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Predicting Changes in Corporate Governance in Emerging Markets

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Predicting Changes in Corporate Governance in Emerging Markets

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Abstract

This paper investigates what predicts *changes* in corporate governance in emerging markets. To conduct this study we utilize a unique data set from AllianceBernstein that consists of monthly firm-level corporate governance ratings for 24 emerging market countries for almost seven years. Since the AllianceBernstein ratings are time-series data, they allow us to determine the direction of changes in a firm's corporate governance, and when these changes take place. Using these data we find that in some cases, increases in firm size are significantly related to improvements in governance. However, we also find that changes in country conditions or firm characteristics, other than size, are generally not related to changes in firm level governance. Indeed, we find that even changes in firm valuation do not generally predict future changes in firm governance. Our results suggest that changes in firm governance are difficult to predict.

JEL Classification G34

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I. Introduction

A large literature has generally found that better governance is linked to better performing and valued firms in emerging markets.[1] Yet in spite all this evidence, and the clear incentive to improve their governance, many similar firms make very different governance choices. To better comprehend why firms choose different governance schemes one needs to examine what predicts firm governance in these emerging economies. This paper adds to this discussion.

There are number of papers that have begun to examine what factors predict firm governance decisions in emerging markets. However, the findings of these papers have been disparate. For example, Doidge, Karolyi and Stulz (2007) and Durnev and Fauver (2010) find that country conditions explain much more of the variance in firm governance ratings than firm characteristics. Indeed, according to Doidge, Karolyi and Stulz (2007) firm characteristics don't predict governance much at all. Conversely, Black, Jang and Kim (2006b), Durnev and Kim (2005), Klapper and Love (2004) and Klapper, Laeven and Love (2006) all find that some firm characteristics are important to governance decisions, however they find that quite different firm characteristics are predictive.

[1] Many studies have found this relationship in emerging markets. In single country studies the list includes Braga-Alves and Shastri (2011) (Brazil); Atanasov, Black, Ciccotello, and Gyoshev (2010) (Bulgaria); Bai et al. (2004) and Beltratti and Bortolotti (2006) (China); Black and Khanna (2007), Balasubramanian, Black and Khanna (2007) (India); Black, Jang and Kim (2006a), Black and Kim (2008), Black, Kim, Jang and Park (2008) (Korea); and Black (2001) and Black, Love and Rachinsky (2006) (Russia). In addition there are a number of cross country studies that have documented the same relationship. These include Klapper and Love (2004), Durnev and Kim (2005), Doidge, Karolyi and Stulz (2007), De Nicolò, Laeven, and Ueda (2008), Aggarwal et al. (2009), Chhaochharia and Laeven (2009), Durnev and Fauver (2010) and Morey et al. (2009). Also for an excellent recent survey see Love (2010). Also the same positive relationship between governance and performance has been found in the U.S. in Gompers, Ishii, and Metrick (2003), Bebchuk, Cohen, and Ferrell (2009), Larcker, Richardson and Tuna (2007) and Brown and Caylor (2009).

Case in point, while Durnev and Kim (2005) find that firm growth, the firm's need for equity finance, and the amount of inside ownership predict better governance, Black, Jang and Kim (2006) find that none of these characteristics are significant. Instead they find that firm size and firm risk predict better governance but little else does. To make matters even more complicated, Klapper and Love (2004) find that capital intensity of the firm is a predictor of worse governance while the other papers do not find such a conclusion. Indeed, the one consistent finding seems to be that a few factors, if any, consistently predict governance. In fact, Black, Jang and Kim (2006b) test 17 different factors and many controls, and find that only firm size and firm risk have any consistent predictive ability governance in Korea. Indeed, other than these two variables nothing else predicts governance decisions in Korea. In another paper, Balasubramanian, Black, and Khanna (2010) also find that very little predicts governance when examining governance decisions in India.

In this paper we also examine what factors predict firm governance in emerging markets. However, we do this in a different way than the previously mentioned papers. While the other papers all use cross-sectional data, in this paper we use a dataset from AllianceBernstein that consists of monthly, time-series, firm-level, corporate governance ratings for 24 emerging market countries that span almost seven years. These data allow us to examine *changes* in corporate governance. Hence, while previous studies can examine what country and firm characteristics are linked to better governance, we can examine what, if anything, is causing firm governance to *improve* or *deteriorate* over a period of time. We feel this is worthy supplement to the cross sectional approach as it

allows us to see the effects of changes (in the country and in the firm) on governance and thus assess if such changes are worth pursuing to improve governance.

The rest of this paper is organized as follows. Section II describes the data used in the study. Section III provides the methodology. In Section IV and V we present our results and we conclude with Section VI.

II. Data

II.a. AllianceBernstein Corporate Governance Ratings

Our study utilizes corporate governance ratings compiled by AllianceBernstein. These ratings were used for internal purposes at AllianceBernstein and have been used by Morey, Gottesman, Baker and Godridge (2009). They are constructed by AllianceBernstein to improve investment decision making in emerging markets. The ratings are calculated every month for all firms within the AllianceBernstein Capital Emerging Market Universe during the period November 2001 through September 2008 (83 months). The AllianceBernstein Capital Emerging Markets Universe consists of approximately 500 firms from many emerging market countries. Inclusion in the AllianceBernstein universe is determined by firms' inclusion in indexes generated by index providers, particularly the Morgan Stanley Capital International Emerging Markets Index (MSCI EM). While the AllianceBernstein data do not include a number of non-growth oriented firms in the MSCI EM, it does consistently include about 75 percent of the total market capitalization of MSCI EM.[2]

[2] AllianceBernstein does not run a quantitative screen to determine which firms to include in their universe. Instead, this is determined on a case-by-case basis. One of the requirements for inclusion in the AllianceBernstein Capital Emerging Markets Universe is that firms provide enough information so that corporate governance ratings can be assessed.

One issue that we should note here is that since the firms in the MSCI EM are generally large firms, the AllianceBernstein ratings are disproportionately focused on large firms and do not cover small firms much. As a result, we can't assess what predicts the governance of smaller firms.

As stated above, the corporate governance ratings are calculated on a monthly basis for each firm within the AllianceBernstein universe. The ratings are based on AllianceBernstein analysts' answers to a questionnaire that consists of 58 questions.[3] The questions primarily require answers of yes or no, with scores provided for each yes or no answer. For example, one question asks "Is senior management accessible to investors?" If the analyst answers "yes" then the firm receives five points; if the analyst answers "no", then the firm receives zero points. The highest possible score, representing the highest firm-level corporate governance rating that a firm can receive, is 111 while the lowest is a zero.

We repeatedly requested permission from AllianceBernstein to disclose the full questionnaire but its executives would only allow a broad sketch of what is contained in the questionnaire as they felt that their competitors would gain from such disclosure. Given that they were generous enough to provide us the data, we respected their position.[4] Despite the lack of full disclosure, we provide some broad outlines of the questionnaire below:

The questionnaire is divided into seven sections. We detail these below:

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[3] Note that the analysts who answer the questionnaire all live in the same region as the firms they survey. Most grew up in the local culture and speak the local language. Also, most of the analysts have advanced graduate degrees from top U.S. and foreign business and economics programs and have extensive experience as analysts.

[4] For more questions regarding the questionnaire contact Ben Godridge at Benjamin.godridge@alliancebernstein.com.

1. Information Disclosure

This section determines whether the company produces financial reports in a timely fashion, maintains an English language webpage, has an American Depositary Receipt (ADR), and other disclosure issues. There are eight questions with the highest possible score being an eight. Hence only eight out of 111 points, or about seven percent of the final firm-level corporate governance score, come from this section.

2. Management Access and Fair Disclosure

This section deals with the accessibility of management, the usefulness of investor relations, the dissemination of information and issues surrounding possible insider trading. There are five questions with the highest possible score being a 12. Hence, about 11 percent of the score is formed from this section.

3. Representation of Data (Accounting)

The questions in this section examine the rigor and consistency of accounting methods, treatments of items such as goodwill, deferred taxation, research and development, and auditor independence. The questionnaire also evaluates transactions such as related-party loans and takes into account the company's accounting track record, deducting points for a change in auditors or qualification to the financial statements in the past five years. There are ten questions in this section worth a total of 13 points (about 12 percent of the overall score).

4. Value Creation

This section examines whether management understands the concept of value creation and has a track history of creating value. Issues include stability of management and compensation packages that are linked to suitably challenging performance criteria.

The analyst has to determine whether the company is clearly articulating a business direction. There are nine questions in this section worth a total of 24 points (about 22 percent of the overall score).

5. Board and Shareholder Structure

The questionnaire also examines board and ownership structure. The questionnaire contains questions on whether the board of directors is suitably qualified, including whether they have been convicted of bribery or fraud in the last three years. The questionnaire also examines the degree of board independence and uses the best practices of the Institute of International Finance's Code of Corporate Governance as the role model for board independence. There are 12 questions in this section worth a total of 24 points (about 22 percent of the overall score).

6. Capital Management

This section examines the degree of the firm's capital efficiency, and whether the capital is used for the benefit of minority shareholders. For example, the questionnaire asks whether the company is making satisfactory use of its cash flow in the form of dividends or share buybacks, hedging its risks adequately and using appropriate sources of financing for projects and acquisitions. There are seven questions in this section worth 14 points (about 13 percent of the overall score).

7. Ethics, Social Responsibility and Other

In this section the questionnaire asks if the company has a code of ethics, whether it has an equal opportunity policy and whether it explicitly avoids employing under-age labor. It also asks whether the company does business in countries that support terrorism or deals with parties suspected of terrorist activity. In addition, analysts are required to

answer the most subjective question of the questionnaire, "Do you trust management?" This question is asked because experience has shown that management's statements may be accurate, but they may still behave in a way that hurts minority shareholders. There are nine questions in this section worth 16 points (about 14 percent of the overall score), with the "Do you trust management" question receiving five points (about 4.5 percent of the total score) for a yes answer.

To calculate the firm-level corporate governance ratings, AllianceBernstein gives firms an A rating if their total score is above 84 out of a total of 111 points; a B rating if their score is between 56 and 83; a C rating if their score is between 28 and 55; and a D if their rating is 27 or below (note that there are no D rated firms in our sample).

Finally, at the completion of the questionnaire, the analyst is asked to provide a directional indicator as to whether he or she thinks the firm's corporate governance is improving or deteriorating. If improving, the analyst gives a plus sign, if deteriorating the analyst gives a minus sign, and if no change is perceived then the analyst provides no sign. The plus or minus sign is then added to the above-mentioned grade to arrive at the final grade. Hence, a firm that scored a 77 on the questionnaire and was seen by the analysts as improving its corporate governance would receive a final grade of B+.

While it would extremely useful to have the raw scores from the questionnaire, to examine, for example, how each firm scored/changed in terms of the seven categories on the questionnaire, the raw scores are not available to us as prior to 2008 AllianceBernstein did not save scores for further use. Moreover, AllianceBernstein is not willing to provide scores for the period since 2008 due to privacy concerns. Hence, the only data we have are the A, B, C, and D ratings and the plus and minus signs. Still, even

with the disclosure constraints imposed by AllianceBernstein, we feel our data are extremely useful as, to the best of our knowledge, they represent the first cross-country time series data on corporate governance in emerging markets.

II.b. International Country Risk Guide Country Governance Indices

Measuring *changes* in country conditions is a difficult exercise as the measures used by the previous literature are based on cross-sectional studies and thus only provide levels of country conditions rather than changes. For example, Doidge, Karolyi and Stulz (2007) use country-level variables from three previously completed studies that are based on slightly varying time periods.

Since the previous studies data do not allow us to directly measure changes in country conditions we instead use the International Country Risk Guide (ICRG) indices provided by Political Risk Services (PRS). These indices solve the problem of computing changes in country conditions as they are time series data. More specifically, the indices are updated monthly for 140 countries for a period beginning in the mid-1980's for most countries. ICRG calculates three types of country risk indices: an economic risk index (*ICRGE*), a financial risk index (*ICRGF*), and a political risk index (*ICRGP*). These indices range from zero through 100, with country risk increasing as the index declines. They have been used in previous literature, notably Bekaert, Harvey and Lundblad (2005, 2006).

The *ICRGE* index is composed of five variables: GDP per capita, real GDP growth, the annual inflation rate, the budget balance as percentage of GDP, and the current account balance as a percentage of GDP. The *ICRGF* index is also composed of five variables, which are foreign debt as percentage of GDP, foreign debt as a percentage

of exports of goods and services, current account as a percentage of exports of goods and services, a measure of international currency reserves, and a measure of exchange rate stability. The *ICRGP* index is composed of twelve variables. These include government stability, socioeconomic conditions, corruption, law and order and other variables related to the political climate of the country. In Appendix A we explain in detail the various variables used in the ratings.

Although the ICRG indices allow us to examine changes in country conditions, they are not without limitations. For example, ICRG does not have specific data on investor protection and hence we cannot specifically examine *changes* in investor protection laws. This is a serious limitation because other papers such as Doidge, Karolyi and Stulz (2007) and Klapper and Love (2004) have found that stronger investor protection laws are predictive of better firm governance. Furthermore, while the ICRG data do contain information about efficiency of the legal system (one of the components of the ICRGP measure is "law and order") there is very little change in this measure during the time period of our sample. This is another limitation as some authors have found that legal efficacy is an important ingredient for fostering better firm governance.

II.c. Firm characteristics

To measure changes in firm characteristics we use data from Worldscope. We use the natural log of firm sales (in U.S. dollars), the debt-to-equity ratio, one-year sales growth, standard deviation of the daily returns over a year, and capital expenditure (CAPEX) to the sales rartio. These data are provided on an annual basis for years 2001-2008. For market valuation purposes we use *Tobin's Q* and the definition used by Klapper and Love (2004), i.e., market value of equity plus total liabilities divided by total assets. The

market value of equity is determined using the month-end price in local currency and the total liabilities and total assets are determined on an annual basis in local currency from the end of the last fiscal year. We discuss the rationale for using these variables in the next section.

We also obtain information from Thompson One Banker, Bank of NY Mellon's DR Directory and Citibank's DR Universe as to whether and when a firm in our sample introduced an American Depositary Receipt (ADR) during the period of our sample, November 2001-September 2008.

III. Methodology

We use an approach where the dependent variable is the *change* in the corporate governance rating between the latest and earliest monthly observations of the firm in the AllianceBernstein corporate governance ratings in our sample. We do this as it gives us the longest possible time horizon and thus avoids the issue of limited short-run change in country or firm characteristics. For some firms, the period between the latest and earliest rating observations represents the difference in the AllianceBernstein ratings between the last month of the sample (September 2008) and the first month of the sample (November 2001), but for other firms the period between the last and first observations are considerably shorter in duration. Indeed, the mean number of months between the latest and earliest observations was 47.50 months.[5] The reasons that some firms are rated for only a shorter duration are that the firms merge and or disappear, or that AllianceBernstein no longer considers the firm among its investment universe. The latter

[5] Note that if the difference between the latest and earliest AllianceBernstein rating observations was a year or less, we did not include the firm in our sample.

happens more frequently when the analysts change and the new analyst decides to focus on a different set of firms.

To measure the change in the AllianceBernstein ratings between the latest and earliest observations we use the following. Since the + and – values are not based on the questionnaire survey but rather the analysts own opinion of whether the firm's governance is improving or deteriorating, we do not use them in our analysis of governance change. [6] Instead we only use the A, B and C ratings themselves to determine the governance of the firm (note that there were no firms with a D rating in our sample).[7] Using these A, B and C ratings we then define firms into three categories: 1) firms that improved their governance rating between the earliest and latest observations; 2) firms that did not change their rating between the earliest and latest observations; 3) firms that had their governance rating reduced between the earliest and latest observations.[8] These three categories are then used to create a trichotomous dependent variable where category

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[6] In a previous version of the paper we used the + and – directional indicators as measures of governance. We defined the highest rating, an A+, as a 9, and then for each rating that is a quarter grade lower we subtract 1. As a result, the second highest rating, an A, is equal to 8, an A- rating receives a 7; while the lowest rating in our sample, a C-, receives a 1. Thus a firm whose latest rating observation was an A- and earliest rating observation was a B- would have a change of +3 over the period of observation. Conversely, a firm whose latest rating was a B- and earliest rating observation was a B+ would have a change of -2. This method did produce much more change in the ratings. Indeed, the standard deviation of the ratings changes was 1.71 using this method as opposed to 0.53 using the method without the directional indicators (A, B and C only). We then regressed the change in the ratings between latest and earliest observations on the changes in the country and firm characteristics using OLS (rather than the ordered logit regressions approach in this version). But the results from using this method were very similar to those presented in the paper using the letter grades only. As a result we do not provide these results. They are available upon request.

[7] We thank an anonymous referee for this suggestion.

[8] Note that there were only two cases where firms changed from a C to A and only three cases where firms changed from an A to C between the earliest and latest observations. Since there were so few of these cases we use the methodology described above that divides the firms into only three categories.

1 receives a 1, category 2 receives a 0, and category 3 receives a -1. We then use ordered logit regressions.

For the independent variables, we first use the changes in the economic, financial and political risk (ICRGE, ICRGF and ICRGP) indices of the country where the firm resides over the period between the firm's latest and earliest AllianceBernstein corporate governance rating. For example, for a firm with an initial AllianceBernstein rating observation in June 2002 and its last in May 2006, would have a period of 48 months. Moreover assume this firm was located in Brazil. Hence the changes in ICRGE, ICRGF and ICRGP would be changes in Brazil's ICRGE, ICRGF and ICRGP over the period May 2006 to June 2002. [9]

In addition to the changes in country risk, we also use as independent variables the *changes* in the firm's natural log of sales, debt ratio, Tobin's Q, sales growth, CAPEX to sales ratio, and standard deviation of the returns over the period between the latest and earliest AllianceBernstein corporate governance rating observations. Hence, again, if the firm's earliest governance rating observation was in June 2002 and its latest was in May 2006, the change in sales, debt ratio and Tobin's Q would be defined as the change over the period from May 2006 to June 2002.[10] Our rationale for using these variables is that

[9] In addition to the above, we also estimated an alternative specification of equation (1) in which we used an even longer time horizon for changes in country risk. Specifically we use the same specification as equation (1) except that we calculate the change in the ICRG indices for three extra years before the earliest AllianceBernstein rating observation for each firm so as to allow for even more change in the ICRG indices as the ICRG indices often do not indicate much change over our sample periods. The results from this alternative specification were similar to those found using equation (1) so we do not include them in the results. They are available upon request.

[10] Note that besides Tobin's Q, the firm characteristic data are only available on an annual basis. Specifically, the data are culled from the firm's annual report which is produced at the fiscal year end (which could be any time during the year). In all cases, we use the firm characteristic data that are the closest to the monthly rating observation. For example, consider a situation where the fiscal year end of the firm was September and yet the firm's last AllianceBernstein rating observation was in May 2006 and its first was in June 2002. For this situation, we would define the change in the firm's sales and debt to equity

firm sales (a proxy for size), the debt-to-equity ratio (a proxy for external financing), sales growth (a proxy for growth of the firm), and CAPEX (a proxy for the capital intensity of the firm) have been found by Klapper and Love (2004) and Durnev and Kim (2005) to be related to better governance. Similarly, we use the standard deviation of returns (a proxy for the risk of the firm) as Black, Jang and Kim (2006b) find that this variable is related to firm governance. We use Tobin's Q as it has been widely speculated that governance decisions may arise out of market valuation changes rather than the reverse.

We also add a dummy to indicate whether the firm added an ADR during the time period between the latest and earliest AllianceBernstein rating. We do this as Lang, Lins and Miller (2003) and Doidge, Karolyi and Stulz (2004) have documented that overall governance increases when firms cross-list on foreign exchanges. Finally, we also use industry and country dummies to control for any possible industry or country effects that may exist as Gillian, Hartzel and Starks (2004) have found that industry is an important predictor of governance.

IV. Results

Our results are presented in Tables 1-6. In Table 1 we present descriptive statistics on our sample of 318 firms. The mean number of months between the earliest and latest AllianceBernstein rating observations is approximately 47.50 months. There are 39 firms that have a governance rating for the first and last months of our sample (November 2001 and September 2008) while there are 122 firms where the difference between the first and last rating observations is between 12 and 35 months. Out of 318 firms we have 227

between September 2006 and September 2002.

firms that had no change in the governance ratings. There were 38 firms that experienced declines and 53 firms that experienced increases in governance.[11]

In Table 1 we also report the mean percentage change in the $ICRG_{latest}$ – $ICRG_{earliest}$ for each of the three ICRG measures. Hence, a positive (negative) indicates that the ICRG measure increased (decreased) from the beginning of the sample to the end of the sample. As can been seen, the mean percentage changes in the ICRGE, ICRGF and ICRGP are 4.23, 2.29 and 2.13 respectively, indicating that, on average, countries in which the firms are located have reduced their country risk over time (again as the ICRG measures increase, country risk is reduced).

Finally Table 1 also presents the mean changes in firm characteristics (presented as raw changes rather than percentage changes) between the latest and earliest AllianceBernstein rating observations, i.e., ($\ln(Sales_{latest)}$ – $\ln(Sales_{earliest})$, $Debt_{latest}$ – $Debt_{earliest,}$ and $TobinQ_{latest}$ – $TobinQ_{earliest}$), and the number of firms that introduced an ADR during the period between the latest and earliest AllianceBernstein rating observations. As can been seen, the mean size of the firm (as proxied by sales) and debt of the firms increased over the interval between the earliest and latest rating observations. Also note that there were 24 firms that took on ADRs during the observation period.

In Table 2 we present the number of firms by country and industry. Of the 24 countries, Taiwan, South Africa, Brazil, India, South Korea, and Hong Kong have the largest numbers of firms. In Table 3 we present the correlations between the variables used in this study. None of the correlations are at a high level.

[11] Again, when we used the directional indicators (+ and -) as measures of governance we obtained more variance in the changes in the ratings. See footnote 6 for more.

Our results of estimating ordered logit regressions are presented in Table 4, where we present several specifications of the regression results. Note that in all the regressions we present coefficient values. We find that change in size (as proxied by change in sales) is consistently positive and significant at one percent level. Hence, as firms get larger they do tend to improve their governance. However, other than changes in firm size, we find little else that is significantly related to changes in governance.

Our findings that only change in size predicts governance is quite consistent with Black, Jang and Kim (2006b) who study what predicts governance in Korea. They also find that only firm size (and to lesser extent firm risk) is positively related to better firm governance. They find that no other variables are related to firm governance and conclude that governance is difficult to predict.

As a robustness check for our results in Table 4 we also use generalized estimating equations (GEE), which were introduced by Liang and Zeger (1986) as an extension of generalized linear models to accommodate the modeling of correlated data, with *levels* rather the *changes* in the independent variables. To do this we do the following. For each fiscal year in our sample we find whether the firm's governance rating increased, decreased, or remained the same during that year. We then create a dichotomous dependent variable in which a 1 represents that the firm i's Alliance Bernstein governance rating has improved and a 0 represents that the governance rating did not improve at the end of each fiscal year. We then regress this dichotomous dependent variable against the fiscal year *levels* of the country and firm characteristics. We then pool these results for each fiscal year and estimate the regression. We estimate robust standard errors to account for clustering at the firm level and assume that the

governance choices follow an first-order autoregressive AR(1) process. Dummies are included to control for year effects.

We repeat the above using a different dichotomous variable dependent variable in which a 1 represents that the firm i's Alliance Bernstein governance rating has declined and a 0 represents that the governance rating did not decline and present the results in Table 5, panels A and B. In Panel A, we use the dichotomous dependent variable where a 1 represents that the firm i's Alliance Bernstein governance rating has improved and a 0 represents that the governance rating did not improve at the end of each fiscal year. In Panel B, the dependent variable is a dichotomous variable in which a 1 represents that the firm i's Alliance Bernstein governance rating has declined and a 0 represents that the governance rating did not decline. The results show that nothing, including size, is able to consistently and significantly predict governance. We do find the firm debt to equity is significantly related to positive governance changes (panel A); however, we do not find significant coefficients for this independent variable in the case of negative governance changes (panel B).

V. Predicting Future Changes in Governance

We also examine if country and firm changes can predict *future* changes (as opposed to contemporaneous changes) in corporate governance ratings. We do this as our reported results above may not capture a significant lag between the country/firm changes and the time when corporate governance changes.

To conduct this test we use in-sample and out-of-sample periods and then test if the data from the in-sample period predicts the data from the out-of-sample period. For the in-sample data we use the changes *(over the in-sample period)* in the same

independent variables used in Table 4. For the out-of-sample data we identify those firms in our sample where the AllianceBernstein governance rating improved, remained the same or declined during the out-of-sample period. We then use an ordered logit regression where the dependent variable is the change in the rating during an out-of-sample period. Again the rating change can be 1, 0, or -1 e.g., 1 would indicate the rating increased during the out-of-sample period, 0 would indicate no change, and -1 would indicate that the rating fell during the out-of-sample period. The independent variables, or predictors, are the changes in the firm's natural log of sales, debt ratio, Tobin's Q, sales growth, CAPEX to sales ratio, and standard deviation of the returns over the period between the latest and earliest AllianceBernstein corporate governance rating observations. *ADR dummy* is a 0, 1 dummy variable receiving a 1 if firm *i* introduced a American Depository Receipt during the in-sample period. Hence, the regression is testing if the in-sample changes can predict whether or not a firm will alter its governance in the future.

Table 6 presents the results when we estimate the ordered logit regression where the independent variables (country risk and firm characteristic changes and ADR dummy) are for the period January 2001-December 2004 (in-sample) and changes in AllianceBernstein ratings are for the period January 2005-September 2008 (out-of-sample). This sample represented a relatively long period of time so again we avoid the problem of limited short-term change in the ICRG measures.[12] The results are relatively similar to those in Tables 4 and 5, namely that the changes in country risk, or the changes

[12] We did this same test on various other samples and find similar results to those presented here. For example, we examine if firm and country changes during 2001-2002 (in-sample) predict changes in 2003-2004. We repeat for 2003-2004 (in-sample) on 2005-2006 (out-of-sample), 2005-2006 (in-sample) on 2007- Sept. 2008 (out-of-sample).

in the other variables (including in size (as proxied by changes in the natural log of sales)), do not predict future firm level governance changes.

One result that we note in Table 6 is that we do not find evidence of improvements in valuations (Tobin's Q) predicting better governance. Indeed, in the three of the four cases, the change in Tobin's Q does not significantly predict governance changes. We feel this is an interesting result because many of the papers mentioned in the introduction are based on cross-sectional data and hence cannot eliminate the possibility that there is a reverse causation (better valuations causing better governance). With our approach, however, we can at least suggest that the causation is not reversed. Apart from Black and Kim (2008), who find some relatively modest evidence that better valuations lead to better governance (through better board structure), no other work exists that we know of that has directly examined this question of reverse causality. [13]

VI. Conclusions

While a number of papers have examined which firm and country factors are related to firm governance, this paper is the first, to our knowledge, to examine whether *changes* in specific variables, such as country risk and firm characteristics, predict *changes* in firm-level governance. We think this is a worthy supplement to the cross-sectional approach as it allows us to see the effects of changes in country/firm conditions on governance and thus assess if such changes are worth pursuing to improve governance.

To conduct this study we utilize a unique data set from AllianceBernstein that consists of monthly firm-level corporate governance ratings for 24 emerging market countries that spans almost seven years. Since the AllianceBernstein ratings are time-

[13] We thank the anonymous referee for this suggestion

series data, they allow us to determine when there are changes, and the magnitude of those changes, in a firm's corporate governance.

With these data we use many tests to see if changes in country and firm conditions are related to changes in firm level governance. We examine the relationship using the relatively long time period between the first and last AllianceBernstein rating observations. Furthermore, we examine the ability of changes in country and firm factors to predict future corporate governance changes using an out-of-sample approach. In all tests we use a host of independent variables, controls for country and industry effects, different time periods and samples. We find evidence that changes in size (as proxied by changes in sales) are positively and significantly related to improvements in firm governance when using changes in governance (Table 4). However we find that even size is not significantly related when using levels (Table 5) or when trying to predict governance using out-of-sample periods (Table 6). Interestingly our finding that size is the only significant predictor is consistent with the results of one of the only other papers to use time-series data to predict governance, Black, Jang and Kim (2006b), who examine governance prediction in Korea. Indeed, they find that other than size (and to some extent firm risk) not much at all predicts governance, which our results also suggest. Our results are also broadly consistent with the findings of Beck et al. (2005) that larger firms operate more efficiently in countries with high levels of corruption and other development problems. That is, size does seem to matter in firms operating efficiently in many developing countries.

Besides size, however, we find that none of the other variables are able to predict changes in corporate governance. Indeed, changes in country risk conditions (whether

they be economic, financial or political) have no ability to predict governance changes in our study. Hence, even if a country's country risk improves, we find this does not explain corporate governance changes.

Our paper is not without caveats. Indeed, our inability to find anything that consistently predicts changes in governance may be due to the data we are using. As we can see in Appendix A, the ICRG country indices focus on many aspects of the country and in doing so may diminish the importance of specific changes in the country that may contribute to better firm governance. Indeed, the ICRG measures do not specifically examine investor protection laws which have been found to be a important predictor of governance decisions by other papers. Furthermore, even though we have used a methodology to capture changes over as large time period as possible (indeed as noted in footnote 9 we increase the sample size by three years for the ICRG measures), it is still the case that some of the country and firm characteristics do not change much, making it difficult to find significant relationships. Finally, it is also possible that the AllianceBernstein measures are not the most accurate measures of firm-level governance. Indeed, as with all ratings systems, the AllianceBernstein ratings are quite subjective. Moreover, because they are based on the MSCI EM index they are largely based on relatively large firms so small firms are not included much in our sample. But again the advantage of the ICRG indices and the AllianceBernstein corporate governance ratings is that they provide a time series while other cross-country studies of corporate governance that we know of use cross-sectional data.

These caveats notwithstanding, the upshot of our results are twofold. First, size does seem to be an important factor in improving governance. Second, there does not

seem to be a clear policy prescription that would help push firms to pursue better governance. If we found that, say, improvements in country risk were associated with improvements in governance, then we could make the case that if countries improve their conditions then governance improvements will follow, but our results do not indicate such a finding. Instead it would seem that governance changes are relatively hard to predict and that policymakers will have a hard time nudging firms to have better governance.

Appendix A: International Country Risk Guide (ICRG) Country Indices

The following provides more information on the *ICRG* country ratings that we use in the paper. These include the economic risk index (*ICRGE*), the financial risk index (*ICRGF*).the political risk index (*ICRGP*), For complete information please see www.prsgroup.com.

The Economic Risk Index (ICRGE)

The overall aim of the Economic Risk index is to provide a means of assessing a country's current economic strengths and weaknesses. These strengths and weaknesses are assessed by assigning risk points to a pre-set group of factors, termed economic risk components. These include:

A) GDP per capita
B) Real GDP growth
C) Annual inflation rate
D) Budget balance as percentage of GDP
E) Current account balance as a percentage of GDP

The Financial Risk Index (ICRGF)

The overall aim of the Financial Risk Index is to provide a means of assessing a country's ability to pay its way. In essence, this requires a system of measuring a country's ability to finance its official, commercial, and trade debt obligations. This is done by assigning risk points to a pre-set group of factors, termed financial risk components, which include:

A) Foreign debt as a percentage of GDP
B) Foreign debt as a percentage of exports of goods and services
C) Current account as a percentage of exports of goods and services
D) Net international liquidity as months of import cover (basically provides how many months of imports can be financed with exchange reserves)
E) Exchange rate stability (the appreciation or depreciation of the currency against the U.S. Dollar over a calendar year or the most recent 12-month period)

The Political Risk Index (ICRGP)

The aim of the political risk index is to provide a means of assessing the political stability of the countries covered by *ICRG* on a comparable basis. This is done by assigning risk points to a pre-set group of factors, termed political risk components. They include:

A) Government stability,
B) Socioeconomic conditions,
C) Investment profile (an assessment of factors affecting the risk to investment that are not covered by other political, economic and financial risk components.

This includes such things and contract viability, profit repatriation and payment delays).
D) Internal conflict
E) External conflict
F) Corruption
G) Military in politics
H) Religious tensions
I) Law and order (where Law is an assessment of the strength and impartiality of the legal system, while the Order sub-component is an assessment of popular observance of the law)
J) Ethnic tensions
K) Democratic accountability
L) Bureaucracy quality

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Table 1: Descriptive Statistics

For each firm the period of change is defined as the change between the period of latest and earliest AllianceBernstein corporate governance rating. Hence, consider a firm in which the first AllianceBernstein rating observation was June 2002 and the last was May 2006. This would represent a period of 48 months. Thus all the changes for this firm would be calculated between May 2006 and June 2002. For this firm, the changes in ICRGE, ICRGF, ICRGP (International Country Risk Guide economic, financial and political indices) would be changes in these indices for the country where the firm is incorporated between May 2006 and June 2002. For this firm, the changes in Tobin's Q, natural log of sales, debt to equity ratio, sales growth, standard deviation of returns, and CAPEX to sales ratio would also be defined as the changes in these variables between May 2006 and June 2002. Change in the corporate governance rating between the latest and the earliest AllianceBernstein rating observations is -1 if the rating declined, 0 if the rating did not change, 1 if the rating improved during the sample period. We also include firms that introduced an ADR during the time between the latest and earliest AllianceBernstein ratings. Below we count the number of firms that introduced an ADR during the period between latest and earliest AllianceBernstein governance rating.

# of firms	*318*
Mean number of months between the latest and earliest AllianceBernstein rating	47.50
# of firms where the difference between the latest and earliest AllianceBernstein rating is 83 months	39
# of firms where the difference between the latest and earliest AllianceBernstein rating is 60 to 82 months	71
# of firms where the difference between the latest and earliest AllianceBernstein rating is 36 to 59 months	86
# of firms where the difference between the latest and earliest AllianceBernstein rating is 12 to 35 months	122

Frequency distribution	
Decline in the corporate governance rating between the latest and the earliest AllianceBernstein ratings	38
No change in the corporate governance rating between the latest and the earliest ratings	227
Improvement in the corporate governance rating between the latest and the earliest ratings	53

Variable	*Mean*	*Std. dev.*
Δ in the corporate governance rating between latest and earliest AllianceBernstein rating observations	0.0472	0.5337
% Δ in ICRGE between latest and earliest AllianceBernstein rating observations	4.2267	10.4958
% Δ in ICRGF between latest and earliest AllianceBernstein rating observations	2.2927	10.0024
% Δ in ICRGP between latest and earliest AllianceBernstein rating observations	2.1253	5.1455
Δ in Tobin's Q between latest and earliest AllianceBernstein rating observations	-0.2005	1.1811
Δ in natural log of sales between latest and earliest AllianceBernstein rating observations	0.6970	0.6124
Δ in debt to equity ratio between latest and earliest AllianceBernstein rating observations	0.1272	1.0824
Δ in sales growth between latest and earliest AllianceBernstein rating observations	-0.0951	0.4325
Δ in standard deviation of returns between latest and earliest AllianceBernstein rating obs.	0.0024	0.0330
Δ in CAPEX to sales ratio between latest and earliest AllianceBernstein rating obs.	-0.0042	0.1411
# of firms that introduced an ADR during the time between the latest and earliest AllianceBernstein rating observations	24	NA

Table 2: Number of Firms by Country and Industry

Country	*# of firms*
Argentina	2
Brazil	36
Chile	7
China	16
Czech Republic	1
Egypt	2
Hong Kong	23
Hungary	3
India	29
Indonesia	4
Israel	5
Malaysia	12
Mexico	13
Peru	1
Philippines	3
Poland	3
Russia	13
Singapore	3
South Africa	36
South Korea	29
Taiwan	60
Thailand	7
Turkey	9
Venezuela	1

Industry	*# of firms*
Consumer discretionary	46
Consumer Staples	25
Energy	27
Financials	4
Health Care	9
Industrials	38
Information Technology	62
Materials	47
Telecommunications Services	44
Utilities	16

Table 3: Correlation between Variables

The Δ AB rating represents the change in the AllianceBernstein corporate governance rating between the latest and earliest observations for each firm. This change equals -1 if the rating has declined, 0 if the rating did not change, and 1 if the rate improved during the out-of-sample period. Δ ICRGE, Δ ICRGF, Δ ICRGP represent the changes in the economic, financial and political risk of the country where the firm is incorporated over the period between the latest and earliest observations for the AllianceBernstein corporate governance ratings. Δ Tobin's Q, Δ ln(Sales), Δ Debt/Equity, Δ Sales Growth, Δ Standard Deviation and Δ Capex/Sales are the changes in the firm's Tobin's Q, natural log of sales, debt to equity ratio, sales growth, standard deviation and CAPEX to sales ratio over the period between the latest and earliest observations for the AllianceBernstein corporate governance ratings. ADR dummy is a dummy variable that receives a 1 if the firm introduced an American Depositary Receipt (ADR) during the period between the latest and earliest AllianceBernstein corporate governance ratings and 0 otherwise.

	Δ AB rating	*Δ ICRGE*	*Δ ICRGF*	*Δ ICRGP*	*Δ Tobin's Q*	*Δ ln(Sales)*	*Δ Debt /Equity*	*Δ sales growth*	*Δ std deviation*	*Δ Capex /Sales*	*ADR dummy*
Δ AB rating	1										
Δ ICRGE	0.0083	1									
Δ ICRGF	0.0735	0.4399	1								
Δ ICRGP	0.0603	0.1607	0.2522	1							
Δ Tobin's Q	0.0971	0.0352	0.1249	0.1060	1						
Δ ln(Sales)	0.1581	0.1608	0.0615	0.0645	-0.1193	1					
Δ Debt/Equity	0.0027	-0.0618	-0.0171	0.0899	-0.1270	-0.0280	1				
Δ sales growth	0.0742	0.1127	0.2768	0.0179	0.1250	0.1958	0.0004	1			
Δ std deviation	0.0967	-0.2568	-0.2341	-0.0457	-0.1597	0.1331	0.1494	-0.0867	1		
Δ Capex/Sales	-0.0231	-0.1317	-0.0885	-0.0042	-0.0674	-0.0914	0.0146	-0.1123	0.0405	1	
ADR dummy	0.1311	0.0749	0.0374	0.1165	0.1079	0.1662	-0.0396	0.0155	-0.0145	-0.1021	1

Table 4: The relationship between changes in country and firm factors on changes in firm level governance

The dependent variable is the Change in Governance Rating between latest and earliest observations. This change equals -1 if the rating has declined, 0 if the rating did not change, and 1 if the rate improved during the out-of-sample period. The regressions are ordered logit regressions with industry and country dummies to control for industry and country effects. Δ *ICRGE*, Δ *ICRGF*, Δ *ICRGP* are the changes in international country risk guide indices for the economic, financial and political risks respectively of country where firm *i* is incorporated. Δ Tobin's Q, Δ ln(Sales), Δ Debt/Equity, Δ Sales Growth, Δ Standard Deviation and Δ Capex/Sales are the changes in the firm's Tobin's Q, natural log of sales, debt to equity ratio, sales growth, standard deviation and CAPEX to sales ratio over the period between the latest and earliest observations for the AllianceBernstein corporate governance ratings. ADR dummy is a dummy variable that receives a 1 if the firm introduced an American Depositary Receipt (ADR) during the period between the latest and earliest AllianceBernstein corporate governance ratings and 0 otherwise. We report coefficient values, estimate robust standard errors and present z-statistics in the parenthesis.

Δ ICRGE	*Δ ICRGF*	*Δ ICRGP*	*Δ Tobin's Q*	*Δ ln(Sales)*	*Δ Debt /Equity*	*Δ Sales Growth*	*Δ Std Deviation*	*Δ Capex / Sales*	*ADR Dummy*	*Obs.*	*Pseudo R2*
-0.0215	0.0595	-0.0041	0.0102	0.7971**	0.0600	0.0379	3.1705	-0.1304	0.928	318	0.1360
(-0.27)	(1.09)	(-0.07)	(0.08)	(2.85)	(0.67)	(0.13)	(0.67)	(-0.14)	(1.91)		
0.0083			0.0217	0.7795**	0.0445	0.1016	2.3849	-0.0941	0.8952	318	0.1338
(0.13)			(0.17)	(2.74)	(0.51)	(0.33)	(0.51)	(-0.10)	(1.87)		
	0.0521		0.0096	0.7765**	0.0601	0.0435	3.3934	-0.1042	0.9172	318	0.1358
	(1.11)		(0.07)	(2.85)	(0.68)	(0.14)	(0.71)	(-0.12)	(1.90)		
		0.0049	0.0211	0.7842**	0.0429	0.1042	2.3067	-0.1088	0.8937	318	0.1338
		(0.10)	(0.17)	(2.89)	(0.49)	(0.34)	(0.49)	(-0.12)	(1.85)		

** and * indicate significant at the one and five percent levels respectively.

Table 5: The relationship between country and firm factors on firm level governance using variables in levels

In Panel A, the dependent variable is a binary variable in which a 1 represents that the firm i's Alliance Bernstein governance rating has improved and a 0 represents that the governance rating did not improve at the end of each fiscal year. In Panel B, the dependent variable is a binary variable in which a 1 represents that the firm i's Alliance Bernstein governance rating has declined and a 0 represents that the governance rating did not decline. We use Liang and Zeger's (1986) generalized estimating equations (GEE) technique with robust standard errors to account for clustering at the firm level and assume that governance choices follow an first-order autoregressive AR(1) process. *ICRGE, ICRGF, ICRGP* are the international country risk guide indices for the economic, financial and political risks respectively of country where firm *i* is incorporated. Tobin's Q, ln(Sales), Debt/Equity, Sales Growth, Standard Deviation and Capex/Sales are the firm's Tobin's Q, natural log of sales, debt to equity ratio, sales growth, standard deviation and CAPEX to sales ratio at the end of each fiscal year. ADR dummy is a dummy variable that receives a 1 if the firm introduced an American Depositary Receipt (ADR) during the fiscal year and 0 otherwise. Dummies are included to control for year effects. We report coefficient values, estimate robust standard errors and present z-statistics in the parenthesis.

Constant	*ICRGE*	*ICRGF*	*ICRGP*	*Tobin's Q*	*ln(Sales)*	*Debt /Equity*	*Sales Growth*	*Std Deviation*	*Capex / Sales*	*ADR Dummy*	*Obs*
Panel A (Governance Rating Improves)											
-4.5012	-0.0028	0.0568	-0.0041	-0.1523	0.0203	0.2136*	0.5593	-12.4706	-0.8301	0.1487	660
(-1.74)	(-0.05)	(1.18)	(-0.14)	(-1.05)	(0.18)	(2.38)	(0.94)	(-1.15)	(-0.85)	(0.53)	
Panel B (Governance Rating Declines)											
-0.8067	-0.0874	0.0184	0.0311	-0.1982	-0.2092	-0.0589	-0.1034	13.0518	-1.1632	-0.2631	660
(-0.31)	(-1.51)	(0.45)	(1.06)	(-1.26)	(-1.67)	(-0.45)	(-0.17)	(1.56)	(-1.06)	(-0.83)	

** and * indicate significant at the one and five percent levels respectively.

Table 6: Predicting future changes in firm level governance

The dependent variable is the Change in Governance Rating between latest and earliest observations over the out-of-sample period January 2005-September 2008. This change equals -1 if the rating has declined, 0 if the rating did not change, and 1 if the rate improved during the out-of-sample period. The independent variables are for the period January 2001-December 2004 (out-of-sample). The regression is an ordered logit regression with industry and country dummies to control for industry and country effects. Δ *ICRGE*, Δ *ICRGF*, Δ *ICRGP* are the changes in international country risk guide indices for the economic, financial and political risks respectively of country where firm *i* is incorporated. Δ Tobin's Q, Δ ln(Sales), Δ Debt/Equity, Δ Sales Growth, Δ Standard Deviation and Δ Capex/Sales are the changes in the firm's Tobin's Q, natural log of sales, debt to equity ratio, sales growth, standard deviation and CAPEX to sales ratio for the period January 2001-December 2004 (out-of-sample). ADR dummy is a dummy variable that receives a 1 if the firm introduced an American Depositary Receipt (ADR) for the out-of-sample period and 0 otherwise. We report coefficient values, estimate robust standard errors and present z-statistics in the parenthesis.

In-sample	*Out-of-sample*	*Δ ICRGE*	*Δ ICRGF*	*Δ ICRGP*	*Δ Tobin's Q*	*Δ ln(Sales)*	*Δ Debt /Equity*	*Δ Sales Growth*	*Δ Std Deviation*	*Δ Capex / Sales*	*ADR Dummy*	*Obs*	*Pseudo R2*
01-04	05-08 (Sep.)	-0.1412	-0.0732	0.0730	0.2558	-0.3057	-0.0211	0.7168	-3.3303	-1.4591	-1.9452	186	0.2532
		(-0.72)	(-0.56)	(0.82)	(1.33)	(-0.62)	(-0.24)	(1.71)	(-0.28)	(-1.34)	(-1.58)		

** and * indicate significant at the one and five percent levels respectively.