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Methods for multicountry studies of corporate governance: Evidence from the BRIKT countries*



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ABSTRACT

We discuss empirical challenges in multicountry studies of the effects of firm-level corporate governance on firm value, focusing on emerging markets. We assess the severe data, "construct validity", and endogeneity issues in these studies, propose methods to respond to those issues, and apply those methods to a study of five major emerging markets—Brazil, India, Korea, Russia, and Turkey. We develop unique time-series datasets on governance in each country. We address construct validity by building country-specific indices which reflect local norms and institutions. These similar-but-not-identical indices predict firm market value in each country, and when pooled across countries, in firm fixed-effects (FE) and random-effects (RE) regressions. In contrast, a "common index", which uses the same elements in each country, has no predictive power in FE regressions. For the country-specific and pooled indices, FE and RE coefficients on governance are generally lower than in pooled OLS regressions, and coefficients with extensive covariates are generally lower than with limited covariates. These results confirm the value of using FE or RE with extensive covariates to reduce omitted variable bias. We develop lower bounds on our estimates which reflect potential remaining omitted variable bias.

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1. Introduction

Studies of whether firm-level corporate governance affects firm market value face three core, related obstacles to identification. These can be broadly classified as "construct validity" (see Shadish et al., 2002); limited data; and endogeneity. Data and construct validity concerns are especially severe in multicountry studies and in emerging markets, which are the focus of this study.

Construct validity is central in corporate governance research, yet is rarely addressed. A governance index is a construct that imperfectly measures unobserved underlying governance. There is no direct way to quantify the gap between the construct and the underlying concept. Moreover, what matters in corporate governance often depends on local norms and institutions, which vary widely

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across countries. Thus, particular elements of a governance index may fit underlying governance well in some countries but poorly in others.

A second core problem is lack of data on governance. Time-series data are scarce. Often, data on particular governance elements are available in some countries but not in others. As we show, it is impossible to use public data to build a broad governance index based on common elements (a "common index"), even across the five countries we study. It is nearly impossible to do so even if one can rely on nonpublic data from surveys of firms, as we do in Brazil, India, and Korea. The best common index we can build has weak predictive power, perhaps because it is a poor measure of underlying governance.

The third core problem is endogeneity, which comes in several forms. Omitted variable bias is of particular concern. In individual countries, one can sometimes find natural experiments that provide identification for particular aspects of governance. In a multicountry study, this research design is not feasible. The next best approach, and the one we pursue here, is to build panel data and use firm fixed or random effects, plus extensive covariates, to limit (but not eliminate) omitted variable bias.

Most prior research on the relationship between corporate governance and market value in emerging markets suffers from these problems. The literature contains two principal strategies: single country studies ("deep and narrow") and "massively multicountry" studies that use a common index and pool firms across many countries ("broad and shallow"). Single country studies suffer from limited sample sizes and lack of generalizability. Massively multicountry studies can provide reasonable sample sizes and are potentially generalizable, but to date, have failed to address these three core obstacles to credible inference.¹

We propose methods to respond to these challenges and then apply the methods to a study of five major emerging markets: Brazil, India, Korea, Russia, and Turkey ("BRIKT" countries).² Together, these countries provide a representative sample of moderately developed emerging markets. They differ in many ways, including legal traditions, language, culture, geographic location, and background legal rules.

We address data limitations by compiling, largely by hand, time-series data on governance in each country. Our data covers many though not all public firms in each country. Our overall dataset is, we believe, close to the best that researchers can currently build across multiple emerging markets.

We address construct validity by building country-specific corporate governance indices ("country *CGI*") which reflect local norms and institutions. Each is comprised (data permitting) of "subindices" for board structure, board procedure, disclosure, ownership structure, minority shareholder rights, and control of related party transactions.

Each subindex consists of one or more governance "elements" that seek to capture specific aspects of governance that we consider relevant in each country. The subindices for each country

are broadly similar, but the individual elements vary across countries, and reflect the norms, institutions, and data limitations in each country. In contrast, prior multicountry studies rely on a common index, comprised of the same elements in each country. Our approach – conducting a multicountry study using similar-but-not-identical country indices – can be seen as a "middle way" between single-country studies, from which it is hard to generalize, and massively multicountry studies.³

Using our country *CGI* indices, we assess whether governance predicts firm market value (proxied by Tobin's *q*) in each country, in firm fixed effects (FE) and random effects (RE) specifications. We find positive coefficients on country *CGI* in all five countries, which are statistically significant in RE (in all five countries) and in FE (in all but Brazil). We then pool the indices across our countries (except Russia, which we cannot use when pooling), to create a Pooled *CGI* index. We find strong evidence with both RE and FE that Pooled *CGI* predicts higher Tobin's *q*.

We also generate a "Common Index," which consists of the 15 elements available in all four countries and useful in at least two of them (we require usefulness in two countries because we seek to assess the relationship between governance and Tobin's *q across countries*). The Common Index has weak predictive power with RE and none with FE. In regressions including both the Common Index and either Pooled *CGI* or a "Pooled Non-Common Index" built from the remaining elements, the Common Index has no power to predict Tobin's *q*. Instead, power comes entirely from the country-specific elements included in the Pooled Non-Common Index.

Omitted variable bias is important. In both individual country and pooled regressions, coefficients on *CGI* are generally higher in weaker designs (pooled OLS versus RE; RE versus FE). This suggests that firm effects are important and that an FE specification is preferred, if feasible. Coefficients are also generally higher with fewer covariates. This provides evidence that to limit omitted variable bias, extensive covariates are important, in addition to firm effects. In multicountry studies that use regressions on pooled data across countries, it is important to interact the covariates with country dummies, thus allowing for country-specific "response surfaces."

We then assess the sensitivity of our estimates to remaining omitted variable bias using two sets of bounds, adapted respectively from Hosman et al. (2010) and Altonji et al. (2005). These bounds use the sensitivity of coefficient estimates to *included* covariates to estimate lower bounds on those coefficients under assumptions about the extent of bias from omitted covariates. The lower bounds are positive in all cases and statistically significant for Pooled *CGI*, Korea, Russia, and Turkey, and, for Altonji et al. bounds. India.

We study here only emerging markets. But the concerns we raise with common indices also apply to multicountry indices in developed markets such as the Institutional Shareholder Services index (e.g., Aggarwal et al., 2009), widely used indices of anti-director rights and creditor rights (La Porta et al., 1997, 1998), and measures of economic competitiveness (e.g., World Bank, 2013). In all these areas, we face a choice between a common index, whose elements may poorly capture the underlying concept in some countries, and richer, country-specific measures with uncertain generalizability.

This paper proceeds as follows. Section 2 describes our country-level governance indices. Section 3 develops our methodology. Section 4 presents results for individual countries. Section 5 presents pooled cross-country results. Section 6 contains sensitivity analyses, and Section 7 concludes.

¹ Studies using this approach include Durnev and Kim (2005); Klapper and Love (2004); Dahya et al. (2008, board independence); Doidge et al. (2007). We skip a literature review, and refer readers to the recent review by Claessens and Yurtoglu (2013); see also Black et al. (2012); Brown et al. (2011).

² BRIKT is a play on the World Bank's use of the BRIC (Brazil, Russia, India, China) countries as key emerging markets. See http://en.wikipedia.org/wiki/BRIC. Some would add Turkey. We study Korea instead of China because the dominance of state-controlled firms in China means that generalizability is suspect. We also put aside studies of firm-level governance in developed markets, which raise different governance concerns than emerging markets (Bebchuk and Hamdani, 2009), and have less severe data constraints. We focus on whether firm-level governance affects firm value and do not address here how country level governance affects capital markets and economic performance. See, e.g., La Porta et al. (1997, 1998).

³ This research complements our studies of individual countries. See, e.g., Black et al. (2012); De Carvalho and Pennacchi (2012) (Brazil); Balasubramanian et al. (2010); Black and Khanna (2007); (India); Black et al. (2006a); Black and Kim (2012); (Korea); Black et al. (2006, Russia); Ararat et al. (2014, Turkey).

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