.79)	(1.49)	(-0.56)	(0.74)	(-0.33)	(-0.81)	(1.49)	(-0.86)	(1.14)	(0.88)	(-1.64)	(0.08)
Board Structure	0.001	-0.005	0.012	-0.012	0.022	0.015	0.013	-0.025	-0.017	0.093	-0.092	0.075	0.050	-0.009	-0.041	**0.034*****	0.005	0.015
	(0.11)	(-0.54)	(0.82)	(-0.41)	(0.56)	(0.61)	(0.21)	(-1.41)	(-0.46)	(1.53)	(-1.51)	(1.24)	(1.13)	(-0.20)	(-1.62)	**(2.71)**	(0.11)	(0.85)
Compensation Policy	0.005	0.002	0.003	-0.004	**-0.050****	0.001	0.018	0.009	**0.047****	0.023	0.008	0.070*	-0.090	0.022	-0.035	-0.015	-0.009	-0.025
	(0.70)	(0.18)	(0.17)	(-0.14)	**(-2.45)**	(0.05)	(0.40)	(0.56)	**(2.16)**	(0.21)	(0.52)	(2.02)	(-1.43)	(0.44)	(-1.48)	(-1.07)	(-0.30)	(-0.54)
Shareholder Rights	-0.015	-0.019	0.015	0.036	**-0.067****	-0.025	**-0.164*****	-0.012	-0.009	0.020	0.020	0.018	**-0.082****	0.056	-0.002	-0.011	0.002	0.101
	(-1.36)	(-1.44)	(0.75)	(1.01)	**(-2.17)**	(-0.80)	**(-3.99)**	(-0.46)	(-0.20)	(0.18)	(0.39)	(0.30)	**(-2.12)**	(1.13)	(-0.08)	(-0.50)	(0.05)	(0.97)
Within R^2	0.616	0.635	0.684	0.895	0.993	0.805	0.897	0.755	0.875	0.946	0.983	0.984	0.919	0.862	0.813	0.688	0.893	0.995
Observations	3,924	2,454	1,470	381	110	459	159	463	214	107	69	107	176	325	474	682	97	101
Firms	713	467	246	70	19	75	33	96	43	24	16	19	31	35	93	115	27	17

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Panel B. Asset4 Rating and Profitability (EBIT/Assets)

Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Sample	Full Sample	EMs	KST	Brazil	Chile	India	Indonesia	Korea	Malaysia	Mexico	Philippines	Poland	Russia	Singapore	South Africa	Taiwan	Thailand	Turkey
Asset4 Rating	-0.001	-0.001	0.001	0.001	**0.016*****	-0.004	-0.030	-0.004	-0.005	-0.006	-0.004	-0.016	-0.026	-0.003	-0.000	0.008*	-0.007	0.007
	(-0.48)	(-0.25)	(0.17)	(0.12)	**(2.91)**	(-0.43)	(-1.14)	(-0.69)	(-0.94)	(-0.28)	(-0.33)	(-0.35)	(-1.51)	(-0.36)	(-0.06)	(1.80)	(-0.12)	(0.25)
Within R^2	0.538	0.564	0.562	0.820	0.970	0.628	0.883	0.662	0.882	0.938	0.861	0.969	0.704	0.721	0.658	0.606	0.993	0.903
Modified-Asset4 Rating	-0.001	-0.002	0.005	-0.001	0.005	-0.004	-0.030	-0.002	-0.004	0.010	0.002	0.014	-0.024	0.006	0.003	0.007	-0.012	-0.038
	(-0.51)	(-0.55)	(1.23)	(-0.08)	(0.61)	(-0.45)	(-1.04)	(-0.30)	(-0.91)	(0.41)	(0.11)	(0.46)	(-1.35)	(0.50)	(0.44)	(1.35)	(-0.31)	(-0.92)
Within R^2	0.538	0.564	0.564	0.820	0.956	0.628	0.881	0.661	0.883	0.938	0.860	0.969	0.700	0.722	0.658	0.606	0.993	0.918
Asset 4 subrating																		
Board Functions	-0.000	0.001	-0.001	0.004	0.007	-0.006	0.017	0.003	-0.005	0.018	-0.014	-0.004	**-0.038****	-0.012*	0.003	0.003	-0.007	-0.020
	(-0.19)	(0.38)	(-0.37)	(0.38)	(0.69)	(-0.54)	(1.11)	(0.82)	(-1.20)	(0.90)	(-0.99)	(-0.23)	**(-2.26)**	(-1.75)	(0.45)	(0.49)	(-0.49)	(-1.12)
Board Structure	0.002	-0.001	**0.008*****	0.006	0.015	0.002	-0.010	0.004	-0.005	-0.004	0.030**	0.018	0.013	0.017*	-0.000	0.005*	-0.009	0.009
	(1.01)	(-0.48)	**(3.45)**	(0.86)	(1.08)	(0.46)	(-0.99)	(1.05)	(-0.55)	(-0.30)	(2.24)	(1.11)	(0.59)	(1.97)	(-0.08)	(1.67)	(-0.51)	(1.56)
Compensation Policy	0.002	0.003	0.000	0.007	-0.000	0.006	**-0.035****	-0.002	0.001	0.011	0.009	0.009	0.005	0.005	-0.005	0.001	-0.003	-0.004
	(1.08)	(1.20)	(0.11)	(0.98)	(-0.06)	(1.57)	**(-2.43)**	(-0.48)	(0.34)	(0.91)	(1.39)	(0.45)	(0.39)	(0.85)	(-0.74)	(0.61)	(-0.38)	(-0.13)
Shareholder Rights	-0.004*	-0.005*	-0.001	-0.013	-0.006	-0.010	-0.018	**-0.011****	0.001	-0.012	-0.005	-0.009	-0.006	0.005	0.009	0.000	-0.002	**-0.060*****
	(-1.90)	(-1.80)	(-0.20)	(-1.49)	(-1.20)	(-1.08)	(-1.59)	**(-2.07)**	(0.17)	(-0.58)	(-0.41)	(-0.38)	(-0.41)	(0.43)	(0.85)	(0.07)	(-0.12)	**(-4.80)**
Within R^2	0.540	0.566	0.570	0.825	0.974	0.636	0.912	0.668	0.885	0.943	0.931	0.973	0.721	0.755	0.661	0.608	0.724	0.931
Observations	3,927	2,457	1,470	381	110	459	159	463	214	109	69	107	176	325	475	682	97	101
Firms	714	468	246	70	19	75	33	96	43	25	16	19	31	35	93	115	27	17

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Table 5. The Predictive Power of Thomson Reuters (TR) Rating in Emerging Markets

Panel A: Coefficients from firm fixed effects regressions for 2008-2018 of ln(Tobin's q) on normalized TR Rating and covariates. Panel B is similar but reports coefficients for the two subrating of the TR Rating (Management and Shareholders), normalized, included in the same regression.). Firm fixed effects regressions in Columns 1-3 use country weights = (1/no. of firms). Covariates are listed in Table 4, with firm and year FE (industry×year for pooled regressions), and constant term (coefficients are suppressed). Pooled regressions use separate response surfaces for each country. Variables are winsorized at 1% and 99%, except for ln(assets). 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** (**red** for negative coefficients). TR Rating is based on Asset 4 Rating after Asset4 was purchased by Thomson Reuters.

Panel A. Thomson Reuters (TR) Rating and Tobin's q

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Full Sample	EMs	KST	Brazil	Chile	India	Indonesia	Korea	Malaysia	Mexico	Philippines	Poland	Russia	Singapore	S. Africa	Taiwan	Thailand	Turkey
TR Rating	-0.009	-0.007	-0.015	**-0.042****	0.053	0.027	**-0.060****	-0.023	-0.001	0.040	-0.029	**-0.086*****	-0.024	-0.034	0.015	0.019	0.027	0.010
	(-1.38)	(-1.01)	(-1.23)	**(-2.45)**	(1.64)	(1.53)	**(-2.08)**	(-1.31)	(-0.08)	(1.62)	(-1.04)	**(-2.86)**	(-1.31)	(-1.54)	(0.79)	(0.87)	(1.22)	(0.38)
Within R^2	0.547	0.569	0.530	0.734	0.819	0.668	0.868	0.481	0.800	0.876	0.847	0.970	0.713	0.732	0.617	0.572	0.901	0.916
TR subrating Management	0.003	0.008	-0.015	-0.013	0.003	**0.053****	**-0.093*****	-0.020	0.000	**0.090*****	0.018	**-0.089*****	0.037	-0.039	0.005	-0.008	0.018	-0.023
	(0.42)	(0.86)	(-1.18)	(-0.76)	(0.07)	**(2.24)**	**(-3.61)**	(-0.92)	(0.01)	**(2.96)**	(0.80)	**(-3.50)**	(1.20)	(-1.65)	(0.22)	(-0.29)	(0.73)	(-0.81)
Shareholders	**-0.012****	**-0.014****	-0.005	**-0.040*****	0.058*	0.003	0.015	-0.009	-0.002	0.004	**-0.050****	-0.052*	-0.048*	-0.010	0.012	0.025*	0.017	0.031
	(-2.19)	**(-2.11)**	(-0.45)	**(-2.73)**	(1.94)	(0.18)	(0.32)	(-0.52)	(-0.13)	(0.16)	**(-2.31)**	(-1.91)	(-1.77)	(-0.41)	(0.53)	(1.83)	(0.76)	(1.07)
Within R^2	0.547	0.571	0.530	0.736	0.824	0.674	0.873	0.481	0.800	0.882	0.859	0.971	0.727	0.734	0.617	0.574	0.901	0.919
Observations	4,164	2,858	1,306	367	170	411	168	487	278	158	119	114	242	270	434	549	213	151
Firms	867	587	280	80	37	92	35	119	51	41	21	23	39	39	93	122	34	34

Panel B. Thomson Reuters (TR) Rating and Profitability (EBIT/Assets)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Full Sample	EMs	KST	Brazil	Chile	India	Indonesia	Korea	Malaysia	Mexico	Philippines	Poland	Russia	Singapore	S. Africa	Taiwan	Thailand	Turkey
TR Rating	-0.000	-0.001	0.001	+0.000	-0.004	-0.002	-0.001	0.007*	0.002	**0.009****	**0.010*****	-0.001	-0.005	0.005	-0.002	0.001	-0.004	0.006
	(-0.09)	(-0.77)	(1.21)	(0.00)	(-0.61)	(-0.47)	(-0.20)	(1.81)	(0.46)	**(2.25)**	**(3.20)**	(-0.16)	(-0.71)	(1.62)	(-0.66)	(0.19)	(-0.43)	(0.84)
Within R^2	0.831	0.841	0.827	0.442	0.824	0.534	0.796	0.521	0.558	0.802	0.900	0.980	0.737	0.802	0.443	0.634	0.762	0.850
TR subrating Management	0.000	0.000	0.000	-0.000	0.001	0.007	0.001	0.002	0.002	0.010	0.005*	**0.021*****	-0.001	-0.000	-0.004	0.000	-0.005	0.004
	(0.49)	(0.21)	(0.02)	(-0.10)	(0.20)	(1.42)	(0.15)	(0.55)	(0.60)	(1.28)	(1.85)	**(3.32)**	(-0.19)	(-0.14)	(-1.14)	(0.08)	(-1.01)	(0.86)
Shareholders	-0.000	-0.001	0.002	0.000	-0.006	-0.005	-0.003	0.006*	0.000	0.005	**0.008****	-0.011	-0.005	0.007*	0.001	0.001	-0.001	0.005
	(-0.37)	(-1.17)	(1.30)	(0.05)	(-1.39)	(-1.42)	(-0.43)	(1.74)	(0.04)	(1.20)	**(2.13)**	(-1.31)	(-0.85)	(2.00)	(0.27)	(0.15)	(-0.05)	(0.54)
Within R^2	0.831	0.841	0.827	0.442	0.827	0.543	0.797	0.523	0.558	0.803	0.901	0.986	0.737	0.806	0.446	0.634	0.762	0.850
Observations	4,165	2,859	1,306	367	170	411	168	487	278	158	119	114	242	270	435	549	213	151
Firms	867	587	280	80	37	92	35	119	51	41	21	23	39	39	93	122	34	34

Table 6. The Predictive Power of MSCI Rating in Emerging Markets

Panel A (B) reports coefficients from firm fixed effects regressions for 2009-2018 of *ln*(Tobin's *q*) (EBIT/asset) on normalized MSCI rating and covariates. Firm fixed effects regressions in Columns 1-3 use country weights = (1/no. of firms). Covariates are *ln*(assets), leverage$^\omega$, *ln*(years since IPO), EBIT/sales$^\omega$, net income/assets$^\omega$, sales growth$^\omega$, PPE/Sale$^\omega$, Capex/ppe$^\omega$, free float, R&D/sale$^\omega$, advertising/sale$^\omega$, year dummies, and constant term (coefficients are suppressed). EBIT/sales and net income/assets are excluded in EBIT/Asset equations reported in Panel B. Covariates marked with $^\omega$ are winsorized at 1% and 99%. *t*-statistics, using firm clusters, are in parentheses. *, **, and *** respectively indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% level or better) are in **boldface**.

Panel A. MSCI Rating and Tobin's *q*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Full Sample	EMs	KST	Brazil	Chile	India	Indonesia	Korea	Malaysia	Mexico	Philippines	Poland	Russia	Singapore	SouthAfrica	Taiwan	Thailand	Turkey
MSCI Rating	0.007	0.002	0.007	0.028	0.017	0.005	-0.014	-0.006	0.014	0.012	0.008	-0.006	0.030	**0.037***	0.033	-0.016	0.000	-0.003
	(1.56)	(0.22)	(0.92)	(1.53)	(0.78)	(0.49)	(-0.87)	(-0.59)	(0.95)	(0.42)	(0.50)	(-0.27)	(1.63)	**(3.01)**	(1.39)	(-1.61)	(0.01)	(-0.17)
Within R^2	0.453	0.498	0.384	0.533	0.792	0.437	0.593	0.228	0.343	0.653	0.576	0.558	0.532	0.490	0.421	0.462	0.578	0.665
Observations	5,758	3,741	2,017	367	112	715	332	807	606	171	165	113	191	442	457	768	351	161
Firms	1,095	757	338	71	19	128	69	121	142	40	36	19	37	92	95	125	74	27

Panel B. MSCI Rating and Profitability (EBIT/Assets)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Full Sample	EMs	KST	Brazil	Chile	India	Indonesia	Korea	Malaysia	Mexico	Philippines	Poland	Russia	Singapore	SouthAfrica	Taiwan	Thailand	Turkey
MSCI Rating	0.001	0.001	-0.001	-0.003	-0.001	0.002	-0.001	-0.001	0.002	0.006	0.003	-0.008	0.003	-0.002	**0.008****	0.000	0.006	0.006
	(0.83)	(1.21)	(-0.09)	(-0.68)	(-0.40)	(1.08)	(-0.15)	(-0.76)	(0.54)	(1.42)	(1.03)	(-1.18)	(0.74)	(-1.48)	**(2.16)**	(0.16)	(1.07)	(1.51)
Within R^2	0.687	0.697	0.677	0.206	0.675	0.287	0.255	0.291	0.173	0.516	0.502	0.538	0.452	0.374	0.329	0.283	0.394	0.485
Observations	5,766	3,749	2,017	368	112	723	332	807	607	171	171	113	191	442	457	768	351	161
Firms	1,095	757	338	71	19	132	69	121	142	40	36	19	37	92	95	125	74	27

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Table 7. Pooling Countries

Coefficients from pooled OLS, firm random effects (RE), and firm fixed effects (FE) regressions of ln(Tobin's q) and EBIT/asset on normalized CCGR ratings. Sample is the set of all EMs firms from Table 5. Covariates for firm FE specification are same as in Tables 4-6. Pooled OLS and firm RE specifications include *cross-listing* and *MSCI-index* as additional covariates. Coefficients on covariates and constant term are suppressed. R^2 is adjusted R^2 for pooled OLS; overall R^2 for firm RE; and within R^2 for firm FE regressions. *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**.

Dep. Variable	ln(Tobin's q)			Profitability (EBIT/Assets)		
	(1)	(2)	(3)	(4)	(5)	(6)
Model	Weighted Pooled OLS	Firm RE	Weighted Firm FE	Weighted Pooled OLS	Firm RE	Weighted Firm FE
Panel A: Asset4 rating						
Asset4	**0.066***	**0.033***	0.017	**0.005**	0.003	-0.001
	(4.19)	**(3.70)**	(1.42)	**(2.16)**	(1.45)	(-0.48)
R^2	0.626	0.592	0.615	0.471	0.441	0.538
Modified-Asset4	**0.043***	**0.020**	0.007	0.002	0.002	-0.001
	(2.85)	**(2.39)**	(0.60)	(0.82)	(0.99)	(-0.51)
R^2	0.623	0.590	0.615	0.469	0.441	0.538
Observations (firms)	3,924 (714)			3,927 (714)		
Panel B: TR rating						
TR rating	-0.007	0.010	-0.009	0.000	0.000	-0.000
	(-0.82)	(1.47)	(-1.38)	(0.38)	(0.24)	(-0.09)
R^2	0.547	0.482	0.547	0.764	0.204	0.831
Observations (firms)	4,164 (867)			4,165 (867)		
Panel C: MSCI rating						
MSCI	**0.013**	0.005	0.007	0.001	0.000	0.001
	(2.06)	(1.17)	(1.56)	(1.09)	(1.56)	(0.83)
R^2	0.519	0.429	0.453	0.763	0.749	0.687
Observations (firms)	5,758 (1,095)			5,766 (1,095)		

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Table 8. Predictive Power of Country-Specific Corporate Governance Indices (CSIs) for Overlap Samples

Panel A. Reports coefficients from regressions for Brazil (2004, 2006, 2009), India (2006, 2007, 2012), Korea (1998-2004), and Turkey (2006-2012) of ln(Tobin's q) on normalized country-specific corporate governance indices (CSIs) (from Black et. al., 2014) for subsamples of firm-year observations that are also used in CCGR regressions in Tables 4-6. Thus, for example, Column 1 reports regression results for Brazil CSI for sample that overlaps with Asset4 CCGR. **Panel B.** Each cell reports coefficient from regression, similar to Tables 4-6, of ln(Tobin's q) on indicated CCGR for same sample as in Panel A. **Both panels.** Regressions include firm and year FE, country-specific covariates, and constant term; coefficients on covariates and constant term 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**.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Country	**Brazil**			**India**			**Korea**			**Turkey**		
Sample	Asset4	TR	MSCI	Asset4	TR	MSCI	Asset4	TR	MSCI	Asset4	TR	MSCI
Panel A												
CSI	**0.169***	0.191*	**0.169***	**0.142***	0.075	0.080	-0.032	0.107	-0.029	**0.112**	**0.135**	**0.109**
	(2.89)	(1.94)	**(2.89)**	**(4.05)**	(1.28)	(1.39)	(-1.00)	(1.38)	(-1.01)	**(2.48)**	**(2.82)**	**(2.35)**
Observations	54	32	54	52	61	66	236	57	261	103	104	111
Firms	25	14	25	32	35	39	42	10	47	16	17	18
Within R^2	0.812	0.939	0.812	0.948	0.898	0.899	0.474	0.696	0.442	0.735	0.726	0.724
Panel B												
CCGR	0.028	-0.039*	0.028	-0.073	0.019	-0.022*	-0.006	-0.030*	-0.006	0.042	0.002	0.017*
	(1.34)	(-1.72)	(1.31)	(-1.26)	(0.94)	(-1.68)	(-0.22)	(-1.85)	(-0.57)	(0.77)	(0.14)	(1.83)
Within R^2	0.977	0.472	0.385	0.591	0.407	0.279	0.722	0.324	0.228	0.747	0.790	0.095

Table 9. Correlations Among Country-Specific Governance Indices (CSI) and the CCGRs

Table reports pairwise correlation coefficients between our country-specific corporate governance indices (CSIs) and the CCGRs. * indicates statistical significance at 5% level or better. Number of firm-year observations in parentheses.

Panel A. Correlation between CCGRs for all Emerging Markets

Sample consists of overlapping firm-year observations between CCGR datasets. Number of observations for each correlation is in parentheses.

	Asset4	TR
TR	0.4544*	1
	(3,233)	
MSCI	0.1155*	0.0268
	(1,657)	(1,386)

Panel B. Correlation between CSIs and CCGRs for Brazil, India, Korea, and Turkey

Sample consists of overlapping firm-year observations between Black et al. (2014) and the CCGR datasets for Brazil, India, Korea, and Turkey. Number of observations for each correlation is in parentheses.

	CSIs	Asset4	TR
Asset4	0.1887*	1	
	(877)		
TR	0.1691	0.5157*	1
	(260)	(1,039)	
MSCI	0.0838*	0.1677*	0.0596
	(406)	(892)	(633)

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Table A1. Governance Elements used in Asset4 Rating

Element	Description	Coding
Board Function Subrating		
Audit Comm. Expertise	Does the company have an audit comm. with at least three members and at least one "financial expert" within the meaning of Sarbanes-Oxley?	0/1
Audit Comm. Independence	Percentage of independent board members on the audit comm. as stipulated by the company.	1 if value > country mean, 0 otherwise
Audit Comm. Management Independence	Does the company report that all audit comm. members are non-executives?	0/1
Compensation Comm.	Does the company have a compensation comm.?	0/1
Compensation Comm. Independence	Percentage of independent board members on the compensation comm. as stipulated by the company.	1 if value > country mean, 0 otherwise
Compensation Comm. Management Independence	Does the company report that all compensation comm. members are non-executives?	0/1
Monitoring	Does the company monitor the board functions through the establishment of a corporate governance comm.?	0/1
Nomination Comm.	Does the company have a nomination comm.?	0/1
Nomination Comm. Independence	Percentage of non-executive board members on the nomination comm.	1 if value > country mean, 0 otherwise
Nomination Comm. Involvement	Percentage of nomination comm. members who are significant shareholders (more than 5%).	1 if value > country median, 0 otherwise
Nomination Comm. Management Independence	Are the majority of the nomination comm. member's non-executives?	0/1
Succession Plan for Executives	Does the company have a succession plan for executive management in the event of unforeseen circumstances?	0/1
Board Structure Subrating		
Board Member Affiliations	Average number of other corporate affiliations for the board member.	1 if value < country mean, 0 otherwise
CEO- Chairman Separation	Does the CEO simultaneously chair the board? And has the chairman of the board been the CEO of the company?	0/1
Chairman is ex- CEO	Has the chairman previously held the CEO position in the company?	0/1
Experienced Board	Average number of years each board member has been on the board.	1 if value > country median, 0 otherwise
Independent Board Members	Percentage of independent board members as reported by the company.	1 if value > country median, 0 otherwise
Individual Re-election	Are all board member individually subject to re- election (no classified or staggered board structure)?	0/1
Mandates Limitation	Does the company provide information about the other mandates of individual board members? AND Does the company stipulate a limit of the number of years of board membership?	0/1
Non- Executive Board Members	Percentage of non-executive board members.	1 if value > country median, 0 otherwise
Size of Board	Total number of board members which are in excess of ten or below eight.	1 if value > country median, 0 otherwise
Strictly Independent Board Members	Percentage of strictly independent board members (not employed by the company; not served on the board for more than ten years; not a reference shareholder with more than 5% of holdings; no cross-board membership; no recent, immediate family ties to the corporation; not accepting any compensation other than compensation for board service).	1 if value > country median, 0 otherwise
Term Duration	The interval of years in which the board members are subject to re-election.	1 if value > country median, 0 otherwise
Compensation Policy Subrating		
Compensation Controversies	Is the company under the spotlight of the media because of a controversy linked to high executive or board compensation?	0/1
Individual Compensation	Does the company provide information about the total individual compensation of all executives and board members?	0/1
Long Term Objectives	Is the management and board members remuneration partly linked to objectives or targets, which are more than two years forward looking?	0/1
Policy	Does the company have a policy for performance- oriented compensation that attracts and retain the senior executives and board members?	0/1

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Element	Description	Coding
Stock Option Program	Does the company's statutes or by-laws require that stock-options are only granted with a vote at a shareholder meeting?	0/1
Sustainability Compensation Incentives	Is the senior executive's compensation linked to CSR/H&S/Sustainability targets?	0/1
Vesting of Stock Options/Restricted Stock	The number of years that the company's most recently granted stock options or restricted stocks take to fully vest (since the date of the grant).	1 if value > country median, 0 otherwise
Shareholder Rights Subrating		
Majority Requirements for Election of Directors	Are the company's board members elected with a majority vote?	0/1
Elimination of Cumulative Voting Rights	Has the company reduced or eliminated cumulative voting in regard to the election of board members?	0/1
Confidential Voting Policy	Does the company have a confidential voting policy (i.e., management cannot view the results of shareholder votes)?	0/1
Limited Shareholder Rights to Call Meetings	Has the company limited the rights of shareholders to call special meetings?	0/1
Minimum Number of Shares to Vote	Has the company set requirements for a minimum number of shares to vote?	0/1
Shareholder Rights/Anti- Takeover Devices	The number of anti-takeover devices in place in excess of two.	1 if value > country median, 0 otherwise
Shareholder Rights/Ownership	Is the company owned by a reference shareholder who has the majority of the voting rights, veto power or golden share?	0/1
Shareholder Rights/Shareholder Controversies	Is the company under the spotlight of the media because of a controversy linked to shareholders rights?	0/1
Company Cross Shareholding	Does the company have significant cross shareholding that can prevent takeovers?	0/1
Fair Price Provision	Is the company subject to fair price provision, either under applicable law or as stated in the company documents (charter or bylaws)?	0/1
Golden Parachute	Does the company have a golden parachute or other restrictive clauses related to changes of control (compensation plan for accelerated pay- out)?	0/1
Limitation of Director Liability	Does the company have a limitation of director liability?	0/1
Limitations on Removal of Directors	Are there limitations on the shareholders' right to remove board members (i.e., only for cause, supermajority vote required, etc.)?	0/1
Poison Pill	Does the company have a poison pill (shareholder rights plan, macaroni defence, etc.)?	0/1
Significant Company Transactions (M&A) Shareholders Approval	Limitations to the shareholders right to approve significant company transitions such as M&As (no rights to vote or supermajority required)?	0/1
Single Biggest Owner	The percentage ownership of the single biggest owner (by voting power)	1 if value < country median, 0 otherwise
Staggered Board Structure	Does the company have a staggered board structure?	0/1
Supermajority or Qualified Majority Vote Requirements	Does the company have a supermajority vote requirement or qualified majority (for amendments of charters and bylaws or lock-in provisions)?	0/1
Unlimited Authorized Capital or Blank Check	Does the company have unlimited authorized capital or a blank check?	0/1
Veto Power or Golden share	Does the biggest owner (by voting power) hold the veto power or own golden shares?	0/1
Voting Cap	Does the company have shares with a voting cap (ceilings) clause, ownership ceilings or control share acquisition provision?	0/1
Vision and Strategy Subrating		
CSR Sustainability Comm.	Does the company have a CSR comm. or team?	0/1
CSR Reporting Auditor	Does the company have an external auditor of its CSR/H&S/Sustainability report?	0/1
GRI Report	Is the company's CSR report published in accordance with the GRI guidelines?	0/1
Global Compact Signatory	Is the company a signatory of the Global Compact?	0/1
Global Reporting	Does the company's extra-financial report take into account of the global activities of the company?	0/1
Integrated Strategy	Does the company integrate financial and extra- financial factors in the management discussion and analysis section of the annual report?	0/1
Transparency	Does the company publish a separate CSR/H&S/Sustainability report or publish a section in its annual report on CSR/H&S/Sustainability?	0/1

Table A2. Governance Elements used in TR Rating

Thomson Reuters does not specify how it combined elements into overall scores, or how it deals with missing values. A "1" score on a 0/1 element likely indicates better governance, but for others, likely indicates worse governance. For several elements, Thomson-Reuters explains only that they convert raw scores to a country-specific percentile rank.

Element	Description	Coding
Management Subrating		0/1
Board functions policy	Does the company have a policy for maintaining effective board functions?	0/1
Corporate governance board comm.	Does the company have a corporate governance board comm.?	0/1
Nomination board comm.	Does the company have a nomination board comm.?	0/1
Audit board comm.	Does the company have an audit board comm.?	0/1
Compensation board comm.	Does the company have a compensation board comm.?	0/1
Board structure policy	Does the company have a policy for maintaining a well-balanced membership of the board?	0/1
Policy board size	Does the company have a policy regarding the size of its board?	0/1
Policy board independence	Does the company have a policy regarding the independence of its board?	0/1
Policy board diversity	Does the company have a policy regarding the gender diversity of its board?	0/1
Policy board experience	Does the company have a policy regarding the adequate experience on its board?	0/1
Policy exec. compensation performance	Does the company have a performance oriented compensation policy?	0/1
Policy exec. Compensation performance extra	Does the company have an extra financial performance oriented compensation policy?	0/1
Policy Executive Retention	Does the company have a general, all-purpose policy regarding compensation to attract and retain executives?	0/1
Compensation improvement tools	Does the company have the necessary internal improvement and information tools for the board members to develop appropriate compensation/remuneration to attract and retain key executives?	0/1
Internal audit department reporting	Does the internal audit department report to the audit comm. of the board?	0/1
Succession plan	Does the company have a succession plan for executive management (key board members) in the event of unforeseen circumstances?	0/1
External consultants	Do the board or board comm.s have the authority to hire external advisers or consultants without management's approval?	0/1
Audit comm. independence	Percentage of independent board members on the audit comm. as stipulated by the company.	0 to 1
Audit comm. independence	Does the company report that all audit comm. members are non-executives?	0/1
Audit comm. expertise	Does the company have an audit comm. with at least three members and at least one "financial expert" within the meaning of Sarbanes-Oxley?	0/1
Audit comm. non-exec. members	Percentage of non-executive board members on the audit comm. as stipulated by the company.	0 to 1
Compensation comm. independence	Percentage of independent board members on the compensation comm. as stipulated by the company.	0 to 1
Compensation comm. independence	Does the company report that all compensation comm. members are non-executives?	0/1
Compensation comm. non-executive members	Percentage of non-executive board members on the compensation comm. as stipulated by the company.	0 to 1
Nomination comm. independence	Percentage of non-executive board members on the nomination comm..	0 to 1
Nomination comm. independence	Are the majority of the nomination comm. members non-executives?	0/1
Nomination comm. involvement	Percentage of nomination comm. members who are significant shareholders (more than 5%).	0 1
Nomination comm. non-executive members	Percentage of non-executive board members on the nomination comm. as stipulated by the company.	0 1
Board attendance	Does the company publish information about the attendance of the individual board members at board meetings?	0/1
Number of board meetings	The number of board meetings during the year (converted to country-specific percentile).	0 to 1
Board meetings attendance average	The average overall attendance percentage of board meetings as reported by the company.	0 to 1
Comm. meetings attendance average	The average overall attendance percentage of board comm. meetings as reported by the company.	0 to 1

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Element	Description	Coding
Board structure type	The company has a unitary board structure, a classical two-tier board structure with a supervisory board or a mixed two-tiered board structure with a board of directors and a supervisory board.	0/1
Board size more ten less eight	Total number of board members are in excess of ten or below eight.	0/1
Board Size	Total number of board members at the end of the fiscal year (converted to country-specific percentile).	0 to 1
Board background and skills	Does the company describe the professional experience or skills or the age of every board member?	0/1
Board gender diversity	Percentage of female on the board.	0 to 1
Board specific skills	Percentage of board members who have either an industry specific background or a strong financial background.	0 to 1
Average board tenure	Average number of years each board member has been on the board (converted to country-specific percentile).	0 to 1
Non-executive board members	Percentage of non-executive board members.	0 to 1
Independent board members	Percentage of independent board members as reported by the company.	0 to 1
Strictly independent board members	Percentage of strictly independent board members (not employed by the company; not served on the board for more than ten years; not a reference shareholder with more than 5% of holdings; no cross-board membership; no recent, immediate family ties to the corporation; not accepting any compensation other than compensation for board service).	0 to 1
CEO-Chairman separation	Does the CEO simultaneously chair the board or has the chairman of the board been the CEO of the company?	0/1
CEO board member	The CEO is a board member.	0/1
Chairman is ex-CEO	Has the chairman held the CEO position in the company prior to becoming the chairman?	0/1
Board member affiliations	Average number of other corporate affiliations for the board member (converted to country-specific percentile).	0 to 1
Board individual re-election	Are all board member individually subject to re-election (no classified or staggered board structure)?	0/1
Board member membership limits	The maximum number of years a board member can be on the board as stipulated by the company (converted to country-specific percentile).	0 to 1
Board member term duration	The smallest interval of years in which the board members are subject to re-election (converted to country-specific percentile).	0 to 1
Executive compensation policy	Does the company have a policy for performance-oriented compensation that attracts and retain the senior executives and board members?	0/1
Executive individual compensation	Does the company provide information about the total individual compensation of all executives and board members?	0/1
Total senior executives compensation	The total compensation paid to all senior executives as reported by the company (converted to country-specific percentile).	0 to 1
Highest remuneration package	Highest remuneration package within the company in US dollars (converted to country-specific percentile).	0 to 1
CEO compensation link to TSR	Is the CEO's compensation linked to total shareholder return (TSR)?	0/1
Executive compensation LT objectives	Is the management and board members remuneration partly linked to objectives or targets, which are more than two years forward looking?	0/1
Sustainability compensation incentives	Is the senior executive's compensation linked to CSR/H&S/Sustainability targets?	0/1
Shareholders approval stock compensation plan	Does the company require that shareholder approval is obtained prior to the adoption of any stock based compensation plans?	0/1
Board member compensation	Total compensation of the board members in US dollars (converted to country-specific percentile).	0 to 1
Board member LT compensation incentives	The maximum time horizon of the board member's targets to reach full compensation (converted to country-specific percentile).	0 to 1
Executive compensation controversies count	Is the company under the spotlight of the media because of a controversy linked to high executive or board compensation?	0/1
Mgmt compensation controversies count	Number of controversies published in the media linked to high executive or board compensation (converted to country-specific percentile).	0 to 1
Recent Mgmt compensation controversies	Number of controversies published in the media linked to high executive or board compensation published since the last fiscal year company update (converted to country-specific percentile).	0 to 1
Board cultural diversity	Percentage of board members that have a cultural background different from the location of the corporate headquarters.	0/1
Executive members gender diversity	Percentage of female executive members.	0/1
Shareholders Subrating:	**Shareholders Subrating:**	

Element	Description	Coding
Shareholder rights policy	Does the company have a policy for ensuring equal treatment of minority shareholders, facilitating shareholder engagement or limiting the use of anti-takeover devices?	0/1
Policy equal voting right	Does the company have a policy to apply the one-share, one-vote principle?	0/1
Policy shareholder engagement	Does the company have a policy to facilitate shareholder engagement, resolutions or proposals?	0/1
Dual-class stocks	Does the company have dual-class stocks (class A/B, registered/bearer shares)?	0/1
Equal voting rights	Are all shares of the company providing equal voting rights?	0/1
Voting cap	Does the company have shares with a voting cap (ceilings) clause, ownership ceilings or control share acquisition provision?	0/1
Voting cap percentage	The percentage of maximum voting rights allowed or ownership rights.	0/1
Minimum number of shares to vote	Has the company set requirements for a minimum number of shares to vote?	0/1
Director election majority requirement	Are the company's board members generally elected with a majority vote?	0/1
Shareholders vote on executive pay	Do the company's shareholders have the right to vote on executive compensation?	0/1
Public availability corporate statutes	Are the company's articles of association, statutes or bylaws publicly available?	0/1
Veto power or golden share	Does the biggest owner (by voting power) hold the veto power or own golden shares?	0/1
State Owned Enterprise	Is the company a State Owned Enterprise (SOE)?	0/1
Anti-takeover devices above two	The number of anti-takeover devices in place in excess of two (converted to country-specific percentile).	0 to 1
Poison pill	Does the company have a poison pill in force during the annual period under review?	0/1
Poison pill adoption date	The adoption date of the poison pill that is in force during the annual period under review.	0/1
Poison pill expiration date	The expiration date of the poison pill that is in force during the annual period under review.	0/1
Unlimited authorized capital or a blank check	Does the company have unlimited authorized capital or a blank check?	0/1
Classified board structure	Does the company have a classified board structure?	0/1
Staggered board structure	Does the company have a staggered board structure?	0/1
Supermajority vote requirement	Does the company have a supermajority vote requirement or qualified majority (for amendments of charters and bylaws or lock-in provisions)?	0/1
Golden parachute	Does the company have a golden parachute or other restrictive clauses related to changes of control (compensation plan for accelerated pay-out)?	0/1
Limited shareholders rights to call meetings	Has the company limited the rights of shareholders to call special meetings?	0/1
Elimination of cumulative voting rights	Has the company reduced or eliminated cumulative voting in regard to the election of board members?	0/1
Pre-emptive rights	Does the company grant pre-emptive rights to existing shareholders?	0/1
Company cross shareholding	Does the company have significant cross shareholding that can prevent takeovers?	0/1
Confidential voting policy	Does the company have a confidential voting policy (i.e., management cannot view the results of shareholder votes)?	0/1
Limitation on director liability	Does the company have a limitation of director liability?	0/1
Shareholder rights controversies count	Number of controversies linked to shareholder rights infringements published in the media (converted to country-specific percentile).	0 to 1
Recent shareholder rights controversies	Number of controversies linked to shareholder rights infringements published since the last fiscal year company update (converted to country-specific percentile).	0 to 1
Shareholder approval for significant transitions	Are there limitations to the shareholders right to approve significant company transitions such as M&As (no rights to vote or supermajority required)?	0/1
Fair price provisions	Does the company have fair price provision?	0/1
Limitations on removal of directors	Are there limitations on the shareholders' right to remove board members (ie, only for cause, supermajority vote required, etc.)?	0/1
Advance notice for shareholder proposals	Does the company have deadlines relating to shareholder proposals?	0/1
Advance notice period days	What is the minimum interval prior to the next shareholder meeting beyond which a shareholder proposal will not be accepted?	0 to 1
Written consent requirements	Does the company permit actions to be taken without meeting by written consent?	0/1
Expanded-constituency provision	Does the company have expanded-constituency provisions in place?	0/1

Element	Description	Coding
Earnings restatement	Is the company in the process of a material earnings restatement?	0/1
Profit warnings	Has the company issued a profit warning during the year?	0/1
Litigation expenses	Total of all litigation expenses incurred as reported by the company (converted to country-specific percentile).	0 to 1
Non-audit to audit fees ratio	All non-audit fees divided by the audit and audit-related fees paid to the group auditor (converted to country-specific percentile).	0 to 1
Auditor independence Rotation	The number of years after which the company rotates its statutory auditor (converted to country-specific percentile).	0 to 1
Insider dealings controversies	Is the company under the spotlight of the media because of a controversy linked to insider dealings and other share price manipulations?	0/1
Insider dealings controversies count	Number of controversies published in the media linked to insider dealings and other share price manipulations (converted to country-specific percentile).	0 to 1
Recent insider dealings controversies count	Number of controversies linked to insider dealings and other share price manipulations published since the last fiscal year company update (converted to country-specific percentile).	0 to 1
Accounting controversies	Is the company under the spotlight of the media because of a controversy linked to aggressive or non-transparent accounting issues?	0/1
Accounting controversies count	Number of controversies published in the media linked to aggressive or non-transparent accounting issues (converted to country-specific percentile).	0 to 1
Recent accounting controversies count	Number of controversies linked to aggressive or non-transparent accounting issues published since the last fiscal year company update (converted to country-specific percentile).	0 to 1

Table A3. Governance Elements used in MSCI Index

MSCI does not specify how it combined elements into overall scores, or how it deals with missing values. A "1" score on a 0/1 element likely indicates better governance, but for others, likely indicates worse governance. For several elements, MSCI explains only that they convert raw scores to a country-specific percentile rank.

Element	Description	Coding
Bankruptcy or Liquidation	Is the company currently in receivership, under bankruptcy protection, or facing liquidation?	0/1
Securities Violations	Has the company come under investigation, or been subject to fine, settlement or conviction for issues related to securities fraud, misrepresentation, or deficiencies in investor protection? Flagged if yes within the past two years.	0/1
Executive Misconduct	Has a senior executive of the company been dismissed or faced criminal or other prosecution for personal misconduct or misrepresentation? Flagged if yes within the past two years.	0/1
Financing Difficulties	Is the company experiencing difficulties obtaining needed financing or refinancing support?	0/1
Debt Covenant Concerns	Are there concerns that the company may breach, or already be in breach of existing debt covenants?	0/1
Other High Impact Governance Events	Is the company currently facing other high impact negative events or circumstances, not otherwise specified?	0/1
Threat of Delisting	Is the company currently under threat of exchange delisting?	0/1
Currently Delisted	Is the company currently delisted?	0/1
Independent Board Majority	Do a majority of the directors meet the designated criteria for independence? Flagged if no.	0/1
Executives on Board	Are there other company executives, in addition to the CEO, currently serving on the board?	0/1
No Independent Directors	Is the board composed entirely of directors who do not meet the MSCI ESG Research criteria for independence?	0/1
Combined CEO/Chair	Does the company have a combined CEO/Chairman?	0/1
Executive Chair	Does the company have an Executive Chairman?	0/1
Independent Chair	Can the non-executive chair be classified as independent, based on MSCI ESG Research criteria? Flagged if no	0/1
Chair not Independent & No Independent Lead Director	For companies with a non-independent chair, has the company failed to designate an individually named non-executive lead director or independent deputy chairman?	0/1
Related Party Transactions	Have there been any related- party transactions involving the company Chairman, CEO or other senior executive, a controlling shareholder, non-executive director or a relative of any of these individuals? Flagged if yes within the past two years.	0/1
Entrenched Board	Does the percentage of long-tenured, aging directors suggest a problem with board entrenchment?	0/1
Flagged Directors on Board	Are there directors on the board whose previous history of board service raises concerns about this board's integrity?	0/1
CEOs on Board	Is more than 30% of the board comprised of currently active corporate CEOs from other companies?	0/1
Audit Committee Independence	Are all audit committee members non-executive directors who meet the criteria for independence? Flagged if no.	0/1
Executives on Audit Committee	Are there company executives serving on the Audit Committee?	0/1
Executives on Audit Board	Are there company executives serving on the Audit Board?	0/1
Audit Committee Financial Expert	Does the audit committee lack at least one non-executive member with general expertise in accounting or financial management, based on the MSCI ESG Governance Metrics criteria?	0/1
Audit Committee Industry Expert	Is there at least one non- executive member of the audit committee who has substantial industry knowledge, based on the MSCI ESG GovernanceMetrics criteria? Flagged if no.	0/1
Pay Committee Independence	Where the company has established a pay committee, are there directors serving on the committee who are not independent of management based on MSCI ESG Research's criteria?	0/1
Executives on Pay Committee	Are there company executives serving on the pay committee?	0/1
No Pay Committee and Execs on Board	Does the company lack a standing pay committee, and have current company executives serving on its board?	0/1
Pay Committee Concerns	Is a majority of the pay committee comprised of active CEOs from other public companies?	0/1
Overboarded Non-Exec Directors	Do any of the company's non- executive board members serve on the boards of three or more additional public companies?	0/1

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Element	Description	Coding
Overboarded Exec Directors	Do any of the company's executive board members serve on the boards of two or more additional public companies?	0/1
Overboarded Audit Committee Members	Do any of the members of the audit committee serve on the boards of three or more additional public companies?	0/1
Significant Votes Against Directors	Are there one or more directors on the board who received a negative or withheld shareholder vote in excess of 10% in the most recently reported election (or discharge vote)?	0/1
Gender Diversity	Does the board have at least one female director? Flagged if no.	0/1
Oversized Board	Does the total number of directors on the board exceed local or regional standards?	0/1
Undersized Board	Are there four or fewer directors on the board?	0/1
Board Attendance Failures	Did all members attend at least 75% of all board and committee meetings? Flagged if no.	0/1
Auditor Independence	Did the company pay its auditor less for audit and audit-related services than for other services in the last fiscal year?	0/1
Risk Management Expertise	Is there at least one non- executive member of the board who has general expertise in risk management, based on The MSCI ESG GovernanceMetrics standards? Flagged if no.	0/1
Long-Term Pay Performance	Does the CEO's equity pay fail to reflect the company's TSR performance over the last three and five years?	0/1
Golden Hellos	Has the company provided a golden hello to its CEO or other senior executives? Flagged if yes, within the past year.	0/1
Golden Parachutes	Does the CEO's potential cash severance pay exceed five times their annual pay?	0/1
Advance Disclosure of Performance Targets	Does the company disclose specific and forward-looking numeric performance targets for all components of the CEO's incentive pay structure. Flagged if no.	0/1
Long-Term Pay Performance Versus Peers	Does the CEO's equity pay fail to reflect the company's TSR performance over the last three and five years relative to their Pay Peer Group?	0/1
Short-Term Pay Performance	Did the CEO's short-term incentives fail to rise or fall in line with annual performance?	0/1
CEO Equity Policy	Has the company adopted effective stock ownership guidelines for the CEO? Flagged if no.	0/1
CEO Equity Changes	Has the CEO's stockholding increased or decreased year on year? Flagged if decreased.	0/1
Director Equity Policy	Has the company adopted specific stock ownership guidelines for non-executive directors? Flagged if no.	0/1
Executive Pay Disclosure	Does the company disclose specific pay totals for its top executives, including the CEO? Flagged if no.	0/1
Internal Pay Equity	Does the CEO's total summary pay for the last reported period exceed the median pay for the other named executive officers by more than 3X?	0/1
Clawbacks & Malus	Has the company failed to adopt a clawback or malus policy, applicable to both the annual and long-term incentives, that would recoup incentive compensation based on accounts that were restated at a later date?	0/1
Severance Vesting	Do unvested equity awards lapse when the CEO's employment is terminated? Flagged if no.	0/1
Dilution Concerns	Is the potential dilution in the company's traded shares 10% or greater?	0/1
Run Rate Concerns	Is the company's current run rate contrary to shareholder interests?	0/1
Significant Vote Against Pay Practices	For the most recently reported period, did the company receive a negative vote in excess of 10% against its pay policies and practices?	0/1
CEO Pay Total Annual	Does the most recently reported total annual CEO pay figure fall into an extreme range relative to the company's peers?	0/1
CEO Pay Total Realized	Does the most recently reported total realized CEO pay figure fall into an extreme range relative to the company's peers?	0/1
CEO Pay Total Awarded	Does the most recently reported total awarded CEO pay figure fall into an extreme range relative to the company's peers?	0/1
CEO Shares to Pay Multiple	Does the value of the CEO's shareholding in the company fall within an effective range? Flagged if no.	0/1
CEO Pay Perks & Other Pay	Is the most recently reported CEO perquisites and other pay figure excessive relative to peers?	0/1
CEO Pay NQDC	Is the most recently reported CEO NQDC figure excessive relative to peers?	0/1
CEO Pay Pension	Is the most recently reported CEO pension figure excessive relative to peers?	0/1
Controlling Shareholder	Ownership structure, board independence and related party transactions are all typically different for companies with controlling shareholders than those that are widely held, and are evaluated accordingly. Flagged if there is a controlling or majority.	0/1

Element	Description	Coding
Controlling Shareholder Concerns	Does the company's ownership structure or related party transactions with the controlling shareholder block indicate special concerns for minority public shareholders?	0/1
Dispersed Ownership Concerns	Is the company so widely held that there are no principal shareholders or other large block holders?	0/1
Tracking Stock	Is the company being traded as a tracking stock or similar trading-based entity?	0/1
Cross Shareholdings	Is the company involved in a series of cross-shareholdings with other (related or unrelated) companies?	0/1
Multiple Equity Classes with Different Voting Rights	Does the company have more than one class of equity shares which have unequal voting rights?	0/1
Golden Shares	Does the company's ownership include a "golden shares" provision, which will allow a single large shareholder, usually a national government, to override all other shareholder voting rights?	0/1
Annual Director Elections	Do all directors stand for annual re-election? Flagged if no.	0/1
Strong Classified Board Combination	Does the company have a classified or staggered board in combination with other limitations on shareholder rights that further limit shareholder ability to impact the make-up of the board?	0/1
Majority Voting	Does the company use, or has it adopted majority voting in the election of directors? Flagged if no.	0/1
Proxy Access	Can qualified shareholders place director nominees on the annual meeting agenda? Flagged if no.	0/1
Poison Pill	Has the company adopted a shareholder rights plan ("poison pill")?	0/1
Charter Amendments	Does the company have the unilateral right to amend the company's articles/ constitution without shareholder approval?	0/1
Bylaws Amendments	Does the company have the unilateral right to amend the company's bylaws without shareholder approval?	0/1
Constituency Provision	Does the company have a constituency provision or is it subject to constituency protection under applicable law?	0/1
Business Combination Provision	Does the company have a business provision in place or is it subject to business combination protection under applicable law? Flagged if no.	0/1
Fair Price Provision or Protection	Does the company have a fair price provision in place or is it subject to fair price protection under applicable law? Flagged if no.	0/1
Director Removal Without Cause	Can directors be removed without cause? Flagged if no.	0/1
Shareholder Rights to Convene Meeting	Do shareholders have a right to convene an EGM with 10% or less of the shares requesting one? Flagged if no.	0/1
Shareholder Action by Written Consent	Do shareowners have a right to act in concert through written communication? Flagged if no.	0/1
Say on Pay Policy	Does the company hold regular Say on Pay votes? Flagged if no.	0/1
Voting Rights Limits Shares Held	Are voting rights capped at a certain percentage, no matter how many shares the investor owns?	0/1
Voting Rights Limits Residency	Are voting rights different for domestic or non-resident investors?	0/1
Voting Rights Limits Duration	Are voting rights different depending on the duration of ownership?	0/1
Voting Rights Limits Min Holding Period	Does the company require a minimum holding period in order to vote?	0/1
Confidential Voting	Does the company provide confidential voting, barring reasonable exceptions? Flagged if no.	0/1
Cumulative Voting	Does the company allow cumulative voting in the election of directors? Flagged if no.	0/1
Revenue Recognition	Are there forensic accounting ratios related to revenue recognition that have extreme values either relative to industry peers or to the company's own history?	0/1
Expense Recognition	Are there forensic accounting ratios related to expense recognition that have extreme values either relative to industry peers or to the company's own history?	0/1
Asset-Liability Valuation	Are there forensic accounting ratios related to asset-liability valuation that have extreme values either relative to industry peers or to the company's own history?	0/1
Accounting Investigations	Has the company come under investigation, or been subject to fine, settlement or conviction for issues related to its accounting practices? Flagged if yes within the past two years.	0/1
Auditor Report Concerns	Has the company's independent auditor expressed a qualified opinion, or questioned the company's ability to remain a going concern? Flagged if yes for the most recently reported period.	0/1

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Element	Description	Coding
Internal Controls	Is there evidence of material weakness in the company's internal control systems?	0/1
Restatements or Special Charges	Does the company have a history of significant restatements, special charges or write-offs? Flagged if yes over the past two years.	0/1
Late Filings	Is the company currently late in filing its quarterly or annual reports, or its annual proxy?	0/1

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Table A4. Country-level Regressions from BCKKY (2014)

The table reproduces results from country-level firm random effects (RE) and fixed effects (FE) regressions of ln(Tobin's q) on normalized country-specific indices (CSIs) for Brazil, India, Korea, and Turkey reported in Table 3 of BCKKY (2014). Coefficients on country-specific covariates are suppressed. t-statistics with firm clusters in parentheses. R^2 is overall for RE; within for FE. *, **, and *** respectively indicate significance levels at 10%, 5%, and 1% levels. Significant results (at 5% level or better) are in boldface.

Country (years)	Brazil (2004-2009)		India (2006-2012)		Korea (1998-2004)		Turkey (2006-2012)	
Method	RE	FE	RE	FE	RE	FE	RE	FE
Normalized Country *CGI*	**0.112*****	0.074	**0.066*****	**0.079****	**0.048*****	**0.044*****	**0.073*****	**0.074*****
	(2.97)	(0.95)	**(2.63)**	**(2.30)**	**(6.28)**	**(5.17)**	**(3.17)**	**(3.00)**
(w. industry clusters)	**(2.91)***	(0.95)	(1.86)*	(1.71)*	**(6.86)***	**(7.80)***	**(4.39)***	**(4.14)***
No. of industry clusters	38	26	32	29	48	47	35	35
Covariates, constant, year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	236	158	636	435	3,285	3,270	1,126	1,126
Number of firms	159	81	399	198	669	654	196	196
R^2	0.385	0.457	0.363	0.365	0.527	0.383	0.412	0.480

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