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Söhnke M. Bartram
Gregory Brown
René M. Stulz

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ABSTRACT

Using a large panel of firms across the world from 1991-2006, we show that the median foreign firm has lower idiosyncratic risk than a comparable U.S. firm. Country characteristics help explain variation in the level of idiosyncratic risk, but less so than firm characteristics. Idiosyncratic risk falls as government stability and respect for the rule of law improve. Idiosyncratic risk is positively related to stock market development but negatively related to bond market development. Surprisingly, we find that idiosyncratic risk is generally negatively related to corporate disclosure quality. Finally, idiosyncratic risk generally increases with shareholder protection. Though there is evidence that R^2 increases with creditor rights and falls with the quality of disclosure, these results are driven by the relations between these variables and systematic risk rather than by the impact of these variables on idiosyncratic risk.

Söhnke M. Bartram
Lancaster University
Management School
Department of Accounting and Finance
Lancaster
LA1 4YX
United Kingdom
s.m.bartram@lancaster.ac.uk

René M. Stulz
The Ohio State University
Fisher College of Business
806A Fisher Hall
2100 Neil Avenue
Columbus, OH 43210-1144
and NBER
stulz_1@cob.osu.edu

Gregory Brown
UNC
gregwbrown@unc.edu

A large literature makes predictions on how country characteristics affect firm idiosyncratic risk.[1] In this literature, greater financial development and better governance make it possible for risks to be shared more efficiently among investors. Greater risk-sharing enables firms to take more idiosyncratic risks as these risks are diversified away and do not affect the cost of capital. With better governance, agency costs are controlled more effectively, so that firms can raise capital with less co-investment by insiders. As insiders hold less of a stake in their firm, their wealth is less sensitive to the firm's idiosyncratic risk and they are more willing to take projects that make the firm riskier if these projects increase firm value. With better governance, more information is produced about firms enabling investors to monitor management and insiders more effectively. To the extent that the United States has good governance and high financial development, this literature would lead us to expect foreign firms to have lower idiosyncratic volatility than comparable U.S. firms.

In this paper, we investigate whether firms with similar characteristics have different idiosyncratic risk because they are in different countries and whether differences in idiosyncratic risk across countries are related to country institutions, investor protection, financial development, and economic development. In comparing the idiosyncratic risk of foreign firms to U.S. firms, it is important to compare the idiosyncratic risk of firms with similar characteristics since it is well-known that firm characteristics like firm age, market-to-book, and firm size affect idiosyncratic volatility.[2] We match foreign firms to U.S. firms with the propensity score matching approach using a firm's industry, assets, age, and market-to-book ratio. To the best of our knowledge, no other large cross-country study of firm risk has made comparisons using firm-level characteristics. With this matching of foreign firms to U.S. firms, we find that foreign firms have lower idiosyncratic risk than comparable U.S. firms from 1991 to 2006 and that

[1] Relevant papers are in the growth literature (e.g., Acemoglu and Zilibotti (1997)), the international finance literature (e.g., Obstfeld (1994)), and the finance literature (e.g., Morck, Yeung, and Yu (2000)). We provide additional references later in this section.

[2] Pastor and Veronesi (2003) develop a theoretical model which shows a negative relation between volatility and firm age and a positive relation between volatility and market-to-book. Their empirical work supports these predictions and also shows that firm size measured by the logarithm of total assets is negatively related to volatility.

this is equally true for firms from developed and from less developed countries. Using medians, we find that the idiosyncratic risk of foreign firms is 14.2% lower than the idiosyncratic risk of matching U.S. firms. Though the difference in idiosyncratic risk between U.S. firms and foreign firms varies through time, foreign firms have significantly greater idiosyncratic risk in only two out of sixteen sample years.[3] We also find that foreign firms have higher systematic risk and lower total risk than matching U.S. firms, but this evidence is more sensitive to time periods and sample restrictions. Finally, since Roll (1987), the R^2 statistic from market model regressions is widely used to investigate the extent to which firm-specific news explains stock-return variation. We show that firms from developed countries have lower R^2 statistics than firms from emerging markets, but U.S. firms have significantly lower R^2 statistics than both groups. All these results also hold for a subsample of firms with a high level of trading and when we use unlevered returns, so that they cannot be explained by differences in liquidity or differences in leverage across countries. Further, these results hold when controlling for firm characteristics other than those used in the matching procedure.

After having established that the result that U.S. firms have higher idiosyncratic volatility is robust, we investigate why idiosyncratic risk varies across countries. The existing literature offers theories on national determinants of idiosyncratic risk that we organize into four groups:

1) Country risk. One theory is that greater country risk, in the form of a higher threat of expropriation and/or macroeconomic volatility, makes firms riskier, and decreases the rewards to risk-taking at the firm level. As a result, firms take fewer diversifiable risks in riskier countries. For instance, Johnson, McMillan, and Woodruff (2002) show for a sample of post-communist countries that weaker property rights lead to less entrepreneurial activity. An alternative theory is that country risk leads to more firm-specific shocks that firms cannot mitigate, thereby increasing idiosyncratic risk.

[3] Specifically, we find higher idiosyncratic risk of foreign firms during 1997 and 1998, the years of the Asian crisis and other global market turmoil (e.g., Russian default, the demise of Long-term Capital Management, etc.).

2) Investor protection. With better protection of minority shareholders, corporate insiders consume fewer private benefits. As shown by John, Litov and Yeung (2008), private benefits make insiders have a debt claim on the firm and hence lead them to take fewer risks. We would therefore expect idiosyncratic risk to increase as shareholder protection improves. Acharya, Amihud and Litov (2008) show that better creditor protection can lead firms to take fewer risks, especially when managers are likely to lose their position in the event of a bankruptcy filing. In addition, with better investor protection corporate insiders hold a smaller stake in their firm, so that their wealth is less sensitive to the firm's idiosyncratic risk and hence they are more willing to take riskier projects (Stulz (2005)).

3) Financial development. With greater financial development, risk can be shared more efficiently among the owners of firms, which means that idiosyncratic risk becomes less of an issue in making investment decisions, and access to outside funding is less costly, so that firms can cope more efficiently with unexpected shocks by raising funds. Consequently, firms become more willing to invest in riskier projects as financial development improves (for empirical evidence and references to the large theoretical literature see, for instance, Thesmar and Koenig (2004) and Michelacci and Schivardi (2008)). In light of the arguments of Acharya, Amihud and Litov (2008) and others, these predictions might be more relevant for equity market development than credit market development. When credit is a more significant source of funding, we would expect creditors to have more influence on firm decisions and to limit risk taking by firms.

4) Information environment. The first three groups of determinants of idiosyncratic risk we discuss have to do with fundamental risk. However, alternatively, it could be that firms have more idiosyncratic risk in some countries because the information environment is better, so that more information is impounded in stock prices as argued by Morck, Yeung and Yu (2000). A better information environment might also reduce the extent to which firms suffer from agency problems. In particular, Jin and Myers (2006) provide a model where optimal

consumption of private benefits in less transparent environments leads firms to have less idiosyncratic risk.

To take advantage of the panel we created, we want indices of country characteristics that are reported frequently. The International Country Risk (ICR) indices satisfy this requirement. We use the political risk index of ICR. This index measures government quality as well as respect of property rights. It is computed so that a higher value corresponds to less risk and is highly correlated with less frequently measured rule of law indices such as those in Kaufman, Kraay, and Matruzzi (2007). We find throughout the paper that there is a strong negative relation between the political risk index and idiosyncratic risk. When we divide the index into components associated with government and country stability on the one hand and components associated with lack of corruption and respect for property rights on the other hand, our results hold for both components of the index. These results are inconsistent with theories predicting that better government and better institutions lead to greater risk-taking at the firm level.[4] Rather, they suggest that poor government and institutions make firms riskier in ways that they cannot mitigate.

Our measures of investor protection are the anti-self-dealing index of Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) and the creditor rights index of Djankov, McLiesh and Shleifer (2007). A firm's idiosyncratic volatility is generally, but not always, significantly positively related to the anti-self-dealing index. Since a higher value of the index makes self-dealing more expensive for insiders, these regressions support the hypothesis that better governance leads firms to take more risk. However, for the same regression specifications, we also find that systematic risk is positively related to the anti-self-dealing index. Though Acharya, Amihud, and Litov (2008) show that firms are less risky along some dimensions in countries that protect creditor rights better, we find no consistent relation between idiosyncratic risk and the creditor rights index, but creditor rights are generally positively related to systematic risk.

[4] We follow the practice of viewing the ICR indices as proxies for institutions even though these indices do not measure permanent and deeply rooted country characteristics (see Glaeser, La Porta, Lopez-de-Silanes, and Shleifer (2004)).

We proxy for equity market development using two common measures: stock market turnover (e.g., Levine and Zervos (1998)) and stock market capitalization to the size of the economy (e.g., Doidge, Karolyi, and Stulz (2007)). In all our regressions for idiosyncratic volatility levels, at least one of these variables has a significant positive coefficient (and often both are significant). Importantly, in these regressions, stock market turnover is not a proxy for firm stock liquidity since we control for this possible determinant of stock return volatility.[5] In contrast, credit market development indicators tend to be negatively related to idiosyncratic risk.

Finally, we find that idiosyncratic volatility tends to be lower in countries with greater disclosure. Our evidence is consistent with evidence for the U.S. by Kelly (2007) and Teoh, Yang and Zhang (2008) that firms with a worse information environment are more volatile, but it is inconsistent with some interpretations of the well-known relation between R^2 and transparency (see Jin and Myers (2006)). Though, like the R^2 literature, we find that R^2 is negatively related to transparency, we also find that both systematic risk and idiosyncratic risk fall as transparency increases. The systematic risk effect dominates the idiosyncratic risk effect, so that R^2 falls with transparency even though idiosyncratic risk falls with transparency as well. John, Litov, and Yeung (2008) find a positive relation between country-level cross-sectional volatility in EBITDA to total assets and a measure of accounting disclosure requiring five years of data for each firm. Their result is not inconsistent with our evidence because their measure of risk can increase with the volatility of the systematic component in a firm's EBITDA.[6]

This paper is connected closely to three strands of recent research. First is the research that, following Morck, Yeung, and Yu (2000), investigates the determinants of the market model R^2 across countries. In the R^2 literature, the average R^2 in a country is negatively related to investor protection, so that the

[5] Other researchers also find evidence consistent with turnover being a measure of equity market development. For example, Li (2007) studies 33 global stock markets and finds that for most countries technological advances were more important for determining turnover growth than were improvements in macroeconomic fundamentals or institutional factors.

[6] To see this, suppose that a market model holds for EBITDA/Assets. If all firms have the same beta, the risk measure of John, Litov, and Yeung (2008) just measures the idiosyncratic risk in EBITDA/Assets. However, suppose alternatively that the betas differ and there is no idiosyncratic risk. In that case, their measure at the firm level is the absolute value of the market model beta of the firm minus one times the standard deviation of the country's market factor in EBITDA.

fraction of the risk of a firm that is idiosyncratic increases with investor protection. There is no necessary relation between a firm's market model R^2 and the firm's volatility or its idiosyncratic risk. The R^2 literature explains the proportion of a firm's total risk that can be attributed to idiosyncratic risk. In contrast, we focus on the determinants of a firm's idiosyncratic risk. Our research shows that across countries one cannot infer that a firm's idiosyncratic volatility increases with variables negatively related to a firm's R^2. For instance, we find a strong positive relation between creditor rights and R^2, but it is explained by the relation between creditor rights and systematic risk rather than by the relation between creditor rights and idiosyncratic risk. Our paper also contributes to the R^2 literature by showing that there is a difference in R^2 between foreign firms and comparable U.S. firms in contrast to the existing literature which typically focuses on comparisons of country averages of R^2.

The second literature closely related to our work is the literature on the time-series properties of idiosyncratic risk. Campbell et al. (2001) show that idiosyncratic stock return volatility increases in the United States from the 1960s to the 1990s. A number of papers build on this result, but recent papers question this finding altogether, attributing it to the nineties and arguing that idiosyncratic volatility falls in recent years (Bekaert, Hodrick, and Zhang (2008); Brandt, Brav, Graham, and Kumar (2008)). Brown and Kapadia (2007) show that the trend in idiosyncratic risk occurs because more recent stock listings are more volatile and relate this finding to trends in equity market development. In our sample, we find that idiosyncratic risk follows an inverted u-shape for our foreign firms and for their matching U.S. firms, with idiosyncratic risk peaking early this century. The fact that the patterns of idiosyncratic volatility are similar for U.S. firms and foreign firms, though differing in intensity, shows that purely U.S.-based explanations of the time-series pattern of idiosyncratic volatility are unlikely to be sufficient.[7] The literature has emphasized the role of competition and R&D in explaining the increase in idiosyncratic risk.[8] After controlling for size, market-to-book, and firm age, we find that lagged R&D and profit

[7] Bekaert, Hodrick and Zhang (2008) find that there is a high correlation in idiosyncratic volatility across developed countries and argue also that purely domestic explanations of the time-series of idiosyncratic volatility are likely to be insufficient.

[8] See Irvine and Pontiff (2005) and Comin and Philippon (2005).

margins (which are inversely related to competition) are the most economically important determinants of idiosyncratic volatility together with lagged leverage. In particular, these variables are more economically important than country characteristics.

Finally, the third literature for which our work is relevant is the literature that emphasizes that firms, at least to some extent, can influence the amount of idiosyncratic risk they bear. Firms can choose riskier projects, and whether they do so may depend on the incentives of insiders (see Coles, Daniel, and Naveen (2006)) for empirical evidence and references to the literature) as well as on the ability of firms to hedge various risks (see Stulz (2003) for a review). However, we do not find evidence that firms can manage their idiosyncratic risk to offset country risk characteristics. Country risk characteristics seem to increase all risk measures of a firm.

The paper proceeds as follows. In Section 1, we describe our data and our matching procedure. In Section 2, we show that foreign firms have less idiosyncratic risk than comparable U.S. firms, that this risk difference holds after adjusting for leverage, and that it is not simply the product of differences in liquidity. In Section 3, we investigate why foreign firms have systematically lower idiosyncratic risk than U.S. firms. In Section 4, we compare R^2 at the firm level. We conclude in Section 5.

1 Data

We construct our sample by collecting annual accounting data on all firms in the WorldScope database from 1990 through 2006 in U.S. dollars. We drop firms that are missing data on total assets, market price at year end, book value per share, shares outstanding, book value of long-term debt, and book value of short-term debt. We also exclude American Depository Receipts (ADRs), non-primary issues, U.S. OTC Bulletin Board and 'Pink Sheet' stocks, firms with missing country or firm identifiers, as well as real estate and other investment trusts. We include other financial firms (e.g., banks, insurance companies, etc.).

We match the remaining firms to stock return data from DataStream.[9] To enter the sample, firms must have available returns data for at least 25 weeks in the observation year. We use the percentage of weekly local currency stock returns equal to zero as a measure of trading frequency. The use of the frequency of non-trading as a measure of market liquidity is well-established in the literature (see, for instance, Bekaert, Harvey, and Lundblad (2006)).[10] We subsequently examine different cutoffs to see the effect on our results, but unless we say otherwise, our analysis is conducted using firm-year observations where the firm has less than 30% zero returns (e.g., nonzero stock returns for at least 36 weeks if return data are available for all weeks in a year).[11] This reduces the number of firms in our analysis by about 5% and the number of firm-years in our sample by about 20%.[12] We exclude country years where fewer than 10 firms have available data. This drops Slovakia, Slovenia, and Zimbabwe from the entire sample. To address concerns about data errors in Datastream, we also implement a commonly used filter for reversals in the data that could be caused by incorrect stock prices, and we winsorize the top and bottom 0.1% of the final sample of stock returns.[13]

The resulting primary data set contains 167,693 observations representing 49 countries. Not surprisingly, however, the number of firms available increases steadily throughout the 1990s. We have roughly 4,000 firms in 1991, but the number of firms increases to roughly 21,000 towards the end of our

[9] We match firms based on common identifiers (DataStreamcode, DataStream Mnemonic, Sedols, Cusips, ISIN, etc.) as best available. We impose a number of filters, because firms can have multiple share classes or listing locations. For example, we screen on the security type, use only primary listings, and require that the currency of the stock price is a legal tender in the country of incorporation of the firm. We also manually verify matches in many cases, because firms can have multiple share classes or listing locations. Leading and trailing zeros in the return series are set to missing values.

[10] Trading volume data at the firm level cannot be used because reliable trading volume data at the firm level are not available for a large percentage of our firm years. This is a well-known shortcoming of the international returns data available from Datastream. Our aggregate turnover data examined subsequently are obtained from the WorldBank.

[11] Since our dependent variables use return data, we screen trading activity in the previous year to minimize any endogeneity bias.

[12] In most cases we lose some, but not all, years for a given firm because of a lack of non-zero return observations, thus the percentage of firms lost is much less than the percent of firm-years lost.

[13] In particular, we set R_t and R_{t-1} to missing if $|R_t| > 200\%$ or $|R_{t-1}| > 200\%$ and $R_{t-1} + R_t < 50\%$. See Ince and Porter (2006) for a discussion of data errors in Datastream and possible solutions.

sample period.[14] Not all countries are present each year. In particular, representation from developing economies is concentrated in the latter half of the sample. To avoid a bias in our results from this imbalance in our data, all results are based on matching firms by the observation year.

We also collect data on a variety of other firm characteristics from the WorldScope database. These include the percentage of shares closely held, plant, property and equipment (PPE), research and development expenses (R&D), capital expenditures (CapEx), gross profit margin, and cash and short-term investments. We calculate ratios for most of these variables to make them comparable across companies. For R&D, we set missing values to zero. We measure firm age as the number of years between the listing date (or first date on DataStream) and the observation year plus one (so that we can take the natural logarithm). Accounting data are winzorized at the top and bottom 1% and for values more than five standard deviations from the median. We apply some limits to a few variables.[15] Variable definitions are summarized in the Appendix.

In most of our analysis we are attempting to determine if or why non-U.S. firms have risk levels different from comparable U.S. firms. Across countries, firms often differ from the typical U.S. firm. We therefore look at foreign firms and "matching" U.S. firms to avoid comparing possibly very different firm types. To identify matching U.S. firms we employ propensity score (*p*-score) matching utilizing several characteristics.[16] In essence, the *p*-score provides a method for identifying a matching U.S. firm based on a variety of factors that we believe are inherent characteristics determining risk. In this comparison, we want to avoid using firm characteristics that may be determined at the same time as the risk measures, since if we were to do that there would be a concern that both our risk measures and our firm characteristics are simultaneously determined. We mitigate this problem in two ways. First, we use only

[14] There are two primary reasons for this trend. First, the total number of listings on WorldScope of all types increases from about 20,380 in 1991 to 35,322 in 2006. Second, the data availability (and liquidity) screens eliminate a significantly higher percentage of firms in early years than in later years. The proportion of U.S. versus non-U.S. firms affected by these screens is roughly constant over the sample period.

[15] Specifically, we limit gross profit margin to be greater than or equal to -100% and set market-to-book ratio to 20 when it is greater than 20 or book value is less than or equal to zero.

[16] For earlier uses of this approach in finance, see Drucker and Puri (2005) and Lee and Wahal (2004) among others.

lagged firm characteristics to match firms, so that we match firms on predetermined variables. Second, we match on variables that are likely to be exogenous firm characteristics. Specifically, we match U.S. firms (with replacement) to non-U.S. firms based on firm size (log of total assets measured in USD), the log of firm age, and the equity market-to-book ratio. We do this matching by year and by industry, one year prior to the observation year.[17] Overall, the quality of our matches is very high. For all matches, the average and median differences in *p*-score are essentially zero (<0.001) with a standard deviation of 0.0079. The 5% to 95% range is -0.0038 to 0.0054.

The country variables we use are as follows (Appendix A gives detailed definitions and sources for all these variables). We measure the quality of political and legal institutions using the ICR Political Risk index as reported by the PRS Group.[18] This index measures the overall stability and quality of government institutions using 10 different qualitative measures. Higher values represent more stable and higher quality government institutions. This index is highly correlated with other common measures of political and legal quality such as the Kaufman, Kraay, Matruzzi (2007) rule of law index (correlation equals 0.896), GDP per capita (correlation equals 0.802), and the Myers and Lin (2006) measure of country disclosure quality (correlation equals 0.767). We use the ICR Political Risk index because it measures a variety of institutional characteristics and data are available for every year and country in our sample. In our analysis, we split the index into two sub-indices: a stability component (government stability, socioeconomic conditions, internal conflict, external conflict, military in politics, religious tensions, ethnic tensions, democratic accountablity) and a law and order component (law and order, investment profile, bureaucracy quality, corruption).

As a proxy for shareholder protection and corporate governance we use the anti-self-dealing index from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008). Data are only available for one year but their analysis suggests that the index is very stable over time. Higher values are associated with greater

[17] Industries are defined using the updated 30 industry portfolio classification system available on Ken French's web site. We thank Ken French for making these data available.

[18] The *ICR Guide* is published by The PRS Group, 6320 Fly Road, Suite 102, East Syracuse, NY 13057-0248, USA.

obstacles to self-dealing and hence better shareholder protection and governance. We also use the index of creditor rights from Djankov, McLiesh and Shleifer (2007); higher values represent better creditor rights.

We utilize two proxies for equity market development that have been frequently used in the literature. The first measure is the ratio of stock market capitalization to GDP. The second measure is the stock market turnover rate which is total stock market volume as a percent of total shares outstanding. Though the latter measure is often used as a measure of equity market development, it is noteworthy that some of the highest values in our sample are from less economically developed countries. Our proxies for credit market development are public bond market capital capitalization to GDP, private bond market capitalization to GDP, private credit by deposit money banks to GDP, and private credit by deposit money banks and other financial institutions to GDP. Unfortunately, the credit variables are not available for all firm-years for which we have data for the other variables. About 10% of firm-years are missing and they are all from developing countries. We report results using the credit variables for the smaller sample, but all the other results use the larger sample. We also use as a proxy for overall financial development the capitalization of all publicly-traded securities to GDP. Our proxy for economic development is GDP per capita.

Table 1 compares firm and country characteristics for the matched firms in our sample. In this table each observation is the average of available years for a foreign firm and its matching U.S. firm(s). Results for the matching characteristics show that on average we match firms closely on the chosen characteristics. Matching U.S. firms tend to be slightly larger and older. Since firm size and age are negatively associated with risk, this could lead to a bias toward finding that foreign firms are riskier. However, U.S. firms also have somewhat higher market-to-book ratios that could lead to a bias toward U.S. firms being riskier since market-to-book value is positively associated with risk. On average, the differences are economically small, which suggests that (the offsetting) biases are also likely to be small. As noted above, differences in *p*-scores are negligible and not statistically significant.

Differences in leverage are not economically significant. Evaluated at the medians, the difference in leverage corresponds to roughly one percentage point. Using WorldScope's measure of insider ownership, we find, not surprisingly, that the foreign firms have greater insider ownership than U.S. firms.[19] Foreign firms have a greater ratio of plant, property and equipment to total assets than U.S. firms and invest less in R&D. They are also less profitable, hold less cash, and have debt of shorter maturity. For foreign firms, about 9% of returns are zero which is roughly twice the percentage of U.S. firms. This difference in the percentage of zero returns raises the concern that infrequent trading could play more of a role for foreign firms than for U.S. firms and might lead to downward-biased measures of risk for foreign firms.

Table 1 also compares country characteristics between foreign firms and matching U.S. firms. The country characteristics for foreign firms are an equally-weighted average of the country characteristics of the firms. The U.S. firms are from a country with lower political risk, weaker creditor rights, better protection of investors against self-dealing by insiders, greater market turnover, greater market capitalization, greater GDP per capita, greater disclosure, lower market standard deviation. Differences for credit market development depend on the measure. The U.S. has a larger market for private bonds and other private credit. However, private credit extended by banks is lower in the U.S. and government debt (public bond capital) is roughly the same in the U.S. as in other countries.

2 Estimates of differences in volatility measures

In this section, we compare risk measures for foreign firms to the risk measures of matching U.S. firms. We calculate three primary measures of firm volatility using weekly (Friday-to-Friday) USD closing prices to calculate returns (though our results are essentially unchanged if we conduct all of our analysis using local currency returns). The first measure of risk is simply the annualized standard deviation of weekly stock returns. Our other two measures of risk are obtained by decomposing total risk into

[19] For a description of the problems with this ownership measure, see Dahlquist, Pinkowitz, Stulz, and Williamson (2003).

systematic risk and idiosyncratic risk using a market model. Specifically, for each firm-year with sufficient data we estimate

$$R_t = \alpha + \beta_{t-1} R_{t-1}^M + \beta_t R_t^M + \beta_{t+1} R_{t+1}^M + \varepsilon_t \quad (1)$$

where R_t is the firm's weekly stock returns, R_t^M is the return on the local market index, and ε_t is an error term. Our estimate of idiosyncratic volatility is the (annualized) standard deviation of ε_t, σ. Our estimate of systematic risk is the square root of the difference between total return variance and σ^2. We also examine the R^2 statistic from the regressions.

Panel A of Table 2 reports mean and median values for our volatility measures for foreign firms and their matching U.S. firms. The values reported are for firm averages, so that each foreign firm appears only once. U.S. firms have significantly higher total volatility (return standard deviation) than their matching foreign firms. The median difference in total risk of -0.038 translates into the median U.S. firm having total risk that is 8.6% higher than its foreign counterpart. Foreign firms have higher systematic risk on average than U.S. firms, but the median difference is smaller. Foreign firms have lower idiosyncratic risk than U.S. firms, and the median idiosyncratic volatility of U.S. firms is 14.2% higher than the median idiosyncratic volatility of their matching foreign firms. Finally, the results for R^2 show that average R^2 is higher for foreign firms than for U.S. firms by roughly 27%, and median R^2 is higher for foreign firms by about 21%. All differences are statistically significant at the 1% level. Our sample is different in at least two ways from the samples used for studies that focus on the determinants of R^2 across countries. First, we require firms to have data in WorldScope, which means that our sample has larger firms than studies that do not have that requirement. We will control for sample selection in our regressions. Second, our sample period covers more recent years.

In the remainder of Panel A, we split the sample between firms in developed countries and firms in emerging markets. We define a country to be an emerging market if the country does not have a completely liberalized equity market using the measure of Edison-Warnock. In contrast to developed market firms which have lower total risk than U.S. firms, emerging market firms have about the same

average total risk as U.S. firms. Both emerging market and developed market firms have lower idiosyncratic risk than U.S. firms. Similarly, developed market and emerging market firms have a higher systematic risk and market model R^2 than U.S. firms. These results confirm the findings of Morck, Yeung and Yu (2000) when the R^2 comparison is made using comparable firms.

Because the distribution of the risk measures is positively skewed, we also compare the logs of the risk measures but do not reproduce the results in the table. When using logs, the mean volatility of U.S. firms is not significantly different from the mean volatility of their matching firms. The other comparisons are unchanged.

We saw in the previous section that foreign firms seem to trade less than U.S. firms. This result raises the concern that U.S. firms might be riskier because they are more liquid. To evaluate whether infrequent trading can explain our results, we show in Panel B of Table 2 estimates of risk measures for firms with less than 10%, less than 30%, and no restriction on zero returns. Restrictions on zero returns have an impact on the estimates of the risk measures. When we limit our comparison to firms with less than 10% zero returns, the mean difference in total risk is no longer significant. However, for all our comparisons, both the mean and median differences for systematic risk, idiosyncratic volatility, and R^2 are significant.

One obvious candidate explanation for observed differences in volatility between foreign and U.S. firms is differences in financial leverage. Panel C of Table 2 also reports statistics for unlevered volatility measures. We use several definitions of leverage. There is no evidence that leverage differences across countries can explain the fact that foreign firms have lower volatility and idiosyncratic risk than matching U.S. firms. The differences in idiosyncratic volatility are essentially the same when we use unlevered idiosyncratic volatility, but differences in total risk are consistently more negative for unlevered total risk. This result suggests that the assets of foreign firms are somewhat less risky.

In Table 3, we examine the stability of the volatility differences through time. We see first that firm volatility has an inverted u-shape pattern over our sample period. Foreign firms have higher volatility than matching U.S. firms for many years in the 1990s. This result is explained by the fact that foreign firms have much higher systematic risk than U.S. firms in the 1990s as compared to the 2000s. In contrast,

there is consistent evidence that foreign firms have lower idiosyncratic risk than U.S. firms. There are only two years in our sample period when foreign firms have significantly higher idiosyncratic risk than U.S. firms. (These two years coincide with the 1997-1998 Asian and Russian financial crises.) In contrast, U.S. firms have significantly higher idiosyncratic risk at the 1% significance level than foreign firms in 14 of 16 years. Finally, R^2 is significantly lower for U.S. firms in all years. It is interesting to note that idiosyncratic risk and R^2 differences evolve differently over our sample period. R^2 differences tend to fall over time; in contrast, idiosyncratic risk differences have a more complicated pattern, but seem to peak in 2001 and 2002. Guo and Savickas (2008) examine the time-series pattern of idiosyncratic volatility for the G7 countries and also find them to be elevated in 2001 and 2002 across these countries.

This section demonstrates that foreign firms consistently have lower idiosyncratic volatility than comparable U.S. firms. Foreign firms have higher total volatility than matching U.S. firms in the 1990s but not in the 2000s because they have higher systematic risk in the 1990s but not in the 2000s. We show that the greater idiosyncratic volatility of foreign firms cannot be explained by differences in liquidity or differences in leverage.

3 Why do foreign firms have lower idiosyncratic volatility?

In this section, we estimate regression models to investigate the determinants of the difference in risk measures between foreign and U.S. firms. Though our primary focus is the difference in idiosyncratic volatility, we estimate regression models for all three risk measures as these models help us better understand why idiosyncratic volatility differs across countries. In Section 4, we consider separately the determinants of R^2. In the regressions, we regress differences in risk measures on differences in country characteristics and on differences in firm characteristics. It is legitimate to be concerned that when the left-hand and right-hand side variables of these regressions are contemporaneous, these variables could be jointly determined, perhaps as a function of some omitted variables. This problem is mitigated by regressing a volatility measure at time *t* on firm and country characteristics at time *t-1*.

Our investigation has several different steps. First, we estimate country-level Fama-MacBeth regressions that use only country characteristics as explanatory variables. Next, we estimate firm-level Fama-MacBeth regressions that also include firm characteristics as explanatory variables. Finally, we investigate Fama-MacBeth regressions for changes in risk variables. We use Fama-McBeth regressions, so that the fact that the number of firms is much larger towards the end of our sample period does not influence our results. As an alternative to Fama-MacBeth regressions, we estimate pooled regressions. We implement the pooled regressions in two different ways. First, we weight each firm-year equally. This traditional implementation gives a lot of weight to the more recent years in the sample because these years have a lot more firms. Second, we weight each year equally, so that the weight of a firm-year depends on the number of observations in that year. The use of these different approaches should alleviate the concern that we do not have a balanced panel, in addition to helping reduce concerns about endogeneity. Later in the section, we compare the estimates from the different methods.

The dependent variables in our regressions are log differences in volatility measures between foreign firms and matching U.S. firms. We standardize the explanatory variables to have a mean of zero and a standard deviation of one. (We standardize by year for Fama-MacBeth regressions.) This standardization allows us to interpret the intercept of the regression as the unexplained difference in volatility between foreign and U.S firms. The standardization also allows us to interpret estimated coefficients for variables as the effect on volatility of a one standard deviation change in the variables under consideration.

Before turning to the regressions, we first present in Table 4 a correlation matrix of our dependent variables and of our country characteristics. The table uses median values for each country (calculated across available years to create single observations for each country). We see that there is typically a strong negative correlation between the ICR Political Risk indices and our volatility measures. This result holds for both the stability and law and order components. The correlations for political risk are similar for idiosyncratic risk and for systematic risk. In contrast, the volatility measures have low and insignificant correlations with the creditor protection index and the anti-self-dealing index. The correlations of the volatility measures with market turnover are positive and weakly significant for

idiosyncratic risk, but the correlations are negative with stock market capitalization to GDP (but only significant for systematic risk). The proxies for credit market development are negatively correlated with the volatility measures in most cases. In the following, we reproduce results only for the private bond market and the bank private credit measures to save space. We find a negative correlation between our volatility measures and our proxy for economic development, GDP per capita. The correlations between our volatility measures and the disclosure index are negative and high in absolute value, so that higher disclosure is associated with lower total, systematic, and idiosyncratic volatility at the firm level. The correlation table should caution us from inferring much from correlations between idiosyncratic risk and country characteristics. For many country characteristics, the sign of the correlation is the same for idiosyncratic risk and for systematic risk.

3.1 Country-level regressions

We first investigate country-level regressions. These estimations regress median differences in log risk measures on country characteristics. Such regressions allow for country characteristics to be related to the risk measures both directly and indirectly by affecting firm characteristics. For instance, if firms in countries with poor investor protection have less R&D and R&D is positively related with idiosyncratic risk, the coefficient on investor protection in country-level regressions that do not control for firm-level R&D would reflect both a direct effect of investor protection on idiosyncratic risk and the indirect effect through the lower level of R&D. Later, when we estimate regressions at the firm level and control for R&D, the coefficients on investor protection no longer reflect this indirect channel. It could be argued that country-level regressions that do not control for firm characteristics are more appropriate if country characteristics are truly exogenously determined and firm-level characteristics are functions of country characteristics. Since only country characteristics vary in such regressions, it would be inappropriate to estimate them at the firm level.

Table 5 reports results from country-level Fama-MacBeth regressions. Because some country variables are significantly correlated, we estimate a variety of specifications with different explanatory

variables. However, the significant results across specifications are usually consistent. We use lagged explanatory variables to reduce potential problems with possible endogeneity of country variables. The average cross-sectional regression includes about 40 countries (reported as observations). In these regressions, we use as the dependent variable the median difference between the risk measure of firms in a country and the matching U.S. firms. We regress this median difference on lagged differences in country characteristics between foreign countries and the United States.

In Table 5, we show regression estimates for our three volatility measures. We first consider the regressions using total risk. When estimating univariate regressions, we find that total risk is significantly negatively related to the ICR Political Risk indices, the credit market development proxies, GDP per capita, and the disclosure index. Higher values of the political risk index mean less risk, so that stock return volatility falls as political risk decreases. Note that a higher value of the disclosure index means better disclosure, so that better disclosure is associated with less total risk. Total risk is positively related to stock market turnover. Finally, total risk is not significantly related to the creditor rights index, the anti-self-dealing index, or market capitalization as a percent of GDP.

In multiple regressions, total risk is negatively related to the ICR Political Risk indices, GDP per capita and disclosure. We see that total risk is unrelated to creditor rights. The anti-self-dealing index has a positive significant coefficient. Both market capitalization and domestic stock market volatility have positive significant coefficients. The credit development proxies have negative coefficients but only private bond capital is significant. We also include a variable that measures the fraction of the domestic market listings that our sample covers.[20] This market coverage variable controls for a possible bias from our database coverage; the positive coefficient indicates higher total risk as market coverage increases.

Panel B estimates regressions where the dependent variable is systematic risk. Univariate regressions typically have coefficients with the same sign as the regressions for total risk. However, the stock market

[20] Market coverage is defined for each country-year as the percentage of all listed firms that are in our sample in that year. Data on the total number of listings comes from the World Federation of Exchanges (supplemented by data hand collected from individual exchange websites) and include only local country listings.

turnover ratio is not significant whereas the anti-self-dealing index and stock market capitalization are significant. In multiple regressions, the signs of the coefficients are also generally similar but significance levels are lower. An exception is the creditor rights index which has a positive significant coefficient in four regressions out of six. Only the ICR political risk index, GDP per capita, the disclosure index, private bond capital and the domestic market index volatility are consistently significant.

Finally, Panel C reports regressions where the dependent variable is idiosyncratic risk. The univariate regressions are similar to those for total risk. In the multiple regressions, the coefficients on political risk variables are negative and significant, so that greater political risk (i.e., a lower value of the index) is associated with higher idiosyncratic risk. The coefficient on creditor rights is not significant but the coefficient on the anti-self-dealing index is always positive and significant. The coefficients on turnover and stock market capitalization to GDP are usually positive and significant. Disclosure, GDP per capita, and private bond capital all have significant negative coefficients. In general, the credit market development proxies have negative coefficients, but only the bond market development proxy has significant coefficients. The domestic stock market volatility has a positive significant coefficient. The market coverage variable, which proxies for selection, is always positive and significant.

It follows from Table 5 that, surprisingly, countries with better disclosure and better respect for the rule of law tend to have lower idiosyncratic volatility. This result is robust to splitting the political risk index into two components, a country stability component and a law and order component. In contrast, shareholder rights as measured by the anti-self-dealing index seem to be positively related to idiosyncratic risk. Further, stock market development is generally positively related to idiosyncratic volatility.

3.2 Firm-level regressions

We now estimate firm-level Fama-McBeth regressions using levels of variables controlling also for firm characteristics not used in our matching procedure. The firm characteristics we control for are the ratio of plant, property and equipment to total assets, the gross profit margin averaged over the last three years, the ratio of cash and short-term securities to total assets net of cash and short-term securities, the ratio of

total debt due in more than one year to total debt, and leverage. We also control for the firms' percentage of zero returns and for the ratio of the number of firms covered in our sample relative to the number of total listed firms in each country to account for a possible selection bias due to the fact that not all firms are covered in DataStream and WorldScope. All firm characteristics are lagged. Remember that firms are matched on size, market-to-book and age, so that we do not control for these characteristics.

Panel A of Table 6 shows the regression estimates for total risk. We see that estimating the regressions at the firm level and controlling for firm characteristics affects some of the coefficients of the country characteristics. The coefficient on market coverage is now insignificant and smaller in several regressions. In contrast, the coefficients on market capitalization roughly double in magnitude. Most other results for country factors are similar to those in Table 5. Remember that all our variables are normalized. We can therefore conclude that the ICR law and order index, GDP per capita, stock market capitalization, and domestic market index volatility are the most economically significant country-level variables for total risk. Firm-level variables are in many cases both economically and statistically more significant than the country variables. We find that firms with more PPE, greater profitability, and longer debt maturity are less volatile. The role of profitability is consistent with the arguments in the literature discussed earlier that greater competition is associated with less firm-level volatility. Firms with more cash, more R&D, more capital expenditures, and more leverage are more volatile. Not surprisingly, in light of our earlier results, the lagged percentage of zero returns is positive and significant.

Next, we turn to systematic risk. The country characteristics have coefficients of the same sign as in the regressions for total risk and similar significance with a few exceptions. First, the index of creditor rights has a positive significant coefficient. Second, the turnover ratio has a negative significant coefficient. The coefficients on firm characteristics generally have the same sign as in the total risk regressions. An important exception is that the coefficient on the percentage of zero returns has a negative significant coefficient.

Lastly, we examine the regressions for idiosyncratic risk. Though we do not reproduce the univariate regressions, the signs of coefficient estimates are similar to those of the country-level regressions. In

particular, the coefficients on disclosure and on the credit market development proxies are negative and significant, the coefficient on turnover is positive and significant, and finally the coefficient on stock market capitalization to GDP is not significant. One difference is that the anti-self-dealing index does have a significant positive coefficient. In the multiple regressions, most coefficient estimates on the country characteristics are similar to the estimates obtained with the country-level regressions even though we now control for firm characteristics. This result suggests that the indirect effect of country characteristics – i.e., the relation between idiosyncratic risk and firm characteristics induced by the choice of firm characteristics in response to country characteristics – is extremely limited with the firm characteristics we use. Stock market turnover and stock market capitalization have positive significant coefficients except for one regression for stock market turnover. The private bond market development proxy is significant, but the private credit extended by banks is not. The coefficient on disclosure is negative and significant in all regressions but one. Firm characteristics have coefficients of the same sign and significance as in the total risk regressions.[21]

Our regressions provide no evidence that firms in a more risky environment are able to take steps to have less idiosyncratic risk to offset greater systematic risk. Firms in countries with a greater political risk index, which means countries with a more stable government and better law enforcement, have lower systematic risk and lower idiosyncratic risk. Consequently, better respect of property rights and less corruption are associated with lower risk. Firms in countries with better developed equity markets have more idiosyncratic risk, but similar or less systematic risk. In contrast, firms in countries with better developed bond markets have less idiosyncratic risk. The creditor rights index is not related to idiosyncratic risk, but countries with better creditor rights have more systematic risk. The anti-self-dealing index is significantly positively related to idiosyncratic risk in half of our regressions and in the others it does not have a significant coefficient.

[21] Importantly, the selection variable (market coverage) is not consistently significant, and when it is significant, it is negative. This contrasts with the results in Table 5 and suggests that any significant problems with a bias toward excluding small stocks are accounted for by the firm-level variables.

3.3 Other Regression Methods

We explore the robustness of our results in a number of different ways. First, we estimate regressions with different firm-level control variables. The significance of the anti-self-dealing index depends heavily on the firm-level control variables. The coefficients on the other country-level variables are much less sensitive to which variables are included. Second, we estimate traditional panel regression models where we consider standard errors corrected for clustering by firm and country. We do not reproduce the regression estimates in a table. These models give a lot more weight to recent years in the sample period because WorldScope has data for more firms in those years. Focusing on the regressions for idiosyncratic risk, we find that the equity market development variables have highly significant positive coefficients in all regressions, and other results are also similar to those in Table 6. For example, the disclosure index always has a negative coefficient but the significance varies across specifications. Finally, we estimate panel regressions where we weight each year's observations equally. The results are also consistent with the regressions in Table 6.[22]

One concern with the regressions discussed so far is that our variables could be correlated with unmodeled country or firm attributes. Estimating change regressions is one approach that helps alleviate these concerns. There are some serious limitations, however, with using such an approach. Institutions change slowly. As a result, changes in proxies for institutions are unlikely to have enough variability to have much explanatory power in change regressions. Specifically, some country variables exhibit very little time-series variation as compared to cross-country variation (e.g., ICR indices, creditor rights, credit market development proxies), and some of our proxies for institutions are observed only once. Further, firms are unlikely to make major decisions based on what could be temporary changes. For example, if changes in equity market development make it possible for riskier firms to become publicly traded, such an impact of equity market development may not be apparent before a number of years. Nevertheless, firm-level characteristics typically change every year so these tests at a minimum serve as robustness

[22] These findings are also robust to the inclusion of year fixed effects.

checks for these variables. In addition, enough of the country variables change at least in some years that we can estimate such regressions.

In Table 7, we reproduce Fama-MacBeth firm-level change regressions. The regressions are the change versions of the regressions in Table 6, except that we cannot use the anti-self-dealing index or the disclosure index because these indices are not available on a yearly basis. Panel A reports results for total risk. As expected, none of the country-level variables are consistently significant. However, all the firm-level characteristics are significant with the same sign as with the level regressions. When we turn to the systematic risk regressions, no country characteristic is consistently significant though the coefficient on creditor rights is positive and significant at the 10% level in three specifications. Again, all the firm characteristics are consistently significant except debt maturity. Finally, with idiosyncratic risk, the coefficients on firm characteristics are all significant and of the same sign as coefficients estimated in the level regressions. No country-level variable is consistently significant, but surprisingly one of the political risk measures has a positive significant coefficient in one regression, and turnover has a negative significant coefficient in some regressions. It follows from Table 7 that the key results on firm characteristics are robust across all our specifications and that we cannot learn much about the impact of country characteristics from change regressions.

4 Idiosyncratic volatility, systematic risk, and R^2

Following Mock, Yeung, and Yu (2000), a large literature has developed that focuses on explaining why R^2 differs across countries or within countries. A firm's R^2 is simply the square of its systematic risk divided by the square of its total risk. Consequently, R^2 can fall because systematic risk falls, or because total risk increases for constant systematic risk. An increase in total risk not accompanied by an increase in systematic risk is an increase in idiosyncratic risk. As a result, there are two sources of variation in R^2: systematic risk and idiosyncratic risk. R^2 increases with systematic risk and falls with idiosyncratic risk. It is well-established that R^2 falls as a country's institutions that protect investors improve. With our approach in this paper, we can contribute to this literature by examining whether its results hold when

controlling for firm characteristics and what the R^2 results tell us about the relation between idiosyncratic risk and a country's institutions. Another way to put this is that we can address the question of whether firms with similar characteristics located in different countries still have R^2's that are related to country characteristics. The answer is yes.

Table 8 reports results from country-level Fama-MacBeth regressions, firm-level Fama-MacBeth regressions, and firm-level change Fama-MacBeth regressions with the logistic transform of R^2 as the dependent variable. The R^2 literature has focused on averages of R^2 over a sample period at the country level. Here, we let R^2 change each year, and we also report results from estimations at the firm-level. We consider first country-level regressions. R^2 is negatively related to the political risk indices, bank credit, private bond capital, GDP per capita, and disclosure. Further, it is positively related to the creditor rights index, but this is because the creditor rights index is positively related to systematic risk. Hence, countries with more stable political institutions, better rule of law, and better disclosure have a lower R^2 as we would expect from the literature. The level of credit market development is negatively related to R^2. Equity market development is negatively related to R^2 as predicted but the coefficients are not consistently significant.

In the next two panels, we estimate regressions at the firm level. In Panel B, we use levels of variables. Results for country variables are similar to those in Panel A, except the credit market development variables are no longer significant and turnover becomes consistently significant. Disclosure quality and stability of political institutions are the most economically significant country variables. It is important to note, however, that these variables are significant because of their correlation with systematic risk rather than because of their correlation with idiosyncratic risk. Several firm-level variables are strongly significant: profitability and debt maturity are positively related to R^2, while capex, percent zero returns, and leverage have negative relations. These relations are identical to those for idiosyncratic risk. In Panel C, we use change regressions. As with the change regressions for the risk variables, the country factors are generally not significant. However, all of the firm-level factors are of the same sign and significance as in the level regressions, except capex which is no longer significant.

The results in this section show that R^2 is related to both country characteristics and firm characteristics. However, some of the coefficients on country characteristics are weaker when we control for firm characteristics. Most importantly, one cannot infer from R^2 regressions that a country characteristic is related to idiosyncratic risk because country characteristics are typically also related to systematic risk in the same way. For example, the strong negative relation between political stability and R^2 does not imply a positive relation between political stability and idiosyncratic risk. To the contrary, the results in Table 6 demonstrate a strong negative relation between political stability and idiosyncratic risk. Instead the result for R^2 is driven by a stronger negative relation for systematic risk than for idiosyncratic risk. Our results have important implications for the interpretation of R^2 results in previous work. Specifically, both country-level and firm-level factors can be important for determining the overall levels of risk and not just the relative composition. In addition, some results that have been attributed to differences in idiosyncratic risk levels are actually driven by differences in systematic risk levels. This is true for both country-level and firm-level characteristics. Thus, a detailed analysis of the determinants of R^2 is necessary for understanding the relations between firm and country characteristics and risk attributes of a firm's stock returns.

5 Conclusion

In this paper, we examine how firm idiosyncratic risk, as well as other firm risk measures and firm R^2, are related to country characteristics. We investigate this issue focusing on risk differences between foreign firms and similar U.S. firms. To carry out our analysis, we construct a large and unique global dataset that merges historical stock return data (from DataStream) with firm-level accounting data (from WorldScope) for the period from 1990 to 2006.

We find that foreign firms have lower idiosyncratic risk than comparable U.S. firms. The difference in idiosyncratic risk between foreign and comparable U.S. firms is related to both country and firm characteristics. We find that an index that proxies for government quality and stability is strongly negatively related to idiosyncratic risk. This evidence suggests that firms have limited ability to offset

firm-specific risks resulting from the overall riskiness of their country. In contrast, idiosyncratic risk increases with equity market development and falls with bond market development. Surprisingly, in most of our regressions there is a significant negative relation between disclosure and idiosyncratic risk, and no regression has a positive significant relation. There is no consistent evidence of a relation between creditor rights and idiosyncratic risk, but in many of our regressions there is a positive significant relation between the anti-self-dealing index and idiosyncratic risk. Yet, in R^2 regressions, there is clear evidence that R^2 increases as creditor rights are better protected and that it falls as disclosure increases. We show that these results are attributable to the relation between investor protection proxies and *systematic risk*, not idiosyncratic risk. Our evidence is consistent with the literature which stresses that firms can choose riskier projects in countries with better equity market development and shareholder protection. A possible alternative explanation for our evidence could be that financial development is associated with more trading, which leads to more volatility through noise trading. Further research is required to evaluate how financial development directly affects firm decisions and to assess the relevance of the alternative explanation.

References

Acemoglu, Daron and Fabrizio Zilibotti, 1997, Was Prometheus unbound by chance? Risk, diversification, and growth, *Journal of Political Economy* 105, 709-751.

Acharya, Viral, Yakov Amihud, and Lubomir Litov, 2008, Credit rights and corporate risk-taking, unpublished working paper, London Business School, London.

Beck, Thorsten, Asli Demirgüç-Kunt and Ross Levine, 2000, A New Database on Financial Development and Structure, *World Bank Economic Review* 14, 597-605.

Bekaert, G., C.R. Harvey, and C. Lundblad, 2006, Liquidity and expected returns: Lessons from emerging markets, unpublished working paper, University of North Carolina.

Bekaert, G., R.J. Hodrick, and X. Zhang, 2008, Is there a trend in idiosyncratic volatility?, unpublished paper, Columbia University, New York, NY.

Brandt, M. W., A. Brav, J. R. Graham, A. Kumar, 2008, The idiosyncratic volatility puzzle: Time trend or speculative episodes? unpublished working paper, Duke University, Durham, NC.

Brown, Gregory, and Nishad Kapadia, 2007, Firm-specific risk and equity market development, *Journal of Financial Economics* 84(2), 358-388.

Campbell, J., M. Lettau, B. Malkiel, and Y. Xu, 2001, Have individual stocks become more volatile? An empirical exploration of idiosyncratic risk, *Journal of Finance* 56, 1-43.

Claessens, Stijn and Luc Laeven, 2003, Financial development, property rights, and growth, *Journal of Finance* 58(6), 2401-2436.

Coles, Jeffrey L., Naveen D. Daniel and Lalitha Naveen, 2006, Managerial incentives and risk-taking, *Journal of Financial Economics* 79, 431-468.

Comin, Diego, and Thomas Philippon, 2005, The rise in firm-level volatility: Causes and consequences, NBER Macroeconomic Annual.

Dahlquist, Magnus, Lee Pinkowitz, René M. Stulz, and Rohan Williamson, 2003, Corporate governance and the home bias, *Journal of Financial and Quantitative Analysis* 38, 87-111.

Demirguc-Kunt, Asli and Vojislav Maksimovic, 1999, Institutions, financial markets, and firm debt maturity, *Journal of Financial Economics* 54(3), 295-336.

Djankov, Simeon, Caralee McLiesh and Andrei Shleifer, 2007, Private credit in 120 countries, *Journal of Financial Economics* 84, 299-329.

Djankov, S., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer, 2008, The law and economics of self-dealing, *Journal of Financial Economics* 88, 430-465.

Doidge, Craig, C. Andrew Karolyi and René M. Stulz, 2007, Why do countries matter so much for corporate governance?, *Journal of Financial Economics* 86(1), 1-39.

Drucker, Steve, and Manju Puri, 2005, On the benefits of concurrent lending and underwriting, *Journal of Finance* 60(6), 2763-2799.

Durnev, Artyom, Randall Morck, Bernard Yeung, and Paul Zarowin, 2003, Does greater firm-specific return variation mean more or less informed stock pricing? *Journal of Accounting Research* 41, 797-836.

Glaeser, Edward L., Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, 2004, Do Institutions cause growth?, *Journal of Economic Growth* 9, 271-303.

Griffin, John, Frederico Nardari, and René Stulz, 2007, Do investors trade more when stocks have performed well? Evidence from 46 countries, *Review of Financial Studies* 20, 905-951.

Guo, Hui, and Robert Savickas, 2008, Average idiosyncratic volatility in G7 countries, *Review of Financial Studies*, forthcoming.

Ince, Ozgur S., and R. Burt Porter, 2006, Individual equity return data from Thomson Datastream: Handle with care!, *Journal of Financial Research* 29, 463-479.

Irvine, Paul J., and Jeffrey Pontiff, 2005, Idiosyncratic return volatility, cash flows, and product market competition, working paper, unpublished paper, Boston College, MA.

Jin, Li, and Stewart Myers, 2007, R-squared around the world: New theory and new tests, *Journal of Financial Economics* 79(2), 257-292.

John, Kose, Bernard Yeung, and Lubomir Litov, 2008, Corporate governance and risk-taking, *Journal of Finance*, 1679-1728.

Kaufman, Daniel, Aart Kraay, and Massimo Mastruzzi, 2007, Governance matters VI: Governance indicators for 1996-2006, World Bank Policy Research Working Paper No. 4280.

Kelly, Patrick, 2007, Information Efficiency and Firm-Specific Return Variation, unpublished working paper, University of South Florida.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, 1998, Law and finance, *Journal of Political Economy* 106(6), 1113-1155.

Lee, Peggy M., and Sunil Wahal, 2004, Grandstanding, certification and the underpricing of venture capital backed IPOs, *Journal of Financial Economics* 73(2), 375-407.

Levine, Ross and Sara Zervos, 1998, Stock markets, banks, and economic growth, *American Economic Review* 88(3), 537-558.

Li, Kai, 2007, Growth in equity market size and trading activity: An international study, *Journal of Empirical Finance* 14, 59-90.

Michelacci, Claudio, and Fabiano Schivardi, 2008, Does idiosyncratic business risk matter?, working paper, Center for Economic Policy Research, London.

Morck, Randall, Bernard Yeung, and Wayne Yu, 2000, The information content of stock markets: Why do emerging markets have synchronous stock price movements? *Journal of Financial Economics* 58, 215-260.

Obstfeld, Maurice, 1994, Risk-taking, global diversification, and growth, *American Economic Review* 84, 1310-1329.

Pastor, Lubos and Veronesi Pietro, 2003, Stock valuation and learning about profitability, *Journal of Finance* 58, 1749-1790.

Roll, Richard, 1988, R^2, Journal of Finance 43, 541-566.

Stulz, René M., 2003, Derivatives and Risk Management, Southwestern Publishing.

Stulz, René M., 2005, The limits of financial globalization, *Journal of Finance* 60, 1595-1638.

Teoh, Siew Hong, Yong (George) Yang, and Yinglei Zhang, 2008, R-square: Noise of firm-specific information?, unpublished paper, University of California, Irvine.

Thesmar, David, and Mathias Koenig, 2004, Financial market development and the rise of firm level uncertainty, CEPR Discussion Paper, CEPR, London.

Table 1: Matched Sample Tests

This table reports mean, median, and standard deviation (Std.Dev.) values for characteristics of Non-U.S. firms and matched U.S. firms. Annual values for each Non-U.S. firm (and its matched U.S. firm(s)) are averaged so that each Non-U.S. firm appears only once. Variables are created using USD-denominated data. Firms with more than 30% of local currency stock returns equal to zero in the previous period are excluded. Matching is performed one year prior to the observation year by industry. The first part reports values for variables utilized in propensity score matching including the propensity scores. The second part reports values for the primary firm-level variables. The third part reports values for country-level variables. Not all variables are available for all firms. *p*-values from *t*-tests and Wilcoxon tests for differences in samples are reported in the last two columns. Variable definitions are provided in the Appendix.

		Non-U.S. Firms			Matched U.S. Firms			Differences		*p*-values	
Variable	N	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Means	Median	*t*-Test	Wilcoxon
Matching Characteristics (lagged)											
Total Assets (log)	20,069	4.903	4.771	1.941	5.412	5.464	1.296	-0.509	-0.693	<0.001	<0.001
Firm Age (log)	20,069	1.750	1.835	0.851	1.967	2.030	0.649	-0.217	-0.195	<0.001	<0.001
Market-to-Book Value	20,069	2.434	1.719	2.367	2.305	1.999	1.455	0.129	-0.279	<0.001	<0.001
p-Score	20,069	0.820	0.852	0.124	0.819	0.851	0.123	0.000	0.000	0.733	0.602
Firm Characteristics											
Leverage	19,914	0.268	0.231	0.223	0.241	0.227	0.144	0.026	0.004	<0.001	0.314
Closely Held Shares (%)	14,049	0.460	0.469	0.216	0.305	0.293	0.138	0.155	0.176	<0.001	<0.001
PPE (% Total Assets)	19,738	0.314	0.283	0.229	0.272	0.244	0.172	0.041	0.039	<0.001	<0.001
R&D Expense (% Total Assets)	20,069	0.011	0.000	0.046	0.031	0.006	0.060	-0.020	-0.006	<0.001	<0.001
Capital Expenditures (%Total Assets)	19,529	0.057	0.039	0.061	0.051	0.043	0.043	0.005	-0.004	<0.001	<0.001
Gross Profit Margin (3 yr. avg.)	17,995	0.220	0.210	0.247	0.278	0.282	0.178	-0.058	-0.072	<0.001	<0.001
Cash & STI (% Total Assets)	18,828	0.346	0.138	0.831	0.457	0.184	0.819	-0.111	-0.046	<0.001	<0.001
Debt Maturity	18,064	0.452	0.451	0.293	0.720	0.759	0.207	-0.268	-0.308	<0.001	<0.001
Percent Zero Returns (lagged)	20,069	0.089	0.073	0.064	0.045	0.042	0.031	0.044	0.031	<0.001	<0.001
Country Characteristics											
ICR Political Index	20,069	78.622	82.200	8.570	82.082	82.143	1.362	-3.460	0.057	<0.001	<0.001
ICR Political Risk - Stability	20,069	56.895	58.000	5.262	57.235	56.929	1.678	-0.341	1.071	<0.001	<0.001
ICR Political Risk - Law & Order	20,069	21.727	22.208	3.836	24.847	25.188	0.687	-3.120	-2.979	<0.001	<0.001
Creditor Rights	20,056	2.276	2.000	0.994	1.000	1.000	0.000	1.276	1.000	<0.001	<0.001
Anti-Selfdealing Index	20,069	0.611	0.560	0.226	0.650	0.650	0.000	-0.039	-0.090	<0.001	<0.001
Stock Market Turnover Ratio	20,069	0.922	0.806	0.526	1.475	1.506	0.205	-0.553	-0.699	<0.001	<0.001
Total External Capital (% GDP)	20,069	2.735	2.878	1.192	4.593	4.680	0.281	-1.858	-1.802	<0.001	<0.001
Stock Market Capital (% GDP)	20,069	1.010	0.798	0.742	1.307	1.316	0.100	-0.297	-0.517	<0.001	<0.001
Bank Private Credit (% GDP)	17,480	1.039	1.058	0.386	0.527	0.524	0.027	0.513	0.534	<0.001	<0.001
Bank & Other Private Credit (% GDP)	17,487	1.114	1.164	0.405	1.732	1.770	0.138	-0.618	-0.607	<0.001	<0.001
Private Bond Capital (% GDP)	20,069	0.295	0.280	0.185	1.076	1.103	0.086	-0.781	-0.824	<0.001	<0.001
Public Bond Capital (% GDP)	20,069	0.460	0.338	0.351	0.467	0.462	0.025	-0.007	-0.124	0.005	<0.001
GDP per Capita	20,004	0.021	0.025	0.013	0.038	0.039	0.004	-0.017	-0.014	<0.001	<0.001
Disclosure Index	19,923	5.476	5.553	0.742	6.553	6.553	0.000	-1.076	-1.000	<0.001	<0.001
Domestic Market Volatility (log)	18,868	-1.639	-1.630	0.279	-2.028	-2.032	0.188	0.389	0.402	<0.001	<0.001

Table 2: Matched Sample Tests of Risk Measures

This table reports mean, median, and standard deviation (Std.Dev.) values for risk characteristics of Non-U.S. firms and matched U.S. firms. Annual values for each Non-U.S. firm (and its matched U.S. firm(s)) are averaged so that each Non-U.S. firm appears only once in each panel. Variables are created using USD-denominated data. Matching is performed one year prior to the observation year by industry. *p*-values from *t*-tests and Wilcoxon tests for differences in samples are reported in the last two columns. Panel A reports values for all firms. Panel B reports differences by different screens for trading activity (i.e., percent of returns equal to zero). Panel C reports values for unlevered risk measures using four alternative leverage measures:

1. (Total Debt + Preferred Stock) / (Year-End Market Capitalization + Total Debt + Preferred Stock)
2. (Total Debt + Preferred Stock) / (Total Assets – Total Common Equity + Year End Market Capitalization)
3. (Total Debt + Preferred Stock) / (Total Debt + Preferred Stock + Total Common Equity)
4. Total Debt / (Total Debt + Preferred Stock + Year End Market Capitalization)

Panel A: Differences in Risk Measures

		Non-U.S. Firms			Matched U.S. Firms			Differences		*p*-values	
	N	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Means	Medians	*t*-Test	Wilcoxon
All Countries											
Total Risk	20,069	0.490	0.442	0.212	0.497	0.480	0.169	-0.007	-0.038	<0.001	<0.001
Systematic risk	20,065	0.201	0.185	0.094	0.172	0.165	0.064	0.029	0.020	<0.001	<0.001
Idiosyncratic Risk	20,065	0.436	0.387	0.205	0.460	0.442	0.162	-0.024	-0.055	<0.001	<0.001
R^2	20,065	0.211	0.187	0.122	0.153	0.148	0.066	0.057	0.039	<0.001	<0.001
Developed Countries Only											
Total Risk	12,967	0.494	0.436	0.232	0.503	0.484	0.174	-0.008	-0.048	<0.001	<0.001
Systematic risk	12,963	0.191	0.177	0.084	0.175	0.167	0.067	0.015	0.010	<0.001	<0.001
Idiosyncratic Risk	12,963	0.446	0.386	0.227	0.464	0.445	0.166	-0.018	-0.059	<0.001	<0.001
R^2	12,963	0.198	0.174	0.113	0.155	0.151	0.065	0.043	0.023	<0.001	<0.001
Emerging Countries Only											
Total Risk	7,564	0.487	0.450	0.178	0.486	0.471	0.163	0.001	-0.020	0.774	0.002
Systematic risk	7,563	0.222	0.204	0.111	0.166	0.160	0.062	0.056	0.044	<0.001	<0.001
Idiosyncratic Risk	7,563	0.419	0.389	0.161	0.450	0.436	0.158	-0.031	-0.047	<0.001	<0.001
R^2	7,563	0.238	0.218	0.138	0.150	0.142	0.069	0.088	0.076	<0.001	<0.001

(continued)

Table 2: Matched Sample Tests of Risk Measures (continued)

Panel B: Differences in Risk Measures by Zero Return Thresholds

		Non-U.S. Firms			Matched U.S. Firms			Differences		*p*-values	
	N	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Means	Medians	*t*-Test	Wilcoxon
Total Risk											
No Zero Returns Screen	21,305	0.497	0.447	0.221	0.522	0.502	0.173	-0.024	-0.055	<0.001	<0.001
<30% Zero Returns Threshold	20,069	0.490	0.442	0.212	0.497	0.480	0.169	-0.007	-0.038	<0.001	<0.001
<10% Zero Returns Threshold	17,488	0.476	0.433	0.204	0.476	0.453	0.169	0.000	-0.021	0.857	<0.001
Systematic risk											
No Zero Returns Screen	21,302	0.196	0.182	0.089	0.170	0.165	0.060	0.026	0.017	<0.001	<0.001
<30% Zero Returns Threshold	20,065	0.201	0.185	0.094	0.172	0.165	0.064	0.029	0.020	<0.001	<0.001
<10% Zero Returns Threshold	17,486	0.207	0.191	0.101	0.177	0.168	0.073	0.030	0.023	<0.001	<0.001
Idiosyncratic Risk											
No Zero Returns Screen	21,302	0.445	0.394	0.215	0.486	0.466	0.168	-0.041	-0.072	<0.001	<0.001
<30% Zero Returns Threshold	20,065	0.436	0.387	0.205	0.460	0.442	0.162	-0.024	-0.055	<0.001	<0.001
<10% Zero Returns Threshold	17,486	0.417	0.374	0.193	0.435	0.414	0.159	-0.018	-0.040	<0.001	<0.001
R^2											
No Zero Returns Screen	21,302	0.202	0.174	0.120	0.141	0.136	0.063	0.061	0.038	<0.001	<0.001
<30% Zero Returns Threshold	20,065	0.211	0.187	0.122	0.153	0.148	0.066	0.057	0.039	<0.001	<0.001
<10% Zero Returns Threshold	17,486	0.229	0.210	0.128	0.170	0.163	0.077	0.060	0.047	<0.001	<0.001

(continued)

Table 2: Matched Sample Tests of Risk Measures (continued)

Panel C: Differences in Alternative Unlevered Risk Measures

		Non-U.S. Firms			Matched U.S. Firms			Differences		*p*-values	
	N	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Means	Medians	*t*-Test	Wilcoxon
Total Risk											
Raw	20,069	0.490	0.442	0.212	0.497	0.480	0.169	-0.007	-0.038	<0.001	<0.001
Unlevered 1	20,069	0.357	0.305	0.208	0.373	0.351	0.159	-0.016	-0.046	<0.001	<0.001
Unlevered 2	19,736	0.395	0.342	0.202	0.404	0.381	0.158	-0.009	-0.039	<0.001	<0.001
Unlevered 3	19,737	0.336	0.286	0.206	0.350	0.327	0.164	-0.013	-0.042	<0.001	<0.001
Unlevered 4	20,069	0.359	0.306	0.208	0.381	0.357	0.163	-0.022	-0.051	<0.001	<0.001
Systematic risk											
Raw	20,065	0.201	0.185	0.094	0.172	0.165	0.064	0.029	0.020	<0.001	<0.001
Unlevered 1	20,065	0.145	0.129	0.081	0.131	0.122	0.062	0.014	0.006	<0.001	<0.001
Unlevered 2	19,732	0.162	0.146	0.083	0.143	0.133	0.063	0.019	0.013	<0.001	<0.001
Unlevered 3	19,733	0.136	0.120	0.081	0.123	0.112	0.063	0.014	0.008	<0.001	<0.001
Unlevered 4	20,065	0.145	0.129	0.081	0.134	0.124	0.063	0.012	0.005	<0.001	<0.001
Idiosyncratic Risk											
Raw	20,065	0.436	0.387	0.205	0.460	0.442	0.162	-0.024	-0.055	<0.001	<0.001
Unlevered 1	20,065	0.318	0.267	0.199	0.344	0.323	0.150	-0.026	-0.056	<0.001	<0.001
Unlevered 2	19,732	0.351	0.298	0.193	0.372	0.351	0.149	-0.021	-0.052	<0.001	<0.001
Unlevered 3	19,733	0.300	0.249	0.196	0.323	0.302	0.154	-0.023	-0.053	<0.001	<0.001
Unlevered 4	20,065	0.320	0.268	0.199	0.351	0.329	0.154	-0.032	-0.062	<0.001	<0.001

Table 3: Matched Sample Tests over Time

This table reports mean, median, and standard deviation (Std.Dev.) values for risk characteristics of Non-U.S. firms and matched U.S. firms by year. Variables are created using U.S. dollar denominated data. Firms with more than 30% of local currency stock returns equal to zero in the previous year are excluded. Matching is performed one year prior to the observation year by industry. *p*-values from *t*-tests and Wilcoxon tests for differences in samples are reported in the last column.

			Non-U.S. Firms			U.S. Firms			Differences		p-values	
	Year	N	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Means	Medians	*t*-Test	Wilcoxon
Total Risk	1991	2,889	0.342	0.318	0.132	0.388	0.348	0.171	-0.046	-0.030	<0.001	<0.001
	1992	3,316	0.403	0.382	0.158	0.361	0.329	0.149	0.042	0.053	<0.001	<0.001
	1993	3,584	0.375	0.350	0.146	0.348	0.315	0.152	0.027	0.035	<0.001	<0.001
	1994	4,114	0.344	0.311	0.167	0.326	0.293	0.140	0.018	0.018	<0.001	<0.001
	1995	4,723	0.350	0.328	0.141	0.343	0.299	0.175	0.007	0.029	0.031	<0.001
	1996	5,372	0.326	0.289	0.146	0.354	0.304	0.173	-0.028	-0.015	<0.001	<0.001
	1997	6,246	0.480	0.427	0.235	0.366	0.322	0.166	0.114	0.105	<0.001	<0.001
	1998	6,996	0.621	0.537	0.332	0.500	0.452	0.231	0.121	0.085	<0.001	<0.001
	1999	8,077	0.528	0.477	0.242	0.531	0.469	0.270	-0.003	0.008	0.518	0.013
	2000	9,630	0.549	0.488	0.263	0.643	0.549	0.348	-0.093	-0.062	<0.001	<0.001
	2001	11,503	0.556	0.485	0.289	0.653	0.574	0.354	-0.097	-0.089	<0.001	<0.001
	2002	12,634	0.507	0.444	0.270	0.600	0.518	0.332	-0.092	-0.075	<0.001	<0.001
	2003	14,096	0.455	0.392	0.244	0.512	0.437	0.283	-0.058	-0.046	<0.001	<0.001
	2004	15,071	0.412	0.362	0.207	0.455	0.393	0.240	-0.042	-0.031	<0.001	<0.001
	2005	16,552	0.399	0.350	0.206	0.427	0.379	0.216	-0.028	-0.028	<0.001	<0.001
	2006	17,470	0.430	0.387	0.203	0.422	0.383	0.202	0.009	0.004	<0.001	<0.001
Systematic risk	1991	2,887	0.179	0.173	0.074	0.165	0.158	0.083	0.014	0.016	<0.001	<0.001
	1992	3,311	0.230	0.211	0.110	0.123	0.117	0.063	0.107	0.094	<0.001	<0.001
	1993	3,567	0.198	0.188	0.088	0.109	0.099	0.055	0.089	0.090	<0.001	<0.001
	1994	4,114	0.175	0.154	0.113	0.122	0.115	0.059	0.053	0.039	<0.001	<0.001
	1995	4,723	0.170	0.153	0.092	0.095	0.080	0.058	0.076	0.073	<0.001	<0.001
	1996	5,372	0.137	0.126	0.073	0.110	0.100	0.059	0.027	0.025	<0.001	<0.001
	1997	6,246	0.244	0.196	0.187	0.119	0.108	0.062	0.125	0.088	<0.001	<0.001
	1998	6,996	0.363	0.292	0.270	0.222	0.206	0.115	0.142	0.085	<0.001	<0.001
	1999	8,077	0.215	0.182	0.143	0.150	0.130	0.094	0.065	0.051	<0.001	<0.001
	2000	9,630	0.219	0.181	0.142	0.225	0.165	0.182	-0.005	0.016	0.026	<0.001
	2001	11,503	0.264	0.227	0.173	0.264	0.229	0.169	-0.001	-0.002	0.785	0.853
	2002	12,634	0.213	0.186	0.127	0.201	0.174	0.127	0.011	0.012	<0.001	<0.001
	2003	14,094	0.180	0.158	0.107	0.174	0.153	0.111	0.006	0.005	<0.001	<0.001
	2004	15,070	0.182	0.165	0.092	0.166	0.145	0.097	0.016	0.020	<0.001	<0.001
	2005	16,551	0.149	0.134	0.078	0.145	0.132	0.077	0.004	0.001	<0.001	<0.001
	2006	17,457	0.193	0.178	0.094	0.156	0.149	0.083	0.037	0.029	<0.001	<0.001

(continued)

Table 3: Matched Sample Tests over Time (continued)

			Non-U.S. Firms			U.S. Firms			Differences		p-values	
	Year	N	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Means	Medians	*t*-Test	Wilcoxon
Idiosyncratic Risk	1991	2,887	0.283	0.258	0.127	0.345	0.310	0.165	-0.062	-0.052	<0.001	<0.001
	1992	3,311	0.318	0.293	0.144	0.336	0.308	0.144	-0.018	-0.015	<0.001	<0.001
	1993	3,567	0.307	0.277	0.141	0.327	0.282	0.150	-0.020	-0.005	<0.001	<0.001
	1994	4,114	0.286	0.255	0.144	0.298	0.267	0.136	-0.012	-0.012	<0.001	<0.001
	1995	4,723	0.296	0.273	0.132	0.327	0.283	0.171	-0.031	-0.011	<0.001	<0.001
	1996	5,372	0.289	0.255	0.142	0.332	0.289	0.172	-0.043	-0.035	<0.001	<0.001
	1997	6,246	0.396	0.360	0.187	0.342	0.298	0.164	0.054	0.062	<0.001	<0.001
	1998	6,996	0.479	0.416	0.248	0.440	0.387	0.218	0.039	0.029	<0.001	<0.001
	1999	8,077	0.470	0.422	0.223	0.504	0.442	0.263	-0.034	-0.020	<0.001	<0.001
	2000	9,630	0.493	0.433	0.245	0.593	0.508	0.314	-0.100	-0.075	<0.001	<0.001
	2001	11,503	0.472	0.403	0.265	0.585	0.506	0.334	-0.112	-0.103	<0.001	<0.001
	2002	12,634	0.448	0.376	0.261	0.556	0.475	0.321	-0.109	-0.099	<0.001	<0.001
	2003	14,094	0.408	0.342	0.236	0.474	0.400	0.275	-0.065	-0.058	<0.001	<0.001
	2004	15,070	0.360	0.311	0.203	0.416	0.356	0.233	-0.056	-0.045	<0.001	<0.001
	2005	16,551	0.363	0.314	0.203	0.396	0.350	0.213	-0.033	-0.036	<0.001	<0.001
	2006	17,457	0.376	0.328	0.200	0.387	0.343	0.199	-0.011	-0.015	<0.001	<0.001
R^2	1991	2,887	0.317	0.306	0.168	0.216	0.209	0.136	0.101	0.097	<0.001	<0.001
	1992	3,311	0.361	0.358	0.192	0.138	0.116	0.093	0.224	0.242	<0.001	<0.001
	1993	3,567	0.326	0.313	0.184	0.125	0.104	0.095	0.201	0.209	<0.001	<0.001
	1994	4,114	0.289	0.266	0.174	0.168	0.148	0.112	0.121	0.118	<0.001	<0.001
	1995	4,723	0.277	0.247	0.179	0.096	0.077	0.080	0.181	0.170	<0.001	<0.001
	1996	5,372	0.218	0.187	0.154	0.135	0.098	0.121	0.083	0.089	<0.001	<0.001
	1997	6,246	0.271	0.228	0.198	0.142	0.106	0.117	0.129	0.123	<0.001	<0.001
	1998	6,996	0.348	0.330	0.214	0.225	0.206	0.137	0.123	0.125	<0.001	<0.001
	1999	8,077	0.191	0.145	0.158	0.100	0.074	0.086	0.091	0.071	<0.001	<0.001
	2000	9,630	0.185	0.147	0.148	0.128	0.098	0.105	0.057	0.049	<0.001	<0.001
	2001	11,503	0.262	0.228	0.181	0.199	0.164	0.144	0.063	0.063	<0.001	<0.001
	2002	12,634	0.224	0.183	0.169	0.148	0.117	0.121	0.076	0.067	<0.001	<0.001
	2003	14,094	0.199	0.164	0.152	0.160	0.121	0.136	0.039	0.043	<0.001	<0.001
	2004	15,070	0.251	0.217	0.170	0.172	0.144	0.126	0.079	0.073	<0.001	<0.001
	2005	16,551	0.188	0.152	0.142	0.156	0.117	0.130	0.031	0.035	<0.001	<0.001
	2006	17,457	0.255	0.228	0.167	0.175	0.149	0.131	0.080	0.079	<0.001	<0.001

Table 4: Correlations

This table reports correlations (x100) between variables at the country level. Country-level estimates are medians across available years. For risk variables, country medians are used to obtain country-level values prior to taking the median across years. Asterisks (*, **, ***) denote values significantly different from zero at the 10%, 5%, and 1% confidence levels, respectively. Firms with more than 30% of local currency stock returns equal to zero in the previous year are excluded. Variable definitions are provided in the Appendix.

	ICR Political Risk- Stability	ICR Political Risk- Law & Order	Creditor Rights Index	Anti-Self-dealing Index	Stock Market Turnover Ratio	Stock Market Capital (%GDP)	Bank Private Credit (% GDP)	Bank & Other Prvt Credit (% GDP)	Private Bond Capital (% GDP)	Public Bond Capital (% GDP)	GDP per Capita	Disclosure Index	Domestic Market Index Volatility	Total Risk	Systematic risk
ICR Political Risk - Law & Order	84.4 ***														
Creditor Rights Index	15.1	26.2													
Anti-Self-Dealing Index	-2.0	13.1	45.2 ***												
Stock Market Turnover Ratio	-6.3	-1.5	6.5	0.1											
Stock Market Capital (% GDP)	37.6 ***	41.7 ***	34.5 **	45.6 ***	-3.0										
Bank Private Credit (% GDP)	56.4 ***	62.0 ***	48.0 ***	36.4 **	6.9	66.8 ***									
Bank & Other Private Credit (% GDP)	58.2 ***	62.1 ***	48.1 ***	38.1 ***	12.3	69.5 ***	94.7 ***								
Private Bond Capital (% GDP)	52.6 ***	48.2 ***	23.3	0.6	18.5	26.4	43.6 ***	49.1 ***							
Public Bond Capital (% GDP)	38.7 ***	35.0 **	-0.4	-8.0	6.9	3.7	21.4	22.1	48.7 ***						
GDP per Capita	74.8 ***	79.4 ***	24.6	0.5	0.0	48.2 ***	66.6 ***	66.4 ***	57.4 ***	32.9 **					
Disclosure Index	66.7 ***	85.2 ***	22.3	23.5	6.6	51.0 ***	56.9 ***	58.9 ***	50.2 ***	37.8 ***	77.1 ***				
Domestic Market Index Volatility	-49.5 ***	-62.1 ***	-6.8	-26.0	21.5	-37.8 ***	-55.1 ***	-52.8 ***	-39.2 ***	-27.5	-52.6 ***	-60.9 ***			
Total Risk	-49.9 ***	-61.1 ***	-7.1	-12.6	25.8	-26.0	-49.2 ***	-44.4 ***	-35.4 **	-23.8	-47.8 ***	-55.3 ***	85.0 ***		
Systematic risk	-60.0 ***	-64.4 ***	-5.3	-19.4	14.3	-31.4 **	-55.9 ***	-53.3 ***	-41.5 ***	-23.9	-52.1 ***	-51.4 ***	83.5 ***	83.0 ***	
Idiosyncratic Risk	-41.7 ***	-54.1 ***	-2.9	-2.9	31.1 **	-13.3	-38.3 ***	-32.5 **	-27.1	-20.4	-40.9 ***	-52.4 ***	70.7 ***	94.1 ***	65.1 ***

Table 5: Country-Level Fama-MacBeth Regressions

This table reports results from Fama-MacBeth-style regressions. Risk variables are measured as the country median of log differences between non-U.S. firms and their matching U.S. firms. Regressions are estimated at the country-level annually with lagged independent variables listed in the first column. Using these estimated coefficients a second regression determines the relation over time (1992-2006), and these values are reported in the table with corresponding *p*-values in brackets (values reported as [0.00] are less than 0.005). Standard errors are corrected with the Newey-West (1987) procedure. Explanatory variables are lagged and standardized to mean zero and unit standard deviation so that the intercept provides a test of the difference in risk between non-U.S. and U.S. firms, and the magnitude of coefficients represents the effect on risk of a one standard deviation move in the explanatory variable. Firms with more than 30% of local currency stock returns equal to zero in the previous period are excluded. Observations is the average number of countries each year in the cross-sectional regressions. Variable definitions are provided in the Appendix.

Panel A: Total Risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.130	[0.00]																		
ICR Political Risk - Law & Order			-0.147	[0.00]																
Creditor Rights Index					-0.002	[0.81]														
Anti-Self-Dealing Index							-0.012	[0.21]												
Stock Market Turnover Ratio									0.040	[0.00]										
Stock Market Capital (% GDP)											-0.019	[0.11]								
Bank Private Credit (% GDP)													-0.078	[0.00]						
Private Bond Capital (% GDP)															-0.094	[0.00]				
GDP per Capita																	-0.125	[0.00]		
Disclosure Index																			-0.136	[0.00]
Intercept	-0.021	[0.60]	-0.021	[0.60]	-0.021	[0.60]	-0.021	[0.60]	-0.021	[0.60]	-0.021	[0.60]	-0.022	[0.57]	-0.022	[0.57]	-0.021	[0.60]	-0.021	[0.60]
Adjusted R^2	0.186		0.245		-0.009		-0.010		0.005		0.000		0.074		0.093		0.196		0.233	
Observations (average per year)	40.8		40.8		40.8		40.8		40.8		40.8		40.0		40.0		40.8		40.8	

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.073	[0.00]					-0.074	[0.00]												
ICR Political Risk - Law & Order			-0.084	[0.00]					-0.077	[0.00]										
Creditor Rights Index	0.002	[0.87]	0.014	[0.22]									-0.003	[0.74]	0.001	[0.92]	-0.002	[0.83]	0.003	[0.82]
Anti-Self-Dealing Index					0.030	[0.00]	0.002	[0.80]	0.017	[0.06]	0.004	[0.68]	0.023	[0.01]	0.035	[0.00]	0.024	[0.02]	0.026	[0.03]
Stock Market Turnover Ratio	0.000	[0.98]	0.012	[0.34]	0.000	[0.98]					0.007	[0.54]	0.000	[0.98]	0.017	[0.18]	0.017	[0.15]	0.017	[0.23]
Stock Market Capital (% GDP)	0.025	[0.02]	0.024	[0.01]			0.024	[0.02]	0.018	[0.07]	0.023	[0.01]	0.023	[0.03]	0.030	[0.01]	0.024	[0.01]	0.029	[0.01]
Bank Private Credit (% GDP)															-0.023	[0.03]			-0.016	[0.18]
Private Bond Capital (% GDP)																	-0.028	[0.00]	-0.024	[0.01]
GDP per Capita											-0.061	[0.00]								
Disclosure Index					-0.060	[0.00]							-0.064	[0.00]	-0.072	[0.00]	-0.062	[0.01]	-0.062	[0.02]
Domestic Market Index Volatility	0.173	[0.00]	0.158	[0.00]	0.168	[0.00]	0.169	[0.00]	0.161	[0.00]	0.171	[0.00]	0.173	[0.00]	0.160	[0.00]	0.166	[0.00]	0.161	[0.00]
Market Coverage	0.039	[0.00]	0.030	[0.00]	0.028	[0.02]	0.039	[0.00]	0.035	[0.00]	0.032	[0.01]	0.026	[0.01]	0.028	[0.00]	0.031	[0.00]	0.034	[0.00]
Intercept	-0.021	[0.58]	-0.021	[0.58]	-0.021	[0.59]	-0.021	[0.59]	-0.021	[0.59]	-0.021	[0.58]	-0.021	[0.55]	-0.022	[0.52]	-0.022	[0.52]	-0.022	[0.60]
Adjusted R^2	0.456		0.455		0.446		0.448		0.446		0.438		0.440		0.449		0.444		0.443	
Observations (average per year)	40.8		40.8		40.8		40.8		40.8		40.8		40.8		40.0		40.0		40.0	

(continued)

Table 5: Country-Level Fama-MacBeth Regressions (continued)

Panel B: Systematic risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.217	[0.00]																		
ICR Political Risk - Law & Order			-0.241	[0.00]																
Creditor Rights Index					-0.004	[0.73]														
Anti-Self-Dealing Index							-0.043	[0.02]												
Stock Market Turnover Ratio									-0.001	[0.96]										
Stock Market Capital (% GDP)											-0.066	[0.00]								
Bank Private Credit (% GDP)													-0.158	[0.00]						
Private Bond Capital (% GDP)															-0.179	[0.00]				
GDP per Capita																	-0.210	[0.00]		
Disclosure Index																			-0.214	[0.00]
Intercept	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.302	[0.00]	0.302	[0.00]	0.296	[0.00]	0.296	[0.00]
Adjusted R^2	0.231		0.287		-0.013		0.010		-0.016		0.021		0.137		0.150		0.218		0.228	
Observations (average per year)	40.8		40.8		40.8		40.8		40.8		40.8		40.0		40.0		40.8		40.8	

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.105	[0.00]					-0.111	[0.00]												
ICR Political Risk - Law & Order			-0.112	[0.00]					-0.108	[0.00]										
Creditor Rights Index	0.022	[0.18]	0.038	[0.03]									0.028	[0.17]	0.033	[0.02]	0.030	[0.05]	0.038	[0.05]
Anti-Self-Dealing Index					0.021	[0.10]	-0.018	[0.36]	0.001	[0.95]	-0.011	[0.51]	-0.005	[0.78]	0.028	[0.22]	0.008	[0.69]	0.009	[0.73]
Stock Market Turnover Ratio	-0.051	[0.00]	-0.038	[0.03]	-0.044	[0.01]					-0.038	[0.02]	-0.055	[0.02]	-0.008	[0.57]	-0.011	[0.42]	-0.008	[0.59]
Stock Market Capital (% GDP)	0.007	[0.73]	0.001	[0.97]			0.029	[0.13]	0.016	[0.38]	0.019	[0.24]	0.013	[0.53]	0.025	[0.17]	0.010	[0.47]	0.022	[0.25]
Bank Private Credit (% GDP)															-0.048	[0.01]			-0.034	[0.07]
Private Bond Capital (% GDP)																	-0.061	[0.00]	-0.055	[0.00]
GDP per Capita											-0.084	[0.00]								
Disclosure Index					-0.073	[0.00]							-0.070	[0.00]	-0.100	[0.00]	-0.080	[0.01]	-0.079	[0.02]
Domestic Market Index Volatility	0.276	[0.00]	0.259	[0.00]	0.278	[0.00]	0.256	[0.00]	0.247	[0.00]	0.272	[0.00]	0.284	[0.00]	0.256	[0.00]	0.264	[0.00]	0.255	[0.00]
Market Coverage	0.030	[0.13]	0.013	[0.46]	0.003	[0.90]	0.020	[0.34]	0.007	[0.69]	0.014	[0.34]	0.002	[0.88]	0.010	[0.47]	0.017	[0.14]	0.023	[0.09]
Intercept	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.296	[0.00]	0.302	[0.00]	0.302	[0.00]	0.302	[0.00]
Adjusted R^2	0.524		0.510		0.480		0.510		0.494		0.480		0.491		0.540		0.543		0.543	
Observations (average per year)	40.8		40.8		40.8		40.8		40.8		40.8		40.8		40.0		40.0		40.0	

(continued)

Table 5: Country-Level Fama-MacBeth Regressions (continued)

Panel C: Idiosyncratic Risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.089	[0.00]																		
ICR Political Risk - Law & Order			-0.102	[0.00]																
Creditor Rights Index					0.000	[0.96]														
Anti-Self-Dealing Index							0.000	[0.99]												
Stock Market Turnover Ratio									0.054	[0.00]										
Stock Market Capital (% GDP)											0.002	[0.86]								
Bank Private Credit (% GDP)													-0.037	[0.01]						
Private Bond Capital (% GDP)															-0.056	[0.00]				
GDP per Capita																	-0.085	[0.00]		
Disclosure Index																			-0.093	[0.00]
Intercept	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.130	[0.00]	-0.130	[0.00]	-0.127	[0.00]	-0.127	[0.00]
Adjusted R^2	0.131		0.159		-0.002		-0.016		0.031		0.006		0.033		0.048		0.151		0.172	
Observations (average per year)	40.8		40.8		40.8		40.8		40.8		40.8		40.0		40.0		40.8		40.8	

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.063	[0.00]					-0.060	[0.00]												
ICR Political Risk - Law & Order			-0.071	[0.00]					-0.063	[0.00]										
Creditor Rights Index	-0.007	[0.52]	0.003	[0.72]									-0.020	[0.08]	-0.018	[0.17]	-0.019	[0.16]	-0.016	[0.22]
Anti-Self-Dealing Index					0.038	[0.00]	0.017	[0.02]	0.029	[0.00]	0.016	[0.01]	0.043	[0.00]	0.048	[0.00]	0.040	[0.00]	0.042	[0.00]
Stock Market Turnover Ratio	0.020	[0.12]	0.030	[0.02]	0.017	[0.17]					0.024	[0.08]	0.021	[0.09]	0.028	[0.02]	0.030	[0.01]	0.028	[0.04]
Stock Market Capital (% GDP)	0.032	[0.00]	0.033	[0.00]			0.018	[0.08]	0.014	[0.17]	0.022	[0.01]	0.025	[0.00]	0.029	[0.01]	0.026	[0.00]	0.028	[0.01]
Bank Private Credit (% GDP)															-0.011	[0.21]			-0.005	[0.65]
Private Bond Capital (% GDP)																	-0.020	[0.00]	-0.019	[0.02]
GDP per Capita											-0.055	[0.00]								
Disclosure Index					-0.048	[0.01]							-0.054	[0.00]	-0.056	[0.01]	-0.047	[0.02]	-0.050	[0.02]
Domestic Market Index Volatility	0.117	[0.00]	0.105	[0.00]	0.115	[0.00]	0.119	[0.00]	0.113	[0.00]	0.115	[0.00]	0.120	[0.00]	0.113	[0.00]	0.116	[0.00]	0.113	[0.00]
Market Coverage	0.047	[0.00]	0.042	[0.00]	0.044	[0.00]	0.051	[0.00]	0.050	[0.00]	0.046	[0.00]	0.042	[0.00]	0.041	[0.00]	0.044	[0.00]	0.046	[0.00]
Intercept	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.127	[0.00]	-0.130	[0.00]	-0.130	[0.00]	-0.130	[0.00]
Adjusted R^2	0.334		0.328		0.325		0.309		0.305		0.329		0.332		0.315		0.308		0.302	
Observations (average per year)	40.8		40.8		40.8		40.8		40.8		40.8		40.8		40.0		40.0		40.0	

Table 6: Firm-Level Fama-MacBeth Regressions

This table reports values from Fama-MacBeth style regressions using firm-level observations with different measures of risk as the dependent variables (listed in panel headings). Risk variables are measured as log differences between non-U.S. firms and their matching U.S. firms. Regressions are estimated at the firm-level annually with the independent variables listed in the first column. Using these estimated coefficients a second regression determines the relation over time (1992-2006), and these values are reported in the table with corresponding *p*-values in brackets (values reported as [0.00] are less than 0.005). Standard errors are corrected with the Newey-West (1987) procedure. Explanatory variables are lagged and standardized to mean zero and unit standard deviation so that the intercept provides a test of the difference in risk between non-U.S. and U.S. firms, and the magnitude of coefficients represents the effect on risk of a one standard deviation move in the explanatory variable. Firms with more than 30% of local currency stock returns equal to zero in the previous are excluded. Observations is the average number of firms each year in the cross-sectional regressions. Variable definitions are provided in the Appendix.

Panel A: Total Risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.052	[0.00]					-0.049	[0.00]												
ICR Political Risk - Law & Order			-0.071	[0.01]					-0.064	[0.02]										
Creditor Rights Index	0.002	[0.90]	0.009	[0.49]									0.003	[0.74]	0.006	[0.45]	-0.003	[0.75]	0.003	[0.70]
Anti-Self-Dealing Index					0.033	[0.00]	-0.011	[0.43]	-0.006	[0.65]	-0.019	[0.17]	0.001	[0.92]	0.006	[0.60]	0.002	[0.89]	-0.005	[0.76]
Stock Market Turnover Ratio	0.012	[0.36]	0.020	[0.14]	0.008	[0.66]					0.012	[0.42]	0.005	[0.78]	0.018	[0.19]	0.023	[0.09]	0.021	[0.06]
Stock Market Capital (% GDP)	0.042	[0.01]	0.039	[0.00]			0.052	[0.01]	0.047	[0.01]	0.051	[0.00]	0.042	[0.01]	0.048	[0.00]	0.039	[0.01]	0.047	[0.01]
Bank Private Credit (% GDP)															-0.028	[0.06]			-0.023	[0.12]
Private Bond Capital (% GDP)																	-0.030	[0.00]	-0.028	[0.00]
GDP per Capita											-0.081	[0.00]								
Disclosure Index					-0.045	[0.15]							-0.049	[0.09]	-0.058	[0.01]	-0.050	[0.02]	-0.046	[0.05]
Domestic Market Index Volatility	0.106	[0.00]	0.088	[0.00]	0.093	[0.00]	0.110	[0.00]	0.094	[0.00]	0.094	[0.00]	0.098	[0.00]	0.088	[0.00]	0.092	[0.00]	0.092	[0.00]
PPE (% Total Assets)	-0.086	[0.00]	-0.086	[0.00]	-0.083	[0.00]	-0.087	[0.00]	-0.087	[0.00]	-0.085	[0.00]	-0.085	[0.00]	-0.084	[0.00]	-0.085	[0.00]	-0.085	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.084	[0.00]	-0.086	[0.00]	-0.089	[0.00]	-0.085	[0.00]	-0.086	[0.00]	-0.084	[0.00]	-0.087	[0.00]	-0.086	[0.00]	-0.088	[0.00]	-0.087	[0.00]
Cash & STI (% Total Assets)	0.049	[0.00]	0.050	[0.00]	0.048	[0.00]	0.048	[0.00]	0.049	[0.00]	0.055	[0.00]	0.047	[0.00]	0.053	[0.00]	0.053	[0.00]	0.055	[0.00]
Debt Maturity	-0.055	[0.00]	-0.053	[0.00]	-0.054	[0.00]	-0.055	[0.00]	-0.054	[0.00]	-0.053	[0.00]	-0.054	[0.00]	-0.055	[0.00]	-0.056	[0.00]	-0.055	[0.00]
R&D Expense (% Total Assets)	0.092	[0.00]	0.093	[0.00]	0.092	[0.00]	0.093	[0.00]	0.093	[0.00]	0.092	[0.00]	0.092	[0.00]	0.091	[0.00]	0.091	[0.00]	0.091	[0.00]
Capital Expend. (%Total Assets)	0.061	[0.00]	0.060	[0.00]	0.059	[0.00]	0.061	[0.00]	0.061	[0.00]	0.057	[0.00]	0.060	[0.00]	0.058	[0.00]	0.060	[0.00]	0.058	[0.00]
Percent Zero Returns	0.042	[0.00]	0.043	[0.00]	0.046	[0.00]	0.041	[0.00]	0.041	[0.00]	0.043	[0.00]	0.045	[0.00]	0.044	[0.00]	0.045	[0.00]	0.044	[0.00]
Leverage	0.109	[0.00]	0.109	[0.00]	0.102	[0.00]	0.110	[0.00]	0.112	[0.00]	0.111	[0.00]	0.104	[0.00]	0.108	[0.00]	0.106	[0.00]	0.109	[0.00]
Market Coverage	-0.009	[0.55]	-0.020	[0.19]	-0.025	[0.07]	-0.013	[0.37]	-0.022	[0.13]	0.003	[0.85]	-0.032	[0.01]	-0.023	[0.04]	-0.024	[0.02]	-0.012	[0.19]
Intercept	-0.022	[0.62]	-0.022	[0.62]	-0.022	[0.61]	-0.022	[0.61]	-0.022	[0.61]	-0.022	[0.62]	-0.022	[0.63]	-0.020	[0.65]	-0.020	[0.65]	-0.020	[0.61]
Adjusted R^2	0.211		0.218		0.210		0.204		0.212		0.219		0.216		0.226		0.222		0.228	
Observations (average per year)	5117.3		5117.3		5117.3		5117.3		5117.3		5117.3		5117.3		4800.6		4800.6		4800.6	

(continued)

Table 6: Firm-Level Fama-MacBeth Regressions (continued)

Panel B: Systematic risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.056	[0.00]					-0.055	[0.00]												
ICR Political Risk - Law & Order			-0.095	[0.00]					-0.095	[0.00]										
Creditor Rights Index	0.040	[0.05]	0.050	[0.02]									0.057	[0.01]	0.052	[0.00]	0.043	[0.01]	0.051	[0.00]
Anti-Self-Dealing Index					0.041	[0.02]	-0.020	[0.39]	-0.017	[0.46]	-0.032	[0.12]	-0.042	[0.16]	-0.011	[0.66]	-0.021	[0.45]	-0.023	[0.45]
Stock Market Turnover Ratio	-0.053	[0.00]	-0.047	[0.01]	-0.053	[0.03]					-0.049	[0.02]	-0.076	[0.00]	-0.053	[0.00]	-0.049	[0.00]	-0.052	[0.00]
Stock Market Capital (% GDP)	0.034	[0.25]	0.029	[0.24]			0.079	[0.06]	0.075	[0.06]	0.073	[0.04]	0.056	[0.15]	0.053	[0.11]	0.045	[0.19]	0.051	[0.13]
Bank Private Credit (% GDP)															-0.034	[0.10]			-0.028	[0.15]
Private Bond Capital (% GDP)																	-0.036	[0.01]	-0.030	[0.02]
GDP per Capita											-0.095	[0.00]								
Disclosure Index					-0.058	[0.15]							-0.062	[0.08]	-0.105	[0.00]	-0.095	[0.00]	-0.092	[0.01]
Domestic Market Index Volatility	0.215	[0.00]	0.184	[0.00]	0.194	[0.00]	0.203	[0.00]	0.172	[0.00]	0.198	[0.00]	0.205	[0.00]	0.186	[0.00]	0.191	[0.00]	0.190	[0.00]
PPE (% Total Assets)	-0.082	[0.00]	-0.082	[0.00]	-0.077	[0.00]	-0.081	[0.00]	-0.082	[0.00]	-0.079	[0.00]	-0.082	[0.00]	-0.082	[0.00]	-0.083	[0.00]	-0.082	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.061	[0.00]	-0.063	[0.00]	-0.065	[0.00]	-0.058	[0.00]	-0.059	[0.00]	-0.057	[0.00]	-0.064	[0.00]	-0.065	[0.00]	-0.067	[0.00]	-0.066	[0.00]
Cash & STI (% Total Assets)	0.047	[0.00]	0.049	[0.00]	0.045	[0.00]	0.044	[0.00]	0.047	[0.00]	0.054	[0.00]	0.044	[0.00]	0.051	[0.00]	0.050	[0.00]	0.052	[0.00]
Debt Maturity	-0.009	[0.12]	-0.006	[0.29]	-0.009	[0.04]	-0.008	[0.02]	-0.006	[0.12]	-0.010	[0.02]	-0.008	[0.04]	-0.012	[0.01]	-0.012	[0.01]	-0.011	[0.00]
R&D Expense (% Total Assets)	0.088	[0.00]	0.089	[0.00]	0.087	[0.00]	0.089	[0.00]	0.089	[0.00]	0.086	[0.00]	0.087	[0.00]	0.085	[0.00]	0.085	[0.00]	0.086	[0.00]
Capital Expend. (%Total Assets)	0.039	[0.01]	0.037	[0.01]	0.037	[0.02]	0.038	[0.00]	0.037	[0.00]	0.035	[0.02]	0.039	[0.00]	0.038	[0.01]	0.040	[0.00]	0.038	[0.00]
Percent Zero Returns	-0.106	[0.00]	-0.105	[0.00]	-0.102	[0.00]	-0.100	[0.00]	-0.101	[0.00]	-0.104	[0.00]	-0.104	[0.00]	-0.107	[0.00]	-0.105	[0.00]	-0.107	[0.00]
Leverage	0.063	[0.00]	0.063	[0.00]	0.053	[0.00]	0.059	[0.00]	0.062	[0.00]	0.066	[0.00]	0.057	[0.00]	0.055	[0.00]	0.054	[0.00]	0.057	[0.00]
Market Coverage	0.013	[0.66]	-0.002	[0.95]	0.000	[0.99]	0.005	[0.81]	-0.007	[0.73]	0.024	[0.36]	-0.023	[0.22]	-0.017	[0.21]	-0.017	[0.21]	-0.004	[0.73]
Intercept	0.248	[0.01]	0.248	[0.01]	0.248	[0.01]	0.248	[0.01]	0.248	[0.01]	0.248	[0.01]	0.248	[0.01]	0.263	[0.00]	0.263	[0.00]	0.263	[0.00]
Adjusted R^2	0.176		0.182		0.170		0.169		0.176		0.180		0.184		0.196		0.194		0.198	
Observations (average per year)	5116.7		5116.7		5116.7		5116.7		5116.7		5116.7		5116.7		4799.9		4799.9		4799.9	

(continued)

Table 6: Firm-Level Fama-MacBeth Regressions (continued)

Panel C: Idiosyncratic Risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.053	[0.00]					-0.046	[0.01]												
ICR Political Risk - Law & Order			-0.065	[0.01]					-0.055	[0.04]										
Creditor Rights Index	-0.005	[0.72]	0.001	[0.95]									-0.010	[0.32]	-0.007	[0.42]	-0.015	[0.24]	-0.010	[0.30]
Anti-Self-Dealing Index					0.034	[0.00]	-0.002	[0.89]	0.003	[0.76]	-0.008	[0.53]	0.019	[0.00]	0.016	[0.08]	0.012	[0.09]	0.005	[0.69]
Stock Market Turnover Ratio	0.032	[0.02]	0.041	[0.00]	0.028	[0.11]					0.033	[0.03]	0.031	[0.06]	0.041	[0.01]	0.045	[0.00]	0.044	[0.00]
Stock Market Capital (% GDP)	0.041	[0.00]	0.039	[0.00]			0.038	[0.01]	0.033	[0.01]	0.040	[0.00]	0.033	[0.00]	0.042	[0.00]	0.034	[0.00]	0.042	[0.00]
Bank Private Credit (% GDP)															-0.024	[0.12]			-0.019	[0.17]
Private Bond Capital (% GDP)																	-0.028	[0.01]	-0.028	[0.00]
GDP per Capita											-0.076	[0.00]								
Disclosure Index					-0.041	[0.15]							-0.045	[0.08]	-0.046	[0.03]	-0.038	[0.05]	-0.035	[0.07]
Domestic Market Index Volatility	0.060	[0.00]	0.047	[0.00]	0.051	[0.00]	0.071	[0.00]	0.060	[0.00]	0.051	[0.00]	0.055	[0.00]	0.046	[0.00]	0.050	[0.00]	0.049	[0.00]
PPE (% Total Assets)	-0.086	[0.00]	-0.087	[0.00]	-0.085	[0.00]	-0.088	[0.00]	-0.088	[0.00]	-0.086	[0.00]	-0.086	[0.00]	-0.085	[0.00]	-0.086	[0.00]	-0.085	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.091	[0.00]	-0.092	[0.00]	-0.095	[0.00]	-0.092	[0.00]	-0.093	[0.00]	-0.091	[0.00]	-0.093	[0.00]	-0.092	[0.00]	-0.094	[0.00]	-0.092	[0.00]
Cash & STI (% Total Assets)	0.051	[0.00]	0.051	[0.00]	0.050	[0.00]	0.050	[0.00]	0.050	[0.00]	0.057	[0.00]	0.049	[0.00]	0.054	[0.00]	0.054	[0.00]	0.056	[0.00]
Debt Maturity	-0.067	[0.00]	-0.066	[0.00]	-0.067	[0.00]	-0.068	[0.00]	-0.068	[0.00]	-0.065	[0.00]	-0.067	[0.00]	-0.067	[0.00]	-0.068	[0.00]	-0.067	[0.00]
R&D Expense (% Total Assets)	0.093	[0.00]	0.093	[0.00]	0.092	[0.00]	0.093	[0.00]	0.093	[0.00]	0.093	[0.00]	0.092	[0.00]	0.091	[0.00]	0.092	[0.00]	0.092	[0.00]
Capital Expend. (%Total Assets)	0.066	[0.00]	0.066	[0.00]	0.064	[0.00]	0.067	[0.00]	0.068	[0.00]	0.063	[0.00]	0.065	[0.00]	0.064	[0.00]	0.065	[0.00]	0.064	[0.00]
Percent Zero Returns	0.075	[0.00]	0.076	[0.00]	0.079	[0.00]	0.071	[0.00]	0.072	[0.00]	0.076	[0.00]	0.077	[0.00]	0.077	[0.00]	0.078	[0.00]	0.077	[0.00]
Leverage	0.119	[0.00]	0.119	[0.00]	0.113	[0.00]	0.122	[0.00]	0.123	[0.00]	0.121	[0.00]	0.115	[0.00]	0.119	[0.00]	0.118	[0.00]	0.121	[0.00]
Market Coverage	-0.014	[0.25]	-0.024	[0.04]	-0.029	[0.01]	-0.016	[0.16]	-0.024	[0.05]	-0.001	[0.92]	-0.032	[0.00]	-0.023	[0.04]	-0.026	[0.03]	-0.014	[0.19]
Intercept	-0.098	[0.01]	-0.098	[0.01]	-0.098	[0.01]	-0.098	[0.01]	-0.098	[0.01]	-0.098	[0.01]	-0.098	[0.01]	-0.100	[0.01]	-0.100	[0.01]	-0.100	[0.00]
Adjusted R^2	0.199		0.203		0.197		0.191		0.195		0.204		0.201		0.207		0.204		0.208	
Observations (average per year)	5116.7		5116.7		5116.7		5116.7		5116.7		5116.7		5116.7		4799.9		4799.9		4799.9	

Table 7: Firm-Level Fama-MacBeth Regressions with Changes in Variables

This table reports values from Fama-MacBeth style regressions using changes in firm-level observations with different measures of risk as the dependent variables (listed in panel headings). Risk variables are measured as log differences between non-U.S. firms and their matching U.S. firms. Regressions are estimated at the firm-level annually with the independent variables listed in the first column. Using these estimated coefficients a second regression determines the relation over time (1993-2006), and these values are reported in the table with corresponding *p*-values in brackets (values reported as [0.00] are less than 0.005). Standard errors are corrected with the Newey-West (1987) procedure. Explanatory variables are standardized to mean zero and unit standard deviation so that the intercept provides a test of the difference in risk between non-U.S. and U.S. firms, and the magnitude of coefficients represents the effect on risk of a one standard deviation move in the explanatory variable. Firms with more than 30% of local currency stock returns equal to zero in the previous are excluded. Observations is the average number of firms each year in the cross-sectional regressions. Variable definitions are provided in the Appendix.

Panel A: Total Risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	0.024	[0.09]					0.020	[0.04]												
ICR Political Risk - Law & Order			0.005	[0.69]					0.007	[0.49]										
Creditor Rights Index	0.004	[0.25]	0.004	[0.05]									0.005	[0.17]	0.002	[0.40]	0.006	[0.08]	0.005	[0.23]
Stock Market Turnover Ratio	-0.009	[0.36]	-0.015	[0.07]	-0.006	[0.50]					-0.018	[0.08]	-0.016	[0.06]	-0.013	[0.08]	-0.013	[0.14]	-0.014	[0.12]
Stock Market Capital (% GDP)	0.000	[0.98]	0.007	[0.72]			0.001	[0.94]	0.005	[0.65]	0.001	[0.96]	0.003	[0.82]	0.002	[0.84]	-0.002	[0.84]	-0.003	[0.82]
Bank Private Credit (% GDP)															0.007	[0.57]			0.001	[0.89]
Private Bond Capital (% GDP)																	0.024	[0.17]	0.021	[0.16]
GDP per Capita											-0.020	[0.14]								
Domestic Market Index Volatility	-0.017	[0.33]	-0.018	[0.30]	-0.020	[0.23]	-0.020	[0.14]	-0.021	[0.13]	-0.019	[0.29]	-0.018	[0.14]	-0.025	[0.06]	-0.017	[0.32]	-0.018	[0.14]
PPE (% Total Assets)	-0.090	[0.00]	-0.090	[0.00]	-0.090	[0.00]	-0.090	[0.00]	-0.091	[0.00]	-0.090	[0.00]	-0.090	[0.00]	-0.091	[0.00]	-0.091	[0.00]	-0.091	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.085	[0.00]	-0.084	[0.00]	-0.084	[0.00]	-0.085	[0.00]	-0.084	[0.00]	-0.084	[0.00]	-0.084	[0.00]	-0.084	[0.00]	-0.084	[0.00]	-0.084	[0.00]
Cash & STI (% Total Assets)	0.081	[0.00]	0.081	[0.00]	0.081	[0.00]	0.081	[0.00]	0.081	[0.00]	0.081	[0.00]	0.081	[0.00]	0.079	[0.00]	0.080	[0.00]	0.080	[0.00]
Debt Maturity	-0.058	[0.00]	-0.057	[0.00]	-0.058	[0.00]	-0.058	[0.00]	-0.058	[0.00]	-0.057	[0.00]	-0.058	[0.00]	-0.058	[0.00]	-0.058	[0.00]	-0.058	[0.00]
R&D Expense (% Total Assets)	0.094	[0.00]	0.093	[0.00]	0.094	[0.00]	0.093	[0.00]	0.093	[0.00]	0.094	[0.00]	0.093	[0.00]	0.093	[0.00]	0.093	[0.00]	0.093	[0.00]
Capital Expend. (%Total Assets)	0.074	[0.00]	0.075	[0.00]	0.075	[0.00]	0.075	[0.00]	0.075	[0.00]	0.075	[0.00]	0.075	[0.00]	0.076	[0.00]	0.076	[0.00]	0.076	[0.00]
Percent Zero Returns	0.084	[0.00]	0.084	[0.00]	0.083	[0.00]	0.084	[0.00]	0.084	[0.00]	0.083	[0.00]	0.084	[0.00]	0.083	[0.00]	0.083	[0.00]	0.083	[0.00]
Leverage	0.099	[0.00]	0.099	[0.00]	0.100	[0.00]	0.100	[0.00]	0.099	[0.00]	0.100	[0.00]	0.099	[0.00]	0.098	[0.00]	0.099	[0.00]	0.098	[0.00]
Market Coverage	0.000	[0.98]	0.013	[0.38]	0.011	[0.30]	0.001	[0.94]	0.009	[0.49]	0.011	[0.51]	0.011	[0.40]	0.004	[0.63]	0.011	[0.34]	0.007	[0.56]
Intercept	-0.014	[0.70]	-0.014	[0.70]	-0.014	[0.70]	-0.014	[0.72]	-0.014	[0.72]	-0.014	[0.69]	-0.014	[0.69]	-0.017	[0.63]	-0.017	[0.63]	-0.017	[0.61]
Adjusted R^2	0.152		0.151		0.144		0.150		0.150		0.154		0.149		0.151		0.154		0.156	
Observations (average per year)	3701.1		3701.1		3701.1		3701.1		3701.1		3701.1		3701.1		3485.7		3485.7		3485.7	

(continued)

Table 7: Firm-Level Fama-MacBeth Regressions with Changes in Variables (continued)

Panel B: Systematic risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	0.031	[0.26]					0.028	[0.14]												
ICR Political Risk - Law & Order			-0.004	[0.83]					-0.002	[0.91]										
Creditor Rights Index	0.009	[0.19]	0.008	[0.06]									0.012	[0.01]	0.010	[0.29]	0.017	[0.05]	0.014	[0.17]
Stock Market Turnover Ratio	-0.004	[0.86]	-0.026	[0.22]	-0.002	[0.93]					-0.019	[0.51]	-0.019	[0.46]	-0.020	[0.22]	-0.025	[0.14]	-0.025	[0.15]
Stock Market Capital (% GDP)	-0.013	[0.58]	-0.001	[0.97]			-0.010	[0.59]	-0.003	[0.91]	-0.007	[0.76]	-0.007	[0.75]	-0.007	[0.70]	-0.020	[0.29]	-0.015	[0.44]
Bank Private Credit (% GDP)															0.029	[0.34]			0.025	[0.31]
Private Bond Capital (% GDP)																	0.034	[0.21]	0.016	[0.38]
GDP per Capita											-0.028	[0.12]								
Domestic Market Index Volatility	-0.021	[0.38]	-0.026	[0.24]	-0.021	[0.34]	-0.023	[0.38]	-0.025	[0.31]	-0.027	[0.19]	-0.024	[0.16]	-0.036	[0.10]	-0.024	[0.30]	-0.029	[0.19]
PPE (% Total Assets)	-0.085	[0.00]	-0.085	[0.00]	-0.085	[0.00]	-0.085	[0.00]	-0.086	[0.00]	-0.084	[0.00]	-0.085	[0.00]	-0.087	[0.00]	-0.086	[0.00]	-0.086	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.068	[0.00]	-0.067	[0.00]	-0.067	[0.00]	-0.068	[0.00]	-0.067	[0.00]	-0.067	[0.00]	-0.067	[0.00]	-0.067	[0.00]	-0.066	[0.00]	-0.067	[0.00]
Cash & STI (% Total Assets)	0.082	[0.00]	0.082	[0.00]	0.081	[0.00]	0.083	[0.00]	0.083	[0.00]	0.082	[0.00]	0.082	[0.00]	0.080	[0.00]	0.081	[0.00]	0.080	[0.00]
Debt Maturity	-0.019	[0.07]	-0.019	[0.08]	-0.020	[0.11]	-0.019	[0.08]	-0.019	[0.09]	-0.019	[0.05]	-0.019	[0.10]	-0.020	[0.03]	-0.019	[0.05]	-0.019	[0.06]
R&D Expense (% Total Assets)	0.088	[0.00]	0.088	[0.00]	0.088	[0.00]	0.088	[0.00]	0.087	[0.00]	0.088	[0.00]	0.088	[0.00]	0.087	[0.00]	0.087	[0.00]	0.087	[0.00]
Capital Expend. (%Total Assets)	0.060	[0.00]	0.060	[0.00]	0.061	[0.00]	0.060	[0.00]	0.061	[0.00]	0.060	[0.00]	0.060	[0.00]	0.063	[0.00]	0.062	[0.00]	0.063	[0.00]
Percent Zero Returns	-0.040	[0.00]	-0.040	[0.00]	-0.040	[0.00]	-0.041	[0.01]	-0.041	[0.01]	-0.040	[0.00]	-0.040	[0.00]	-0.041	[0.00]	-0.042	[0.00]	-0.042	[0.00]
Leverage	0.052	[0.00]	0.052	[0.00]	0.053	[0.00]	0.053	[0.00]	0.053	[0.00]	0.053	[0.00]	0.052	[0.00]	0.051	[0.00]	0.052	[0.00]	0.051	[0.00]
Market Coverage	-0.011	[0.76]	0.016	[0.58]	0.014	[0.59]	-0.010	[0.74]	0.009	[0.73]	0.012	[0.72]	0.010	[0.75]	0.009	[0.63]	0.013	[0.61]	0.011	[0.63]
Intercept	-0.031	[0.68]	-0.031	[0.68]	-0.031	[0.67]	-0.031	[0.67]	-0.031	[0.67]	-0.031	[0.64]	-0.031	[0.64]	-0.035	[0.65]	-0.035	[0.65]	-0.035	[0.61]
Adjusted R^2	0.071		0.070		0.062		0.065		0.065		0.070		0.066		0.070		0.068		0.073	
Observations (average per year)	3700.9		3700.9		3700.9		3700.9		3700.9		3700.9		3700.9		3485.4		3485.4		3485.4	

(continued)

Table 7: Firm-Level Fama-MacBeth Regressions with Changes in Variables (continued)

Panel C: Idiosyncratic Risk

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	0.015	[0.11]					0.013	[0.06]												
ICR Political Risk - Law & Order			0.004	[0.73]					0.005	[0.62]										
Creditor Rights Index	0.001	[0.76]	0.002	[0.61]									0.001	[0.78]	-0.001	[0.91]	0.001	[0.79]	0.001	[0.83]
Stock Market Turnover Ratio	-0.012	[0.16]	-0.013	[0.07]	-0.011	[0.12]					-0.019	[0.00]	-0.016	[0.01]	-0.013	[0.03]	-0.013	[0.09]	-0.014	[0.10]
Stock Market Capital (% GDP)	0.002	[0.89]	0.005	[0.70]			0.002	[0.87]	0.003	[0.70]	0.001	[0.90]	0.003	[0.75]	0.003	[0.81]	0.000	[0.96]	-0.001	[0.92]
Bank Private Credit (% GDP)															0.000	[1.00]			-0.005	[0.51]
Private Bond Capital (% GDP)																	0.018	[0.16]	0.018	[0.09]
GDP per Capita											-0.019	[0.24]								
Domestic Market Index Volatility	-0.012	[0.45]	-0.012	[0.44]	-0.018	[0.25]	-0.015	[0.22]	-0.015	[0.20]	-0.011	[0.54]	-0.013	[0.32]	-0.017	[0.18]	-0.011	[0.46]	-0.010	[0.34]
PPE (% Total Assets)	-0.092	[0.00]	-0.092	[0.00]	-0.092	[0.00]	-0.092	[0.00]	-0.092	[0.00]	-0.092	[0.00]	-0.092	[0.00]	-0.093	[0.00]	-0.093	[0.00]	-0.093	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.087	[0.00]	-0.087	[0.00]	-0.087	[0.00]	-0.087	[0.00]	-0.087	[0.00]	-0.087	[0.00]	-0.087	[0.00]	-0.086	[0.00]	-0.086	[0.00]	-0.086	[0.00]
Cash & STI (% Total Assets)	0.081	[0.00]	0.081	[0.00]	0.081	[0.00]	0.082	[0.00]	0.081	[0.00]	0.081	[0.00]	0.081	[0.00]	0.080	[0.00]	0.080	[0.00]	0.080	[0.00]
Debt Maturity	-0.065	[0.00]	-0.065	[0.00]	-0.065	[0.00]	-0.065	[0.00]	-0.065	[0.00]	-0.065	[0.00]	-0.065	[0.00]	-0.066	[0.00]	-0.066	[0.00]	-0.065	[0.00]
R&D Expense (% Total Assets)	0.096	[0.00]	0.096	[0.00]	0.096	[0.00]	0.096	[0.00]	0.096	[0.00]	0.097	[0.00]	0.096	[0.00]	0.096	[0.00]	0.096	[0.00]	0.096	[0.00]
Capital Expend. (%Total Assets)	0.077	[0.00]	0.077	[0.00]	0.077	[0.00]	0.077	[0.00]	0.078	[0.00]	0.077	[0.00]	0.077	[0.00]	0.078	[0.00]	0.078	[0.00]	0.078	[0.00]
Percent Zero Returns	0.102	[0.00]	0.102	[0.00]	0.102	[0.00]	0.102	[0.00]	0.102	[0.00]	0.102	[0.00]	0.102	[0.00]	0.102	[0.00]	0.101	[0.00]	0.101	[0.00]
Leverage	0.106	[0.00]	0.105	[0.00]	0.106	[0.00]	0.106	[0.00]	0.106	[0.00]	0.106	[0.00]	0.105	[0.00]	0.105	[0.00]	0.105	[0.00]	0.105	[0.00]
Market Coverage	0.003	[0.83]	0.011	[0.37]	0.009	[0.29]	0.003	[0.75]	0.008	[0.43]	0.012	[0.33]	0.010	[0.29]	0.002	[0.82]	0.009	[0.25]	0.004	[0.62]
Intercept	-0.010	[0.72]	-0.010	[0.72]	-0.010	[0.70]	-0.010	[0.75]	-0.010	[0.75]	-0.010	[0.71]	-0.010	[0.71]	-0.013	[0.60]	-0.013	[0.60]	-0.013	[0.59]
Adjusted R^2	0.151		0.151		0.147		0.150		0.150		0.154		0.150		0.150		0.152		0.152	
Observations (average per year)	3700.9		3700.9		3700.9		3700.9		3700.9		3700.9		3700.9		3485.4		3485.4		3485.4	

Table 8: R^2 Differences

This table reports results from different regression methods with differences in (logistic transformed) R^2 between non-U.S. firms and U.S. as the dependent variable. Panel A reports results from country-level Fama-MacBeth regressions. Panel B reports results from firm-level Fama-MacBeth regressions. Panel C reports results from firm-level Fama-MacBeth regressions with changes in variables. *p*-values are reported in brackets (values reported as [0.00] are less than 0.005). Standard errors are corrected with the Newey-West (1987) procedure. Explanatory variables are lagged for regressions with firm- and country-levels and standardized to mean zero and unit standard deviation so that the intercept provides a test of the difference in R^2 between non-U.S. and U.S. firms and the magnitude of coefficients represents the effect on R^2 of a one standard deviation move in the explanatory variable. Observations is the average number of observations in the first stage cross-sectional regressions. Firms with more than 30% of local currency stock returns equal to zero in the previous year are excluded. Variable definitions are provided in the Appendix.

Panel A: Country-Level Fama-MacBeth Regressions

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.130	[0.00]					-0.133	[0.00]												
ICR Political Risk - Law & Order			-0.142	[0.00]					-0.130	[0.00]										
Creditor Rights Index	0.030	[0.03]	0.047	[0.00]									0.058	[0.00]	0.070	[0.00]	0.063	[0.00]	0.076	[0.00]
Anti-Self-Dealing Index					-0.024	[0.11]	-0.069	[0.00]	-0.044	[0.01]	-0.065	[0.01]	-0.061	[0.02]	-0.032	[0.32]	-0.051	[0.08]	-0.054	[0.09]
Stock Market Turnover Ratio	-0.050	[0.00]	-0.035	[0.03]	-0.041	[0.04]					-0.036	[0.01]	-0.055	[0.00]	-0.009	[0.52]	-0.016	[0.28]	-0.009	[0.48]
Stock Market Capital (% GDP)	-0.053	[0.00]	-0.056	[0.00]			0.005	[0.75]	-0.009	[0.61]	0.002	[0.90]	-0.008	[0.69]	0.016	[0.52]	-0.014	[0.49]	0.013	[0.50]
Bank Private Credit (% GDP)															-0.086	[0.00]			-0.072	[0.00]
Private Bond Capital (% GDP)																	-0.078	[0.00]	-0.064	[0.00]
GDP per Capita											-0.135	[0.00]								
Disclosure Index					-0.127	[0.00]							-0.120	[0.00]	-0.119	[0.00]	-0.109	[0.00]	-0.091	[0.00]
Market Coverage	-0.006	[0.79]	-0.019	[0.30]	-0.035	[0.09]	-0.018	[0.43]	-0.026	[0.19]	-0.014	[0.57]	-0.033	[0.09]	-0.018	[0.25]	-0.012	[0.40]	-0.003	[0.83]
Intercept	0.467	[0.00]	0.467	[0.00]	0.467	[0.00]	0.467	[0.00]	0.467	[0.00]	0.467	[0.00]	0.467	[0.00]	0.477	[0.00]	0.477	[0.00]	0.477	[0.00]
Adjusted R^2	0.143		0.173		0.146		0.168		0.181		0.173		0.177		0.230		0.222		0.229	
Observations (average per year)	40.8		40.8		40.8		40.8		40.8		40.8		40.8		40.0		40.0		40.0	

(continued)

Table 8: R^2 Differences (continued)

Panel B: Firm-Level Fama-MacBeth Regressions

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	-0.090	[0.00]					-0.087	[0.00]												
ICR Political Risk - Law & Order			-0.120	[0.00]					-0.121	[0.00]										
Creditor Rights Index	0.052	[0.03]	0.056	[0.03]									0.080	[0.00]	0.070	[0.02]	0.075	[0.01]	0.076	[0.01]
Anti-Self-Dealing Index					0.005	[0.76]	-0.026	[0.21]	-0.029	[0.17]	-0.046	[0.00]	-0.076	[0.02]	-0.031	[0.27]	-0.043	[0.13]	-0.032	[0.32]
Stock Market Turnover Ratio	-0.066	[0.00]	-0.063	[0.00]	-0.069	[0.00]					-0.070	[0.00]	-0.098	[0.00]	-0.080	[0.00]	-0.086	[0.00]	-0.086	[0.00]
Stock Market Capital (% GDP)	-0.021	[0.41]	-0.019	[0.41]			0.033	[0.18]	0.036	[0.13]	0.031	[0.28]	0.034	[0.28]	0.021	[0.48]	0.015	[0.63]	0.016	[0.58]
Bank Private Credit (% GDP)															-0.026	[0.24]			-0.020	[0.31]
Private Bond Capital (% GDP)																	-0.018	[0.26]	-0.005	[0.73]
GDP per Capita											-0.107	[0.00]								
Disclosure Index					-0.108	[0.01]							-0.119	[0.00]	-0.149	[0.00]	-0.153	[0.00]	-0.151	[0.00]
PPE (% Total Assets)	0.011	[0.11]	0.008	[0.27]	0.010	[0.11]	0.014	[0.02]	0.010	[0.11]	0.012	[0.06]	0.005	[0.39]	0.005	[0.52]	0.005	[0.57]	0.005	[0.44]
Gross Profit Margin (3 yr. avg.)	0.037	[0.00]	0.033	[0.00]	0.033	[0.00]	0.042	[0.00]	0.039	[0.00]	0.044	[0.00]	0.031	[0.00]	0.030	[0.00]	0.030	[0.00]	0.030	[0.00]
Cash & STI (% Total Assets)	0.006	[0.52]	0.003	[0.71]	-0.001	[0.94]	0.004	[0.79]	0.001	[0.96]	0.012	[0.25]	-0.001	[0.94]	0.002	[0.83]	0.001	[0.96]	0.002	[0.89]
Debt Maturity	0.056	[0.00]	0.064	[0.00]	0.063	[0.00]	0.059	[0.00]	0.066	[0.00]	0.054	[0.00]	0.064	[0.00]	0.059	[0.00]	0.060	[0.00]	0.059	[0.00]
R&D Expense (% Total Assets)	-0.006	[0.52]	-0.004	[0.66]	-0.006	[0.48]	-0.006	[0.50]	-0.004	[0.65]	-0.010	[0.27]	-0.005	[0.43]	-0.007	[0.40]	-0.007	[0.37]	-0.007	[0.38]
Capital Expend. (%Total Assets)	-0.029	[0.00]	-0.030	[0.01]	-0.028	[0.00]	-0.033	[0.00]	-0.032	[0.00]	-0.031	[0.00]	-0.027	[0.02]	-0.027	[0.02]	-0.026	[0.03]	-0.027	[0.04]
Percent Zero Returns	-0.202	[0.00]	-0.199	[0.00]	-0.197	[0.00]	-0.194	[0.00]	-0.193	[0.00]	-0.198	[0.00]	-0.197	[0.00]	-0.200	[0.00]	-0.199	[0.00]	-0.199	[0.00]
Leverage	-0.046	[0.00]	-0.052	[0.00]	-0.060	[0.00]	-0.053	[0.00]	-0.058	[0.00]	-0.046	[0.00]	-0.057	[0.00]	-0.064	[0.00]	-0.065	[0.00]	-0.065	[0.00]
Market Coverage	0.067	[0.01]	0.045	[0.07]	0.049	[0.04]	0.059	[0.01]	0.038	[0.12]	0.079	[0.01]	0.023	[0.22]	0.019	[0.17]	0.026	[0.12]	0.027	[0.14]
Intercept	0.382	[0.00]	0.382	[0.00]	0.382	[0.00]	0.382	[0.00]	0.382	[0.00]	0.382	[0.00]	0.382	[0.00]	0.400	[0.00]	0.400	[0.00]	0.400	[0.00]
Adjusted R^2	0.132		0.140		0.131		0.123		0.132		0.133		0.147		0.159		0.158		0.161	
Observations (average per year)	5116.7		5116.7		5116.7		5116.7		5116.7		5116.7		5116.7		4799.9		4799.9		4799.9	

(continued)

Table 8: R^2 Differences (continued)

Panel C: Firm-Level Fama-MacBeth Regressions with Changes in Variables

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
ICR Political Risk - Stability	0.020	[0.25]					0.019	[0.19]												
ICR Political Risk - Law & Order			-0.008	[0.71]					-0.009	[0.61]										
Creditor Rights Index	0.013	[0.12]	0.010	[0.23]									0.014	[0.03]	0.012	[0.30]	0.018	[0.06]	0.014	[0.26]
Stock Market Turnover Ratio	0.002	[0.96]	-0.019	[0.51]	0.007	[0.78]					-0.006	[0.82]	-0.008	[0.76]	-0.009	[0.66]	-0.013	[0.54]	-0.014	[0.39]
Stock Market Capital (% GDP)	-0.007	[0.73]	-0.001	[0.98]			-0.002	[0.90]	0.003	[0.87]	0.001	[0.95]	-0.005	[0.85]	-0.007	[0.72]	-0.016	[0.49]	-0.014	[0.47]
Bank Private Credit (% GDP)															0.029	[0.19]			0.029	[0.21]
Private Bond Capital (% GDP)																	0.027	[0.16]	0.011	[0.36]
GDP per Capita											-0.015	[0.51]								
PPE (% Total Assets)	0.008	[0.47]	0.008	[0.48]	0.008	[0.54]	0.009	[0.45]	0.008	[0.47]	0.009	[0.48]	0.008	[0.45]	0.006	[0.56]	0.007	[0.54]	0.007	[0.59]
Gross Profit Margin (3 yr. avg.)	0.021	[0.01]	0.022	[0.01]	0.021	[0.04]	0.021	[0.01]	0.021	[0.01]	0.022	[0.02]	0.021	[0.03]	0.021	[0.01]	0.022	[0.01]	0.021	[0.02]
Cash & STI (% Total Assets)	0.000	[0.99]	0.001	[0.89]	0.000	[0.98]	0.001	[0.92]	0.002	[0.88]	0.000	[0.97]	0.000	[0.97]	-0.001	[0.95]	0.000	[0.99]	-0.001	[0.94]
Debt Maturity	0.051	[0.00]	0.051	[0.00]	0.051	[0.00]	0.051	[0.00]	0.051	[0.00]	0.051	[0.01]	0.051	[0.00]	0.051	[0.00]	0.052	[0.00]	0.051	[0.00]
R&D Expense (% Total Assets)	-0.009	[0.37]	-0.009	[0.37]	-0.010	[0.33]	-0.009	[0.39]	-0.009	[0.39]	-0.010	[0.32]	-0.009	[0.34]	-0.011	[0.28]	-0.010	[0.31]	-0.011	[0.25]
Capital Expend. (%Total Assets)	-0.019	[0.23]	-0.019	[0.23]	-0.019	[0.17]	-0.019	[0.18]	-0.019	[0.18]	-0.019	[0.19]	-0.019	[0.18]	-0.017	[0.28]	-0.018	[0.27]	-0.017	[0.28]
Percent Zero Returns	-0.156	[0.00]	-0.155	[0.00]	-0.157	[0.00]	-0.158	[0.00]	-0.157	[0.00]	-0.156	[0.00]	-0.155	[0.00]	-0.157	[0.00]	-0.158	[0.00]	-0.158	[0.00]
Leverage	-0.060	[0.00]	-0.060	[0.00]	-0.060	[0.00]	-0.060	[0.00]	-0.059	[0.00]	-0.060	[0.00]	-0.060	[0.00]	-0.061	[0.00]	-0.060	[0.00]	-0.061	[0.00]
Market Coverage	-0.015	[0.67]	0.002	[0.95]	0.002	[0.95]	-0.019	[0.51]	-0.002	[0.92]	0.002	[0.94]	-0.005	[0.85]	0.013	[0.58]	0.005	[0.86]	0.012	[0.64]
Intercept	-0.024	[0.67]	-0.024	[0.67]	-0.024	[0.72]	-0.024	[0.68]	-0.024	[0.68]	-0.024	[0.69]	-0.024	[0.69]	-0.023	[0.70]	-0.023	[0.70]	-0.023	[0.73]
Adjusted R^2	0.064		0.067		0.056		0.058		0.061		0.067		0.062		0.065		0.062		0.066	
Observations (average per year)	3700.9		3700.9		3700.9		3700.9		3700.9		3700.9		3700.9		3485.4		3485.4		3485.4	

Appendix: Variable Definitions

Variable	Definition
Firm Characteristics	
Total Assets	The sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment and other assets.
Age	Difference between year of observation and year of first listing + 1
Market-to-Book Value	Common Equity Market Price-Year End / Book Value Per Share
p-score	Propensity score of being a Non-U.S. firm, estimated each year by industry
Leverage	(Total Debt + Preferred Stock) divided by Size
Closely Held Shares (%)	Number of Closely Held Shares divided by Common Shares Outstanding
PPE (% Total Assets)	Total Property Plant & Equipment (Net) divided by Total Assets
R&D Expense (% Total Assets)	Research and Development Expenses as a percent of Total Assets with missing values set to zero
Capital Expenditures (% Total Assets)	Capital Expenditures divided by Total Assets with missing values set to zero
Gross Profit Margin (3 year average)	Average of up to 3 years (as available) of Gross Income divided by Net Sales or Revenues, where Gross Income is the difference between sales or revenues and cost of goods sold and depreciation
Cash & STI (% Total Assets)	Cash and Short-term Investments divided by (Total Assets – Cash and Short-term Investments)
Debt Maturity	Total Long-term Debt (due in more than 1 year) divided by Total Debt
Percent Zero Returns	Percentage of available firm weekly returns in a year that are equal to zero (excluding leading and trailing strings of zeros)
Total Debt	Book Value of Long-term Debt plus Short-term Debt including all interest bearing and capitalized lease obligations.
Size	Year End Market Capitalization + Total Debt + Preferred Stock
Preferred Stock	Book Value of preferred shares outstanding
Total Risk	Annualized standard deviation of weekly stock return measured in U.S. Dollars
Systematic risk	Annualized square root of difference in weekly return variance and variance of residuals from regression with weekly excess returns from local market index
Idiosyncratic Risk	Annualized standard deviation of residuals from regression with weekly excess returns from local market index
R^2	R^2 from regression with weekly excess returns from local market index
Country & Other Characteristics	
ICR Political	From PRS Group. Index measures the overall stability and quality of government institutions using 10 different qualitative measures such as internal and external conflict, corruption, law and order, and bureaucratic quality. Higher values represent more stable and higher quality government institutions.
ICR Political - Stability	Sub-index of ICR Political that includes only government stability, socioeconomic conditions, internal conflict, external conflict, military in politics, religious tensions, ethnic tensions, democratic accountability. Higher values represent more stable government.
ICR Political – Law and Order	Sub-index of ICR Political that includes only law and order, investment profile, bureaucracy quality, corruption. Higher values represent higher quality government institutions.
Creditor Rights Index	From Djankov, McLiesh and Shleifer (2007)
Anti-self-dealing Index	From Djankov, LaPorta, Lopez-de-Silanes, Andrei Shleifer (2005)

(continued)

Appendix: Variable Definitions (continued)

Variable	Definition
Stock Market Turnover Ratio	Ratio of annual trading volume to shares outstanding. Data from World Bank
Stock Market Capital (% GDP)	Ratio of end of year stock market capitalization to Nominal GDP. Data from World Bank
Bank Private Credit (% GDP)	Private credit by deposit money banks to GDP from World Bank Financial Development and Structure Database. Raw data are from the electronic version of the IMF's International Financial Statistics. See Beck, Demirguc-Kunt, Levine (2000).
Bank & Other Private Credit (% GDP)	Private credit by deposit money banks and other financial institutions to GDP from World Bank Financial Development and Structure Database. Raw data are from the electronic version of the IMF's International Financial Statistics. See Beck, Demirguc-Kunt, Levine (2000).
Private Bond Capital (% GDP)	Private domestic debt securities issued by financial institutions and corporations as a share of GDP from World Bank Financial Development and Structure Database. Raw data are taken from the electronic version of the Bank of International Settlements' Quarterly Review: International Banking and Financial Market Developments by sector and country of issuer. See Beck, Demirguc-Kunt, Levine (2000).
Public Bond Capital (% GDP)	Public domestic debt securities issued by government as a share of GDP from World Bank Financial Development and Structure Database. Raw data are taken from the electronic version of the Bank of International Settlements' Quarterly Review: International Banking and Financial Market Developments by sector and country of issuer. See Beck, Demirguc-Kunt, Levine (2000).
Total External Capital (% GDP)	Sum of Stock Market Capital (% GDP), Bank & Other Private Credit (% GDP), Private Bond Capital (% GDP), Public Bond Capital (% GDP).
GDP Per Capita	GDP per capita on a purchasing power parity basis (millions of USD). Data from the World Bank.
Disclosure Index	As defined in Jin and Myers (2005), additional data from Global Competitiveness Reports (1999, 2000).
Domestic Market Index Volatility	Annualized standard deviation of weekly major market index returns as reported by Datastream.
Market Coverage	Percentage of all listed firms in a country that are in our sample. Data on the total number of listings comes from the World Federation of Exchanges (supplemented by data hand collected from individual exchange websites) and includes only local country listings.