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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 idiosyncratic risk across countries in both level and change regressions, but less so than firm characteristics. There exists a strong negative relation between idiosyncratic risk and an index of government stability and quality. Further, idiosyncratic risk is positively related to financial development. Surprisingly, there is evidence that firms have less idiosyncratic risk in countries with greater transparency. Finally, idiosyncratic risk does not appear to be related to investor protection laws. Our results support theories predicting that better financial development leads firms to undertake riskier investments, but they are inconsistent with theories predicting that more firm-specific information increases idiosyncratic stock return volatility.

A large literature makes predictions on how country characteristics affect firm idiosyncratic risk.[1] With 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. Since the United States has good governance and high financial development, this literature would lead us to expect that foreign firms 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 characteristics such as governance and financial 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. 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. Using medians, we find that the idiosyncratic risk of foreign firms is 12.4% lower than the idiosyncratic risk of U.S. matching firms. Though the difference in idiosyncratic risk between U.S. firms and foreign firms varies through time, foreign firms have

[1] Relevant papers are in the growth literature (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.

significantly greater idiosyncratic risk in only two out of sixteen sample years.[3] We also find that foreign firms have higher market risk, but not consistently so through time. Since a firm's total risk increases both with idiosyncratic risk and market risk, foreign firms can have greater or lower total risk than U.S. firms depending on which of the two effects that we document dominates. There is some evidence that U.S. firms have more total risk than matching foreign firms, but this evidence is sensitive to time periods and to sample restrictions. Finally, we find that foreign firms on average have a higher market model R-square than comparable U.S. firms, but the median R-square for foreign firms is lower than the median R-square of comparable U.S. firms.

Since we focus on risk measures that use stock returns, two explanations for risk differences across countries come to mind that we investigate first. Foreign firms might have lower volatility because they trade less. We use weekly returns to calculate volatilities throughout the paper, which should alleviate this concern. However, we further examine a subsample of firms that trade more heavily. We find that idiosyncratic volatility is higher for U.S. firms within this sample as well. Another possible explanation is that U.S. firms are more volatile because of higher leverage. Using medians, we find no difference in leverage between the foreign firms and the U.S. firms in our sample. Nevertheless, we also estimate unlevered volatility measures. We find that the difference in median idiosyncratic volatility between matching U.S. firms and foreign firms is even higher (by about 15%) when we use unlevered returns to measure idiosyncratic volatility.

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

[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.).

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.

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)).

4) Information environment. The first three groups of determinants of idiosyncratic risk we focused on 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 impact 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 investigate the role of country risk, we use two components of the ICR country risk rating: The political risk index and the financial risk index. These indices are measured so that a higher value corresponds to less risk. The political risk index measures government quality as well as respect of property rights. It 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. Such a result is puzzling in light of explanations of the R^2 evidence suggesting that firms take more idiosyncratic risks when the rule of law is upheld more effectively (see Morck, Yeung and Yu (2000) and Jin and Myers (2006)). However, we find in many cases that country characteristics have coefficients of the same sign in regressions where the dependent variable is idiosyncratic risk and in regressions where the dependent variable is market risk. As a result, a country characteristic such as the political risk index can be negatively related to R^2 as well as negatively related to idiosyncratic risk because it is even more negatively related to market risk than to idiosyncratic risk. We also find evidence that lagged market volatility is strongly positively related to idiosyncratic risk. This result suggests that firms cannot easily reduce idiosyncratic risk to offset higher aggregate market risk.

Our measure of investor protection is the anti-self-dealing index of Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008). This index measures the ease with which insiders can engage in self-dealing. In some of our regression specifications, a firm's idiosyncratic volatility is 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 market 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 creditor rights measured using the index of Djankov, McLiesh and Shleifer (2007).

We proxy for financial 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 of our regressions for idiosyncratic volatility, 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.[4]

Finally, we find that idiosyncratic volatility is lower in countries with greater disclosure. Our evidence is consistent with evidence for the United States by 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 in univariate regressions (but rarely in multiple regressions) that R^2 is negatively related to transparency, we also find that both market risk and idiosyncratic risk fall as transparency increases. The market 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, if firm betas differ, their measure of risk increases with market risk.[5]

We estimate multiple regressions with and without firm characteristics other than those used for our matching procedure. Strikingly, adding these firm characteristics has little impact on the coefficients on country characteristics. This result suggests that the country characteristics we use do not seem to have much impact on a firm's choice of the characteristics we observe. Further, however, firm characteristics

[4] 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.

[5] To see this, suppose that a market model holds for EBITDA/Assets. If all firms have the same beta, the risk measure of John et al. 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 square root of the market model beta of the firm minus one times the standard deviation of the market's EBITDA/Assets.

seem to explain volatility differences more than country characteristics. Of course, firms choose policies partly in response to characteristics of the country in which they are located. Firms in foreign countries seem to systematically make choices that are associated with lower idiosyncratic volatility. In particular, firms in foreign countries have more fixed assets and less R&D than U.S. firms. Earlier literature has noted, for instance, that firms in developing countries have more fixed assets and less intangible assets than firms in developed countries (Demirguc-Tunk and Maksimovic (1999)), and Claessens and Laeven (2003) have shown that respect for property rights can explain such firm attributes. These choices of foreign firms could reflect the fact that business activities simply have more idiosyncratic risk in foreign countries because of unobserved county characteristics, so that firms choose less risky projects in response. However, the variables we use in our regressions do not appear to proxy for unobserved country and firm characteristics. When we control for unobservable firm characteristics (which would capture unobservable country characteristics as well) through firm fixed effects, we still find a strong relation between firm characteristics, country characteristics, and firm idiosyncratic volatility. Importantly, there is always evidence of a direct relation between country characteristics and firm idiosyncratic volatility.

This paper is connected closely to three strands of recent research. The first literature our work relates to 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 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. In particular, two firms from different countries with the same level of idiosyncratic risk could have very different R^2. The literature on R^2 explains the proportion of a firm's total risk that can be attributed to idiosyncratic risk. In contrast, we focus on the determinants of the levels 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 despite the fact that R^2 falls as idiosyncratic risk increases for given total firm 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 at the same time, recent papers question this finding altogether, attributing it to the nineties and arguing that idiosyncratic volatility falls in recent years (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. The literature has emphasized the role of competition and R&D in explaining the increase in idiosyncratic risk.[6] After controlling for size, market-to-book, and firm age, we find that lagged R&D and profit 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

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

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-square 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.[7] 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

[7] 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.

instance, Bekaert, Harvey, and Lundblad (2006)).[8] 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).[9] This reduces the number of firms in our analysis by about 5% and the number of firm-years in our sample by about 20%.[10] We exclude country years where less 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.[11]

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 sample period.[12] 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

[8] 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.

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

[10] 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 percent of firm-years lost.

[11] 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.

[12] 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 US versus non-U.S. firms affected by these screens is roughly constant over the sample period.

investments. We calculate ratios for most of these variables to make them comparable across companies. For R&D and CapEx, 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.[13] 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 sharply 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. 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 avoid this problem by using only lagged firm characteristics to match firms, so that we match firms on predetermined variables. To identify matching U.S. firms we employ propensity score (*p*-score) matching utilizing several characteristics.[14] In essence, *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. 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.[15] 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.

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

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

[15] 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.

The country variables we use are as follows. We measure overall financial risk using the ICR Financial Risk index as reported by the PRS Group.[16] The Financial Risk index measures the risk in a country's ability to pay its external obligations. It is constructed using five variables: foreign debt as a percent of GDP, foreign debt service as a percent of exports, the current account balance as a percent of exports, international reserves as a percent of imports, exchange rate volatility. Higher values represent lower financial risk.

We measure the quality of political and legal institutions using the ICR Political Risk index. This 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. 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.

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 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 financial 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

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

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. We also consider other possible interpretations of stock market turnover (see Griffin, Nardari, and Stulz (2007)). Finally, we take into account the possibility that foreign capital flows can influence the risk levels of stocks by measuring net portfolio investment as a percent of GDP.[17] These data are obtained from the World Bank.

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.[18] 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.

[17] See Froot, O'Connell and Seasholes (2001) and Hau and Rey (2004, 2006).

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

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 better protection of investors against self-dealing by insiders, lower political risk, greater market turnover, greater market capitalization, greater disclosure, greater GDP per capita, greater net foreign portfolio investment to GDP, lower market standard deviation, and lower creditor rights. Perhaps surprisingly, the ICR measure of financial risk is higher for U.S. firms than foreign firms.

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

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

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 market 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 market risk on average than U.S. firms, but the median difference is extremely small. Foreign firms have lower idiosyncratic risk than U.S. firms, and the median idiosyncratic volatility of U.S. firms is 12.4% lower than the median idiosyncratic volatility of their matching foreign firms. Finally, the results for R^2 are surprising: average R^2 is higher for foreign firms than for U.S. firms by roughly 11%, but median R^2 is lower for foreign firms by 3.4%. Both differences are statistically significant at the 5% 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.

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 require a firm to have non-zero returns for more than 90% of the weeks, the mean difference in volatility is no longer significant. However, for all our comparisons, both the mean and median differences for idiosyncratic volatility 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 lower idiosyncratic risk than

matching U.S. firms. The percentage difference in idiosyncratic volatility increases substantially when we use unlevered idiosyncratic volatility. This result suggests that the assets of foreign firms are 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. Using medians, 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 higher market risk than U.S. firms in the 1990s, but not in 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, using medians, foreign firms have significantly higher idiosyncratic risk than U.S. firms. (These two years coincide with the 1997-8 Asian and Russian financial crises.) In contrast, U.S. firms have significantly higher idiosyncratic risk at the 1% significance level than foreign firms in nine years. Finally, R^2 is significantly lower for U.S. firms in all but two years using medians. 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 market 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 if we regress a volatility measure at time *t* on firm and country characteristics at time *t-1*. It is also mitigated if we use change regressions.

Our investigation has three different steps. First, we estimate country-level Fama-MacBeth regressions that use only country characteristics as explanatory variables. Second, we estimate firm-level Fama-MacBeth regressions that also include firm characteristics as explanatory variables. Third, we investigate Fama-MacBeth regressions on changes. The use of these different approaches should alleviate the concern that we do not have a balanced panel, in addition to help reduce concerns about endogeneity. 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 also estimate pooled regressions. There is a critical difference between the two approaches. The Fama-MacBeth regressions weigh each year equally. The pooled regressions weigh each firm-year equally. As a result, the pooled regressions give a lot of weight to the more recent sample years because these years have a lot more firms. Later in the section, we compare the pooled regression estimates to the Fama-MacBeth estimates.

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 across all years to create cross-sectional variables (and country medians for the risk variables to create country variables). We see that there is typically a strong negative correlation between the ICR indices and our volatility measures. However, the correlations for political risk are similar for idiosyncratic risk and for market risk. In contrast, the volatility measures have low and insignificant correlations with the creditor protection index and the anti-self-dealing index. 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, market, and idiosyncratic volatility at the firm level. The correlations of the volatility measures with market turnover are positive and weakly significant for idiosyncratic and total risk, but the correlations are negative with stock market capitalization to GDP. We find a negative correlation between our volatility measures and our proxy for economic development, GDP per capita. In summary, our volatility measures are negatively correlated with country risk indices, economic development, and a disclosure index, but they are not significantly correlated with the creditor rights index and the anti-self-dealing index. Finally, they are typically positively correlated with turnover and negatively correlated with stock market capitalization to GDP. 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 the correlation between market risk and country characteristics (and the absolute value of the correlation with market risk is higher).

3.1 Country-level regressions

We first investigate country-level regressions. These regressions 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 exogeneously 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 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 financial risk index, the political risk index, the disclosure index, GDP per capita, and the ratio of stock market capitalization to GDP. Note that a higher value of the disclosure index means better disclosure, so that better disclosure is associated with less total risk. The same is true for the financial risk and political risk indices. Total risk is positively related to stock market turnover, net foreign portfolio investment, and stock market volatility. Finally, total risk is negatively related to the anti-self-dealing index, but the *p*-value on the coefficient is 0.10, so that the coefficient is marginally significant at the 10% level.

In multiple regressions, we see that total risk is unrelated to creditor rights. The ICR Financial Risk index is not consistently significant at the 5% level. Total risk is negatively related to the ICR Political

Risk index, to disclosure, and to GDP per capita. The anti-self-dealing index has a positive significant coefficient in one regression, but not in the others, so that the coefficient is very sensitive to the variables included in the regression. Domestic stock market volatility has a positive significant coefficient. Other variables such as stock market capitalization to GDP, stock market turnover, and net foreign portfolio investment are not typically significant. We also include a variable that measures the fraction of the domestic market listings that our sample covers.[19] 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 market risk. Univariate regressions have coefficients with the same sign and significance as the regressions for total risk, except that now the anti-self-dealing index has a significant negative coefficient and the stock market turnover ratio is not significant. In multiple regressions, the signs of the coefficients are generally similar. However, the anti-self-dealing index has a positive and significant coefficient in three regressions. Creditor rights, stock market capitalization, net foreign portfolio investment are typically not significant.

Finally, Panel C reports regressions where the dependent variable is idiosyncratic risk. The univariate regressions are similar to those for total risk, except that now turnover is highly significant with a positive coefficient and the anti-self-dealing index is insignificant. In multivariate regressions, the coefficient on creditor rights is not significant. The coefficient on political risk is negative and significant, so that greater political risk, i.e., a lower value of the index, is associated with higher idiosyncratic risk. The coefficients on the financial risk index, the anti-self-dealing index, turnover, and stock market capitalization to GDP are only occasionally significant at the 5% level. Disclosure has a significant negative coefficient. The domestic stock market volatility has a positive significant coefficient. The market coverage variable, which proxies for selection, is always positive and significant.

[19] 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 includes only local country listings.

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. Further, the financial development variables have always positive coefficients in the multiple regressions. However, the coefficient on stock market turnover is significant in only one regression.

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 5 has 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. In particular, the coefficient on disclosure is at best only marginally significant in Panel A of Table 6. The coefficient on market coverage is now insignificant and small in three 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 political risk index, GDP per capita, stock market volatility, and stock market capitalization are the most economically significant country-level variables for total risk. Firm-level variables are in most 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 market risk. The country characteristics have coefficients of the same sign as in the regression 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. Third, the disclosure index is negative and significant. 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 coefficient estimates are similar to those of the country-level regressions. In particular, the anti-self-dealing index does not have significant coefficient, the coefficient on transparency is negative, and the coefficient on turnover is positive and significant. 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 has a positive significant coefficient in three regressions. Stock market capitalization is consistently positive. Net foreign portfolio investment has a positive significant coefficient. The coefficient on disclosure is negative, but not significant. The firm characteristics have coefficients of the same sign and significance as in the total risk regressions.[20]

[20] 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.

It follows from this analysis that firms in countries with greater stock market risk have more total risk, more market risk, and more idiosyncratic risk. There is therefore no evidence here that firms in a more risky environment are able to take steps to have less idiosyncratic risk to offset greater market risk. Firms in countries with a greater political risk index, which means countries with a better and more stable government, have lower market risk and lower idiosyncratic risk. Consequently, better respect of property rights and less corruption are associated with lower risk. Firms in more financially developed countries have more idiosyncratic risk, but similar or less market risk. Strikingly, more foreign investment is, everything else equal, associated with more idiosyncratic risk, but not more market risk. The creditor rights index is not related to idiosyncratic risk but countries with better creditor rights have more market risk. In one regression, the anti-self-dealing index is positively related to our risk measures, but in the others it is not.

We explore the robustness of the results presented in Table 6 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 on the firm-level control variables. The coefficients on the other country-level variables do not. Second, we estimate panel regression models where we cluster 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 financial development variables have highly significant positive coefficients in all regressions, but the disclosure index is never significant, and neither is the political risk index.

3.3 Change Regressions

One obvious concern with the regressions discussed so far is that country-level variables could be correlated with unmodeled country or firm attributes. Estimating change or firm fixed-effects regressions is one approach that helps alleviate these concerns. A difficulty with implementing this approach is that some of the country variables we use are observed only once, so that we cannot use them in change

regressions or in firm fixed-effects regressions. Nevertheless, enough of the variables change every year 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. The only country characteristics that are significant are the political risk index, the stock-market turnover ratio, and stock market volatility. All the firm characteristics are significant with the same sign as with the level regressions. When we turn to the market risk regressions, no country characteristic is consistently significant except GDP per capita. Again, all the firm characteristics are significant. Finally, with idiosyncratic risk, while the political risk index is negatively related to idiosyncratic risk, stock market capitalization and market turnover are positively related to idiosyncratic risk. The coefficients on firm characteristics are similar to the coefficients estimated in the level regressions.

It follows from Table 7 that the key results concerning the negative relation between the political risk index and idiosyncratic risk and the positive relation between financial development and idiosyncratic risk are robust when we estimate change regressions. Further, the coefficients on firm characteristics are robust across all our specifications. We also estimate firm fixed-effects regressions. Such regressions suffer from the same problem as the panel regressions, namely that the number of firms is much higher at the end of our sample than at the beginning. Nevertheless, the results from the firm fixed-effect models generally support the conclusions from the change regressions with two exceptions for the idiosyncratic risk models. For the idiosyncratic risk models, we find a positive significant coefficient on credit risk and a negative significant coefficient on stock market capitalization to GDP in two regressions.[21]

[21] Because of the number of parameters to be estimated, we were not able to correct our test statistics for clustering.

4 Idiosyncratic volatility, market 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 market risk divided by the square of its total risk. Consequently, R^2 can fall because market risk falls, or because total risk increases for constant market risk. An increase in total risk not accompanied by an increase in market risk is an increase in idiosyncratic risk. As a result, there are two sources of variation in R^2: market risk and idiosyncratic risk. R^2 increases with market 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 at the firm-level why R^2 is related to the quality of 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 country-level Fama-Macbeth regressions, firm-level Fama-Macbeth regressions, and firm-level change Fama-Macbeth regressions. 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 at the firm-level. We consider first country-level regressions. Though we do not reproduce these regressions in the table, we estimated univariate regressions for the country characteristics. These regressions have negative significant coefficients for the creditor rights index, the financial risk index, the political risk index, the anti-self-dealing index, the stock market turnover ratio, the disclosure index, and GDP per capita. Countries with more net foreign investment to GDP have a higher R^2. However, in multiple regressions, we see that the country variables are much less successful. R^2 is typically negatively related to country risk indices and positively related to the country stock market volatility. Hence, countries with better protection of property rights have a lower R-square as we would expect from the literature. R^2 is not reliably related to the disclosure index. It is positively related to the anti-self-dealing index in one regression. R-square is unrelated to our measures of financial development.

In the next two panels, we estimate the regressions at the firm level. In Panel B, we use levels of variables. R^2 is positively related to creditor rights, unrelated to financial risk, and negatively related to the political risk index, GDP per capita, and to stock market turnover. The coefficients on the disclosure index and the anti-self-dealing index are mostly insignificant. In one regression, the coefficient on disclosure is significantly negative and the coefficient on the anti-self-dealing index is significantly positive. Though we do not reproduce the results, we also estimate the regressions in a panel. In these regressions, the only significant country characteristics are the financial risk index, the political risk index, turnover, and stock market volatility. Disclosure is never significant, and neither is the anti-self-dealing index. In Panel C, we use change regressions. The stock market capitalization variable, the stock market turnover and the stock market volatility are the only country variables that are consistently significant. We find that R^2 falls as financial development improves. R&D, gross profit margin, and debt maturity have significant coefficients. In firm fixed effects regressions (not reproduced), the political risk index is not significant, but the creditor rights index has a positive significant coefficient. The financial development variables have negative significant coefficients.

In summary, country characteristics are related to R^2, but the most successful country characteristics are the financial development variables and the political risk index. However, even these variables are not always significant.

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) from 1990-2006.

We find that, after accounting for firm characteristics, foreign firms have lower idiosyncratic risk than comparable U.S. firms. The difference in idiosyncratic risk between foreign and U.S. firms is related

to country characteristics. We estimate the role of country characteristics using both level and changes specifications. Throughout the paper, we find that an index that proxies for government quality and stability is strongly related to idiosyncratic risk – but as well to market risk. In contrast, idiosyncratic risk increases with financial development, but financial development is not systematically related to market risk. Surprisingly, we find evidence of a negative relation between disclosure and idiosyncratic risk and no consistent evidence of a positive relation between investor protection laws and idiosyncratic risk. Our evidence is consistent with the literature which stresses that firms can choose riskier projects in countries with better financial development. An alternative explanation for our results could be that financial development is associated with more trading, which leads to more volatility. Further research is required to evaluate how financial development directly affects firm decisions and to assess the relevance of the alternative explanation.

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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) 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	Medians	*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 Expend. (%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											
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
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
Stock Market Turnover Ratio	20,069	0.924	0.793	0.533	1.460	1.496	0.197	-0.536	-0.703	<0.001	<0.001
Stock Market Capital (% GDP)	20,069	1.102	0.836	0.978	1.351	1.366	0.100	-0.250	-0.530	<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
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
Net Portfolio Investment (% GDP)	18,775	-0.010	-0.001	0.046	0.040	0.042	0.010	-0.050	-0.043	<0.001	<0.001
Domestic Market Volatility (log)	18,868	-1.784	-1.749	0.322	-2.028	-2.032	0.188	0.245	0.283	<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
ICR Financial Index	20,069	41.847	41.700	4.324	34.409	33.429	3.303	7.439	8.271	<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) 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
Total Risk	20,069	0.490	0.442	0.212	0.497	0.480	0.169	-0.007	-0.038	<0.001	<0.001
Market Risk	20,065	0.183	0.167	0.091	0.172	0.165	0.064	0.011	0.002	<0.001	<0.001
Idiosyncratic Risk	20,065	0.445	0.396	0.204	0.460	0.442	0.162	-0.015	-0.047	<0.001	<0.001
R^2	20,065	0.172	0.144	0.109	0.153	0.148	0.066	0.018	-0.005	<0.001	0.018

(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
Market Risk											
No Zero Returns Screen	21,302	0.179	0.164	0.088	0.170	0.165	0.060	0.009	-0.002	<0.001	0.379
<30% Zero Returns Threshold	20,065	0.183	0.167	0.091	0.172	0.165	0.064	0.011	0.002	<0.001	<0.001
<10% Zero Returns Threshold	17,486	0.138	0.119	0.084	0.136	0.124	0.071	0.002	-0.006	0.034	<0.001
Idiosyncratic Risk											
No Zero Returns Screen	21,302	0.454	0.402	0.214	0.486	0.466	0.168	-0.032	-0.064	<0.001	<0.001
<30% Zero Returns Threshold	20,065	0.445	0.396	0.204	0.460	0.442	0.162	-0.015	-0.047	<0.001	<0.001
<10% Zero Returns Threshold	17,486	0.312	0.267	0.187	0.330	0.307	0.151	-0.018	-0.040	<0.001	<0.001
R^2											
No Zero Returns Screen	21,302	0.164	0.133	0.108	0.141	0.136	0.063	0.023	-0.003	<0.001	<0.001
<30% Zero Returns Threshold	20,065	0.172	0.144	0.109	0.153	0.148	0.066	0.018	-0.005	<0.001	0.018
<10% Zero Returns Threshold	17,486	0.188	0.165	0.115	0.170	0.163	0.077	0.019	0.002	<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
Market Risk											
Raw	20,065	0.183	0.167	0.091	0.172	0.165	0.064	0.011	0.002	<0.001	<0.001
Unlevered 1	20,065	0.132	0.115	0.079	0.131	0.122	0.062	0.001	-0.007	0.146	<0.001
Unlevered 2	19,732	0.148	0.131	0.081	0.143	0.133	0.063	0.005	-0.002	<0.001	0.013
Unlevered 3	19,733	0.125	0.107	0.078	0.123	0.112	0.063	0.002	-0.005	0.005	<0.001
Unlevered 4	20,065	0.133	0.115	0.079	0.134	0.124	0.063	-0.001	-0.009	0.359	<0.001
Idiosyncratic Risk											
Raw	20,065	0.445	0.396	0.204	0.460	0.442	0.162	-0.015	-0.047	<0.001	<0.001
Unlevered 1	20,065	0.325	0.274	0.198	0.344	0.323	0.150	-0.019	-0.049	<0.001	<0.001
Unlevered 2	19,732	0.358	0.306	0.193	0.372	0.351	0.149	-0.014	-0.045	<0.001	<0.001
Unlevered 3	19,733	0.305	0.255	0.196	0.323	0.302	0.154	-0.017	-0.046	<0.001	<0.001
Unlevered 4	20,065	0.326	0.275	0.199	0.351	0.329	0.154	-0.025	-0.055	<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
Market Risk	1991	2,887	0.160	0.154	0.079	0.165	0.158	0.083	-0.005	-0.004	0.015	0.056
	1992	3,311	0.205	0.187	0.121	0.123	0.117	0.063	0.082	0.070	<0.001	<0.001
	1993	3,567	0.170	0.161	0.092	0.109	0.099	0.055	0.061	0.062	<0.001	<0.001
	1994	4,114	0.155	0.133	0.111	0.122	0.115	0.059	0.034	0.017	<0.001	<0.001
	1995	4,723	0.143	0.126	0.093	0.095	0.080	0.058	0.048	0.046	<0.001	<0.001
	1996	5,372	0.126	0.112	0.074	0.110	0.100	0.059	0.016	0.011	<0.001	<0.001
	1997	6,246	0.216	0.173	0.161	0.119	0.108	0.062	0.097	0.065	<0.001	<0.001
	1998	6,996	0.309	0.247	0.233	0.222	0.206	0.115	0.087	0.041	<0.001	<0.001
	1999	8,077	0.196	0.157	0.140	0.150	0.130	0.094	0.046	0.027	<0.001	<0.001
	2000	9,630	0.204	0.161	0.149	0.225	0.165	0.182	-0.020	-0.004	<0.001	<0.001
	2001	11,503	0.247	0.211	0.167	0.264	0.229	0.169	-0.017	-0.018	<0.001	<0.001
	2002	12,634	0.202	0.176	0.126	0.201	0.174	0.127	0.001	0.001	0.581	0.248
	2003	14,094	0.168	0.144	0.108	0.174	0.153	0.111	-0.006	-0.009	<0.001	<0.001
	2004	15,070	0.158	0.140	0.095	0.166	0.145	0.097	-0.008	-0.005	<0.001	<0.001
	2005	16,551	0.131	0.114	0.081	0.145	0.132	0.077	-0.014	-0.019	<0.001	<0.001
	2006	17,457	0.175	0.159	0.094	0.156	0.149	0.083	0.019	0.010	<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	0.295	0.269	0.123	0.345	0.310	0.165	-0.050	-0.041	<0.001	<0.001
	1992	3,311	0.333	0.309	0.139	0.336	0.308	0.144	-0.003	0.001	0.412	0.775
	1993	3,567	0.324	0.294	0.137	0.327	0.282	0.150	-0.003	0.012	0.377	0.136
	1994	4,114	0.298	0.267	0.145	0.298	0.267	0.136	-0.001	-0.001	0.854	0.918
	1995	4,723	0.310	0.286	0.130	0.327	0.283	0.171	-0.017	0.003	<0.001	0.592
	1996	5,372	0.294	0.260	0.140	0.332	0.289	0.172	-0.038	-0.030	<0.001	<0.001
	1997	6,246	0.416	0.374	0.201	0.342	0.298	0.164	0.075	0.076	<0.001	<0.001
	1998	6,996	0.520	0.452	0.276	0.440	0.387	0.218	0.079	0.065	<0.001	<0.001
	1999	8,077	0.480	0.434	0.222	0.504	0.442	0.263	-0.025	-0.007	<0.001	0.003
	2000	9,630	0.499	0.440	0.242	0.593	0.508	0.314	-0.094	-0.068	<0.001	<0.001
	2001	11,503	0.483	0.413	0.264	0.585	0.506	0.334	-0.101	-0.093	<0.001	<0.001
	2002	12,634	0.454	0.381	0.260	0.556	0.475	0.321	-0.103	-0.094	<0.001	<0.001
	2003	14,094	0.414	0.348	0.235	0.474	0.400	0.275	-0.060	-0.052	<0.001	<0.001
	2004	15,070	0.372	0.321	0.200	0.416	0.356	0.233	-0.045	-0.035	<0.001	<0.001
	2005	16,551	0.371	0.321	0.201	0.396	0.350	0.213	-0.025	-0.029	<0.001	<0.001
	2006	17,457	0.386	0.337	0.198	0.387	0.343	0.199	-0.001	-0.006	0.491	0.193
R^2	1991	2,887	0.247	0.232	0.153	0.216	0.209	0.136	0.031	0.023	<0.001	<0.001
	1992	3,311	0.285	0.266	0.195	0.138	0.116	0.093	0.147	0.150	<0.001	<0.001
	1993	3,567	0.239	0.204	0.172	0.125	0.104	0.095	0.114	0.100	<0.001	<0.001
	1994	4,114	0.225	0.187	0.166	0.168	0.148	0.112	0.057	0.039	<0.001	<0.001
	1995	4,723	0.195	0.145	0.167	0.096	0.077	0.080	0.099	0.068	<0.001	<0.001
	1996	5,372	0.181	0.147	0.143	0.135	0.098	0.121	0.046	0.048	<0.001	<0.001
	1997	6,246	0.217	0.172	0.169	0.142	0.106	0.117	0.076	0.067	<0.001	<0.001
	1998	6,996	0.257	0.217	0.186	0.225	0.206	0.137	0.032	0.012	<0.001	<0.001
	1999	8,077	0.157	0.109	0.143	0.100	0.074	0.086	0.057	0.035	<0.001	<0.001
	2000	9,630	0.156	0.108	0.145	0.128	0.098	0.105	0.028	0.010	<0.001	<0.001
	2001	11,503	0.228	0.190	0.168	0.199	0.164	0.144	0.029	0.026	<0.001	<0.001
	2002	12,634	0.200	0.157	0.159	0.148	0.117	0.121	0.052	0.040	<0.001	<0.001
	2003	14,094	0.171	0.131	0.141	0.160	0.121	0.136	0.011	0.010	<0.001	<0.001
	2004	15,070	0.187	0.140	0.153	0.172	0.144	0.126	0.015	-0.003	<0.001	0.004
	2005	16,551	0.139	0.103	0.122	0.156	0.117	0.130	-0.017	-0.014	<0.001	<0.001
	2006	17,457	0.206	0.175	0.148	0.175	0.149	0.131	0.031	0.027	<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.

	Creditor Rights Index	ICR Financial	ICR Political	Anti-Self-dealing Index	Stock Market Turnover Ratio	Net Portfolio Investment (%GDP)	Disclosure Index	GDP per Capita	Stock Market Capital (%GDP)	Domestic Market Index Volatility	Total Risk	Market Risk
ICR Financial	25.0 *											
ICR Political	20.3	44.5 ***										
Anti-Selfdealing Index	45.2 ***	17.9	3.6									
Stock Market Turnover Ratio	5.5	12.6	-7.2	-0.1								
Net Portfolio Investment (%GDP)	-19.5	-52.7 ***	-27.7 *	-30.5 **	1.4							
Disclosure Index	22.3	21.1	76.7 ***	23.5	6.5	-32.1 **						
GDP per Capita	24.6 *	56.8 ***	80.2 ***	0.5	-1.0	-44.7 ***	77.1 ***					
Stock Market Capital (%GDP)	33.4 **	46.5 ***	39.9 ***	45.0 ***	-3.7	-73.8 ***	49.5 ***	47.6 ***				
Domestic Market Index Volatility	-10.7	-34.5 **	-56.2 ***	-21.9	25.0 *	19.4	-60.7 ***	-53.2 ***	-32.7 **			
Total Risk	-7.1	-29.1 **	-54.6 ***	-12.6	25.9 *	16.3	-55.3 ***	-47.8 ***	-24.7 *	82.8 ***		
Market Risk	-5.6	-39.1 ***	-67.9 ***	-10.7	17.9	17.8	-50.9 ***	-55.4 ***	-28.3 **	79.1 ***	84.9 ***	
Idiosyncratic Risk	0.1	-18.0	-44.7 ***	-5.0	27.6 *	9.3	-52.1 ***	-39.8 ***	-12.6	70.2 ***	94.3 ***	68.6 ***

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 U.S. and non-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
Creditor Rights Index	-0.006	[0.60]																		
ICR Financial Risk Index			-0.111	[0.00]																
ICR Political Risk Index					-0.145	[0.00]														
Anti-Self-Dealing Index							-0.016	[0.10]												
Stock Market Turnover Ratio									0.040	[0.00]										
Net Portfolio Investment (% GDP)											0.034	[0.01]								
Disclosure Index													-0.139	[0.00]						
GDP per Capita															-0.128	[0.00]				
Stock Market Capital (% GDP)																	-0.031	[0.02]		
Domestic Market Index Volatility																			0.187	[0.00]
Intercept	-0.022	[0.56]	-0.022	[0.56]	-0.022	[0.56]	-0.022	[0.56]	-0.022	[0.56]	-0.022	[0.56]	-0.022	[0.56]	-0.022	[0.56]	-0.022	[0.56]	-0.022	[0.56]
Adjusted R^2	-0.009		0.168		0.231		-0.009		0.005		0.008		0.239		0.203		0.013		0.383	
Observations	40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3	

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
Creditor Rights Index	0.014	[0.18]							0.005	[0.61]
ICR Financial Risk Index	-0.028	[0.06]			-0.030	[0.01]	-0.031	[0.06]		
ICR Political Risk Index	-0.080	[0.00]			-0.078	[0.00]				
Anti-Self-Dealing Index			0.024	[0.02]	0.002	[0.82]	0.006	[0.38]	0.016	[0.14]
Stock Market Turnover Ratio	0.008	[0.54]	0.000	[0.99]	0.015	[0.26]	0.013	[0.33]	-0.003	[0.80]
Net Portfolio Investment (% GDP)	-0.002	[0.87]	0.005	[0.61]	0.002	[0.88]	0.000	[0.97]	0.011	[0.35]
Disclosure Index			-0.063	[0.00]					-0.063	[0.01]
GDP per Capita							-0.050	[0.02]		
Stock Market Capital (% GDP)	0.020	[0.07]			0.026	[0.03]	0.016	[0.11]	0.015	[0.18]
Domestic Market Index Volatility	0.147	[0.00]	0.157	[0.00]	0.142	[0.00]	0.153	[0.00]	0.161	[0.00]
Market Coverage	0.042	[0.00]	0.023	[0.01]	0.039	[0.00]	0.032	[0.01]	0.023	[0.05]
Intercept	-0.022	[0.52]	-0.022	[0.55]	-0.022	[0.52]	-0.022	[0.52]	-0.022	[0.52]
Adjusted R^2	0.437		0.416		0.428		0.41		0.408	
Observations	40.3		40.3		40.3		40.3		40.3	

(continued)

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

Panel B: Market 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
Creditor Rights Index	-0.022	[0.05]																		
ICR Financial Risk Index			-0.221	[0.00]																
ICR Political Risk Index					-0.293	[0.00]														
Anti-Self-Dealing Index							-0.025	[0.02]												
Stock Market Turnover Ratio									0.006	[0.65]										
Net Portfolio Investment (% GDP)											0.081	[0.00]								
Disclosure Index													-0.263	[0.00]						
GDP per Capita															-0.275	[0.00]				
Stock Market Capital (% GDP)																	-0.079	[0.00]		
Domestic Market Index Volatility																			0.329	[0.00]
Intercept	0.145	[0.02]	0.145	[0.02]	0.145	[0.02]	0.145	[0.02]	0.145	[0.02]	0.145	[0.02]	0.145	[0.02]	0.145	[0.02]	0.145	[0.02]	0.145	[0.02]
Adjusted R^2	-0.012		0.208		0.331		-0.015		-0.014		0.01		0.267		0.294		0.013		0.432	
Observations	40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3	

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
Creditor Rights Index	0.032	[0.05]							0.009	[0.55]
ICR Financial Risk Index	-0.063	[0.01]			-0.067	[0.01]	-0.049	[0.09]		
ICR Political Risk Index	-0.150	[0.00]			-0.140	[0.00]				
Anti-Self-Dealing Index			0.051	[0.00]	0.018	[0.16]	0.020	[0.08]	0.034	[0.02]
Stock Market Turnover Ratio	-0.027	[0.20]	-0.042	[0.01]	-0.018	[0.36]	-0.023	[0.28]	-0.049	[0.03]
Net Portfolio Investment (% GDP)	-0.003	[0.85]	0.018	[0.21]	0.003	[0.87]	-0.005	[0.77]	0.025	[0.08]
Disclosure Index			-0.106	[0.00]					-0.093	[0.00]
GDP per Capita							-0.114	[0.00]		
Stock Market Capital (% GDP)	0.028	[0.04]			0.031	[0.07]	0.013	[0.34]	0.013	[0.48]
Domestic Market Index Volatility	0.267	[0.00]	0.302	[0.00]	0.263	[0.00]	0.283	[0.00]	0.315	[0.00]
Market Coverage	0.034	[0.21]	-0.003	[0.86]	0.034	[0.20]	0.019	[0.37]	-0.004	[0.87]
Intercept	0.145	[0.01]	0.145	[0.01]	0.145	[0.01]	0.145	[0.01]	0.145	[0.01]
Adjusted R^2	0.552		0.474		0.537		0.503		0.475	
Observations	40.3		40.3		40.3		40.3		40.3	

(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
Creditor Rights Index	0.002	[0.83]																		
ICR Financial Risk Index			-0.075	[0.01]																
ICR Political Risk Index					-0.101	[0.00]														
Anti-Self-Dealing Index							-0.006	[0.52]												
Stock Market Turnover Ratio									0.048	[0.00]										
Net Portfolio Investment (% GDP)											0.024	[0.05]								
Disclosure Index													-0.1	[0.00]						
GDP per Capita															-0.087	[0.00]				
Stock Market Capital (% GDP)																	-0.015	[0.26]		
Domestic Market Index Volatility																			0.141	[0.00]
Intercept	-0.083	[0.04]	-0.083	[0.04]	-0.083	[0.04]	-0.083	[0.04]	-0.083	[0.04]	-0.083	[0.04]	-0.083	[0.04]	-0.083	[0.04]	-0.083	[0.04]	-0.083	[0.04]
Adjusted R^2	-0.002		0.118		0.148		-0.005		0.021		0.007		0.183		0.139		0.021		0.266	
Observations	40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3		40.3	

	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val	Coef.	p-val
Creditor Rights Index	0.012	[0.27]							0.004	[0.73]
ICR Financial Risk Index	-0.020	[0.14]			-0.023	[0.05]	-0.023	[0.17]		
ICR Political Risk Index	-0.061	[0.00]			-0.058	[0.00]				
Anti-Self-Dealing Index			0.022	[0.05]	0.005	[0.58]	0.007	[0.32]	0.017	[0.10]
Stock Market Turnover Ratio	0.018	[0.22]	0.011	[0.32]	0.024	[0.09]	0.023	[0.12]	0.009	[0.51]
Net Portfolio Investment (% GDP)	0.003	[0.81]	0.005	[0.60]	0.006	[0.63]	0.004	[0.71]	0.010	[0.36]
Disclosure Index			-0.051	[0.01]					-0.056	[0.03]
GDP per Capita							-0.04	[0.06]		
Stock Market Capital (% GDP)	0.020	[0.07]			0.023	[0.04]	0.017	[0.08]	0.016	[0.11]
Domestic Market Index Volatility	0.105	[0.00]	0.11	[0.00]	0.1	[0.00]	0.106	[0.00]	0.112	[0.00]
Market Coverage	0.049	[0.00]	0.035	[0.00]	0.046	[0.00]	0.04	[0.00]	0.036	[0.00]
Intercept	-0.083	[0.01]	-0.083	[0.02]	-0.083	[0.01]	-0.083	[0.01]	-0.083	[0.01]
Adjusted R^2	0.309		0.317		0.297		0.302		0.311	
Observations	40.3		40.3		40.3		40.3		40.3	

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 U.S. and non-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.
Creditor Rights Index	0.001	[0.90]							0.007	[0.38]
ICR Financial Risk Index	-0.027	[0.22]			-0.026	[0.17]	-0.020	[0.41]		
ICR Political Risk Index	-0.050	[0.00]			-0.052	[0.00]				
Anti-Self-Dealing Index			0.025	[0.02]	-0.012	[0.49]	-0.015	[0.34]	-0.008	[0.55]
Stock Market Turnover Ratio	0.016	[0.18]	0.008	[0.67]	0.017	[0.16]	0.016	[0.20]	0.002	[0.90]
Net Portfolio Investment (% GDP)	0.018	[0.22]	0.016	[0.06]	0.020	[0.16]	0.016	[0.20]	0.030	[0.01]
Disclosure Index			-0.049	[0.10]					-0.043	[0.12]
GDP per Capita							-0.059	[0.02]		
Stock Market Capital (% GDP)	0.044	[0.02]			0.058	[0.03]	0.047	[0.03]	0.044	[0.05]
Domestic Market Index Volatility	0.087	[0.00]	0.081	[0.00]	0.086	[0.00]	0.087	[0.00]	0.093	[0.00]
PPE (% Total Assets)	-0.082	[0.00]	-0.083	[0.00]	-0.083	[0.00]	-0.082	[0.00]	-0.084	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.085	[0.00]	-0.089	[0.00]	-0.084	[0.00]	-0.084	[0.00]	-0.087	[0.00]
Cash & STI (% Total Assets)	0.057	[0.00]	0.050	[0.00]	0.056	[0.00]	0.059	[0.00]	0.051	[0.00]
Debt Maturity	-0.055	[0.00]	-0.054	[0.00]	-0.055	[0.00]	-0.055	[0.00]	-0.054	[0.00]
R&D Expense (% Total Assets)	0.090	[0.00]	0.090	[0.00]	0.090	[0.00]	0.089	[0.00]	0.090	[0.00]
Capital Expend. (%Total Assets)	0.059	[0.00]	0.060	[0.00]	0.059	[0.00]	0.057	[0.00]	0.060	[0.00]
Percent Zero Returns	0.042	[0.00]	0.047	[0.00]	0.043	[0.00]	0.044	[0.00]	0.046	[0.00]
Leverage	0.113	[0.00]	0.105	[0.00]	0.113	[0.00]	0.113	[0.00]	0.108	[0.00]
Market Coverage	0.002	[0.91]	-0.024	[0.07]	-0.007	[0.61]	0.005	[0.73]	-0.033	[0.07]
Intercept	-0.025	[0.57]	-0.025	[0.55]	-0.025	[0.57]	-0.025	[0.57]	-0.025	[0.57]
Adjusted R^2	0.223		0.213		0.224		0.227		0.221	
Observations	5065		5065		5065		5065		5065	

(continued)

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

Panel B: Market Risk

	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.
Creditor Rights Index	0.043	[0.03]							0.050	[0.00]
ICR Financial Risk Index	-0.033	[0.32]			-0.032	[0.33]	-0.007	[0.85]		
ICR Political Risk Index	-0.115	[0.00]			-0.113	[0.00]				
Anti-Self-Dealing Index			0.071	[0.00]	0.008	[0.78]	-0.002	[0.93]	-0.012	[0.61]
Stock Market Turnover Ratio	-0.049	[0.01]	-0.050	[0.03]	-0.036	[0.05]	-0.044	[0.02]	-0.072	[0.00]
Net Portfolio Investment (% GDP)	0.002	[0.97]	0.012	[0.40]	0.008	[0.81]	0.003	[0.93]	0.026	[0.31]
Disclosure Index			-0.099	[0.01]					-0.081	[0.04]
GDP per Capita							-0.122	[0.00]		
Stock Market Capital (% GDP)	0.066	[0.15]			0.090	[0.11]	0.071	[0.18]	0.070	[0.19]
Domestic Market Index Volatility	0.211	[0.00]	0.201	[0.00]	0.208	[0.00]	0.217	[0.00]	0.229	[0.00]
PPE (% Total Assets)	-0.078	[0.00]	-0.079	[0.00]	-0.078	[0.00]	-0.079	[0.00]	-0.082	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.070	[0.00]	-0.074	[0.00]	-0.067	[0.00]	-0.065	[0.00]	-0.072	[0.00]
Cash & STI (% Total Assets)	0.057	[0.00]	0.047	[0.00]	0.056	[0.00]	0.061	[0.00]	0.048	[0.00]
Debt Maturity	-0.016	[0.00]	-0.012	[0.08]	-0.016	[0.02]	-0.017	[0.01]	-0.012	[0.05]
R&D Expense (% Total Assets)	0.085	[0.00]	0.085	[0.00]	0.084	[0.00]	0.082	[0.00]	0.085	[0.00]
Capital Expend. (%Total Assets)	0.038	[0.01]	0.041	[0.01]	0.039	[0.02]	0.037	[0.02]	0.042	[0.02]
Percent Zero Returns	-0.111	[0.00]	-0.105	[0.00]	-0.110	[0.00]	-0.108	[0.00]	-0.107	[0.00]
Leverage	0.081	[0.00]	0.068	[0.00]	0.082	[0.00]	0.083	[0.00]	0.074	[0.00]
Market Coverage	0.034	[0.25]	0.006	[0.84]	0.030	[0.33]	0.042	[0.19]	-0.023	[0.44]
Intercept	0.082	[0.22]	0.082	[0.25]	0.082	[0.22]	0.082	[0.22]	0.082	[0.22]
Adjusted R^2	0.210		0.191		0.210		0.212		0.206	
Observations	5065		5065		5065		5065		5065	

Panel C: Idiosyncratic Risk

	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.
Creditor Rights Index	-0.004	[0.75]							-0.001	[0.88]
ICR Financial Risk Index	-0.019	[0.36]			-0.019	[0.28]	-0.016	[0.47]		
ICR Political Risk Index	-0.039	[0.02]			-0.040	[0.02]				
Anti-Self-Dealing Index			0.020	[0.03]	-0.010	[0.54]	-0.013	[0.36]	0.000	[0.96]
Stock Market Turnover Ratio	0.030	[0.03]	0.021	[0.23]	0.030	[0.03]	0.029	[0.03]	0.019	[0.18]
Net Portfolio Investment (% GDP)	0.024	[0.03]	0.018	[0.02]	0.025	[0.02]	0.020	[0.04]	0.031	[0.00]
Disclosure Index			-0.040	[0.14]					-0.039	[0.14]
GDP per Capita							-0.049	[0.03]		
Stock Market Capital (% GDP)	0.038	[0.01]			0.047	[0.01]	0.039	[0.01]	0.035	[0.02]
Domestic Market Index Volatility	0.054	[0.00]	0.046	[0.00]	0.053	[0.01]	0.050	[0.01]	0.052	[0.00]
PPE (% Total Assets)	-0.083	[0.00]	-0.084	[0.00]	-0.083	[0.00]	-0.083	[0.00]	-0.084	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.089	[0.00]	-0.092	[0.00]	-0.089	[0.00]	-0.088	[0.00]	-0.090	[0.00]
Cash & STI (% Total Assets)	0.058	[0.00]	0.052	[0.00]	0.057	[0.00]	0.060	[0.00]	0.053	[0.00]
Debt Maturity	-0.065	[0.00]	-0.064	[0.00]	-0.065	[0.00]	-0.064	[0.00]	-0.064	[0.00]
R&D Expense (% Total Assets)	0.091	[0.00]	0.091	[0.00]	0.091	[0.00]	0.091	[0.00]	0.091	[0.00]
Capital Expend. (%Total Assets)	0.063	[0.00]	0.064	[0.00]	0.063	[0.00]	0.062	[0.00]	0.064	[0.00]
Percent Zero Returns	0.070	[0.00]	0.074	[0.00]	0.070	[0.00]	0.072	[0.00]	0.073	[0.00]
Leverage	0.120	[0.00]	0.113	[0.00]	0.121	[0.00]	0.120	[0.00]	0.115	[0.00]
Market Coverage	-0.007	[0.47]	-0.029	[0.00]	-0.015	[0.16]	-0.002	[0.85]	-0.033	[0.04]
Intercept	-0.059	[0.14]	-0.059	[0.11]	-0.059	[0.14]	-0.059	[0.14]	-0.059	[0.14]
Adjusted R2	0.207		0.202		0.209		0.210		0.207	
Observations	5065		5065		5065		5065		5065	

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 U.S. and non-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.
Creditor Rights Index	0.000	[0.99]							-0.001	[0.89]
ICR Financial Risk Index	-0.003	[0.83]			-0.002	[0.88]	-0.005	[0.66]		
ICR Political Risk Index	-0.020	[0.01]			-0.020	[0.03]				
Stock Market Turnover Ratio	0.021	[0.01]	0.021	[0.06]	0.021	[0.01]	0.027	[0.01]	0.020	[0.07]
Net Portfolio Investment (% GDP)	0.004	[0.51]	0.008	[0.31]	0.005	[0.42]	0.003	[0.68]	0.007	[0.38]
GDP per Capita							-0.015	[0.27]		
Stock Market Capital (% GDP)	0.007	[0.37]			0.006	[0.44]	0.004	[0.70]	0.010	[0.27]
Domestic Market Index Volatility	0.081	[0.00]	0.084	[0.00]	0.081	[0.00]	0.078	[0.00]	0.082	[0.00]
PPE (% Total Assets)	-0.082	[0.00]	-0.082	[0.00]	-0.082	[0.00]	-0.082	[0.00]	-0.082	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.089	[0.00]	-0.089	[0.00]	-0.089	[0.00]	-0.089	[0.00]	-0.089	[0.00]
Cash & STI (% Total Assets)	0.089	[0.00]	0.089	[0.00]	0.089	[0.00]	0.089	[0.00]	0.089	[0.00]
Debt Maturity	-0.058	[0.00]	-0.059	[0.00]	-0.058	[0.00]	-0.059	[0.00]	-0.059	[0.00]
R&D Expense (% Total Assets)	0.102	[0.00]	0.103	[0.00]	0.102	[0.00]	0.103	[0.00]	0.103	[0.00]
Capital Expend. (%Total Assets)	0.074	[0.00]	0.074	[0.00]	0.074	[0.00]	0.075	[0.00]	0.075	[0.00]
Percent Zero Returns	0.021	[0.01]	0.021	[0.04]	0.021	[0.04]	0.021	[0.05]	0.021	[0.00]
Leverage	0.109	[0.00]	0.110	[0.00]	0.109	[0.00]	0.110	[0.00]	0.110	[0.00]
Market Coverage	-0.006	[0.42]	-0.005	[0.47]	-0.004	[0.56]	-0.006	[0.36]	-0.007	[0.29]
Intercept	-0.001	[0.99]	-0.001	[0.99]	-0.001	[0.99]	-0.001	[0.99]	-0.001	[0.99]
Adjusted R^2	0.166		0.160		0.166		0.166		0.162	
Observations	3534		3534		3534		3534		3534	

(continued)

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

Panel B: Market Risk

	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.
Creditor Rights Index	0.001	[0.86]							0.000	[0.96]
ICR Financial Risk Index	0.020	[0.28]			0.020	[0.26]	0.017	[0.29]		
ICR Political Risk Index	-0.012	[0.50]			-0.012	[0.51]				
Stock Market Turnover Ratio	-0.016	[0.37]	-0.014	[0.54]	-0.015	[0.35]	-0.003	[0.88]	-0.006	[0.75]
Net Portfolio Investment (% GDP)	0.002	[0.91]	0.006	[0.73]	0.003	[0.83]	0.007	[0.66]	0.006	[0.65]
GDP per Capita							-0.044	[0.04]		
Stock Market Capital (% GDP)	-0.023	[0.18]			-0.024	[0.05]	-0.026	[0.15]	-0.019	[0.21]
Domestic Market Index Volatility	0.149	[0.00]	0.164	[0.00]	0.150	[0.00]	0.146	[0.00]	0.150	[0.00]
PPE (% Total Assets)	-0.090	[0.00]	-0.089	[0.00]	-0.090	[0.00]	-0.088	[0.00]	-0.089	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.070	[0.00]	-0.069	[0.00]	-0.070	[0.00]	-0.069	[0.00]	-0.069	[0.00]
Cash & STI (% Total Assets)	0.092	[0.00]	0.092	[0.00]	0.092	[0.00]	0.092	[0.00]	0.092	[0.00]
Debt Maturity	-0.038	[0.00]	-0.039	[0.00]	-0.038	[0.00]	-0.039	[0.00]	-0.039	[0.00]
R&D Expense (% Total Assets)	0.083	[0.00]	0.083	[0.00]	0.083	[0.00]	0.083	[0.00]	0.083	[0.00]
Capital Expend. (%Total Assets)	0.067	[0.00]	0.067	[0.00]	0.067	[0.00]	0.066	[0.00]	0.067	[0.00]
Percent Zero Returns	-0.128	[0.00]	-0.129	[0.00]	-0.128	[0.00]	-0.129	[0.00]	-0.129	[0.00]
Leverage	0.077	[0.00]	0.079	[0.00]	0.077	[0.00]	0.078	[0.00]	0.078	[0.00]
Market Coverage	-0.027	[0.19]	-0.025	[0.17]	-0.025	[0.27]	-0.022	[0.22]	-0.023	[0.27]
Intercept	-0.002	[0.97]	-0.002	[0.97]	-0.002	[0.97]	-0.002	[0.97]	-0.002	[0.97]
Adjusted R^2	0.105		0.098		0.105		0.106		0.101	
Observations	3533		3533		3533		3533		3533	

Panel C: Idiosyncratic Risk

	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.
Creditor Rights Index	0.000	[0.98]							-0.001	[0.88]
ICR Financial Risk Index	-0.007	[0.52]			-0.007	[0.58]	-0.010	[0.41]		
ICR Political Risk Index	-0.021	[0.00]			-0.022	[0.01]				
Stock Market Turnover Ratio	0.028	[0.00]	0.029	[0.01]	0.028	[0.00]	0.032	[0.00]	0.025	[0.02]
Net Portfolio Investment (% GDP)	0.006	[0.23]	0.009	[0.11]	0.007	[0.15]	0.004	[0.57]	0.009	[0.21]
GDP per Capita							-0.009	[0.51]		
Stock Market Capital (% GDP)	0.018	[0.05]			0.017	[0.07]	0.015	[0.12]	0.020	[0.05]
Domestic Market Index Volatility	0.057	[0.01]	0.057	[0.00]	0.058	[0.00]	0.056	[0.01]	0.059	[0.00]
PPE (% Total Assets)	-0.082	[0.00]	-0.083	[0.00]	-0.082	[0.00]	-0.082	[0.00]	-0.082	[0.00]
Gross Profit Margin (3 yr. avg.)	-0.092	[0.00]	-0.092	[0.00]	-0.092	[0.00]	-0.092	[0.00]	-0.092	[0.00]
Cash & STI (% Total Assets)	0.091	[0.00]	0.091	[0.00]	0.091	[0.00]	0.091	[0.00]	0.091	[0.00]
Debt Maturity	-0.064	[0.00]	-0.064	[0.00]	-0.064	[0.00]	-0.065	[0.00]	-0.064	[0.00]
R&D Expense (% Total Assets)	0.107	[0.00]	0.107	[0.00]	0.107	[0.00]	0.108	[0.00]	0.108	[0.00]
Capital Expend. (%Total Assets)	0.076	[0.00]	0.076	[0.00]	0.076	[0.00]	0.076	[0.00]	0.076	[0.00]
Percent Zero Returns	0.043	[0.00]	0.043	[0.00]	0.043	[0.00]	0.043	[0.00]	0.043	[0.00]
Leverage	0.115	[0.00]	0.116	[0.00]	0.115	[0.00]	0.116	[0.00]	0.116	[0.00]
Market Coverage	-0.004	[0.61]	-0.003	[0.71]	-0.002	[0.75]	-0.005	[0.41]	-0.006	[0.40]
Intercept	0.000	[1.00]	0.000	[1.00]	0.000	[1.00]	0.000	[1.00]	0.000	[1.00]
Adjusted R^2	0.160		0.154		0.159		0.160		0.157	
Observations	3533		3533		3533		3533		3533	

Table 8: R^2 Differences

This table reports results from different regression methods with differences in 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 U.S. and non-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
Creditor Rights Index	0.008	[0.55]							-0.006	[0.65]
ICR Financial Risk Index	-0.041	[0.02]			-0.044	[0.02]	-0.024	[0.27]		
ICR Political Risk Index	-0.109	[0.00]			-0.104	[0.00]				
Anti-Self-Dealing Index			0.033	[0.02]	0.005	[0.71]	0.005	[0.72]	0.02	[0.16]
Stock Market Turnover Ratio	-0.036	[0.08]	-0.052	[0.00]	-0.035	[0.06]	-0.041	[0.05]	-0.053	[0.02]
Net Portfolio Investment (% GDP)	-0.008	[0.57]	0.009	[0.54]	-0.005	[0.72]	-0.014	[0.28]	0.015	[0.20]
Disclosure Index			-0.065	[0.00]					-0.048	[0.03]
GDP per Capita							-0.095	[0.00]		
Stock Market Capital (% GDP)	0.027	[0.05]			0.027	[0.11]	0.012	[0.48]	0.013	[0.52]
Domestic Market Index Volatility	0.176	[0.00]	0.21	[0.00]	0.176	[0.00]	0.191	[0.00]	0.221	[0.00]
Market Coverage	-0.023	[0.38]	-0.047	[0.04]	-0.021	[0.42]	-0.028	[0.19]	-0.051	[0.03]
Intercept	0.238	[0.00]	0.238	[0.00]	0.238	[0.00]	0.238	[0.00]	0.238	[0.00]
Adjusted R^2	0.405		0.343		0.398		0.376		0.349	
Observations	40.3		40.3		40.3		40.3		40.3	

Panel B: Firm-Level Fama-MacBeth Regressions

	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.	Coef.	p-val.
Creditor Rights Index	0.052	[0.01]							0.057	[0.00]
ICR Financial Risk Index	-0.015	[0.53]			-0.014	[0.58]	0.010	[0.66]		
ICR Political Risk Index	-0.084	[0.01]			-0.080	[0.00]				
Anti-Self-Dealing Index			0.055	[0.00]	0.019	[0.37]	0.012	[0.53]	-0.013	[0.52]
Stock Market Turnover Ratio	-0.087	[0.00]	-0.078	[0.00]	-0.073	[0.00]	-0.081	[0.00]	-0.100	[0.00]
Net Portfolio Investment (% GDP)	-0.025	[0.49]	-0.007	[0.60]	-0.018	[0.57]	-0.020	[0.53]	-0.006	[0.81]
Disclosure Index			-0.064	[0.01]					-0.047	[0.07]
GDP per Capita							-0.080	[0.02]		
Stock Market Capital (% GDP)	0.031	[0.47]			0.047	[0.31]	0.036	[0.47]	0.038	[0.41]
Domestic Market Index Volatility	0.173	[0.00]	0.170	[0.00]	0.171	[0.00]	0.183	[0.00]	0.195	[0.00]
PPE (% Total Assets)	0.005	[0.45]	0.006	[0.43]	0.006	[0.44]	0.005	[0.50]	0.002	[0.80]
Gross Profit Margin (3 yr. avg.)	0.021	[0.01]	0.020	[0.02]	0.024	[0.00]	0.025	[0.00]	0.020	[0.01]
Cash & STI (% Total Assets)	-0.001	[0.96]	-0.006	[0.70]	-0.001	[0.92]	0.002	[0.92]	-0.005	[0.68]
Debt Maturity	0.054	[0.00]	0.057	[0.00]	0.053	[0.00]	0.052	[0.00]	0.057	[0.00]
R&D Expense (% Total Assets)	-0.007	[0.36]	-0.007	[0.37]	-0.008	[0.30]	-0.010	[0.24]	-0.007	[0.39]
Capital Expend. (%Total Assets)	-0.027	[0.01]	-0.026	[0.02]	-0.027	[0.04]	-0.028	[0.05]	-0.025	[0.07]
Percent Zero Returns	-0.200	[0.00]	-0.197	[0.00]	-0.199	[0.00]	-0.198	[0.00]	-0.198	[0.00]
Leverage	-0.043	[0.00]	-0.049	[0.00]	-0.043	[0.00]	-0.041	[0.00]	-0.045	[0.00]
Market Coverage	0.046	[0.08]	0.038	[0.17]	0.049	[0.06]	0.049	[0.07]	0.012	[0.58]
Intercept	0.155	[0.00]	0.155	[0.00]	0.155	[0.00]	0.155	[0.00]	0.155	[0.00]
Adjusted R^2	0.179		0.163		0.178		0.177		0.176	
Observations	5065		5065		5065		5065		5065	

(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.
Creditor Rights Index	0.001	[0.79]							0.001	[0.92]
ICR Financial Risk Index	0.030	[0.05]			0.030	[0.07]	0.029	[0.03]		
ICR Political Risk Index	0.010	[0.58]			0.011	[0.57]				
Stock Market Turnover Ratio	-0.049	[0.05]	-0.047	[0.07]	-0.048	[0.02]	-0.038	[0.04]	-0.034	[0.07]
Net Portfolio Investment (% GDP)	-0.005	[0.65]	-0.003	[0.86]	-0.005	[0.71]	0.003	[0.81]	-0.003	[0.84]
GDP per Capita							-0.039	[0.07]		
Stock Market Capital (% GDP)	-0.045	[0.03]			-0.046	[0.01]	-0.045	[0.02]	-0.043	[0.01]
Domestic Market Index Volatility	0.101	[0.00]	0.118	[0.00]	0.101	[0.00]	0.100	[0.00]	0.100	[0.00]
PPE (% Total Assets)	-0.008	[0.30]	-0.007	[0.49]	-0.008	[0.34]	-0.007	[0.43]	-0.008	[0.30]
Gross Profit Margin (3 yr. avg.)	0.025	[0.03]	0.026	[0.03]	0.025	[0.02]	0.026	[0.05]	0.026	[0.05]
Cash & STI (% Total Assets)	0.001	[0.93]	0.002	[0.90]	0.001	[0.94]	0.002	[0.92]	0.001	[0.91]
Debt Maturity	0.028	[0.05]	0.028	[0.05]	0.029	[0.05]	0.029	[0.02]	0.028	[0.03]
R&D Expense (% Total Assets)	-0.027	[0.00]	-0.027	[0.00]	-0.027	[0.00]	-0.027	[0.00]	-0.028	[0.00]
Capital Expend. (%Total Assets)	0.000	[0.99]	-0.010	[0.16]	-0.010	[0.24]	-0.010	[0.24]	-0.010	[0.22]
Percent Zero Returns	-0.189	[0.00]	-0.190	[0.00]	-0.189	[0.00]	-0.190	[0.00]	-0.190	[0.00]
Leverage	-0.042	[0.00]	-0.041	[0.00]	-0.042	[0.00]	-0.042	[0.00]	-0.042	[0.00]
Market Coverage	-0.026	[0.21]	-0.024	[0.27]	-0.025	[0.27]	-0.018	[0.37]	-0.019	[0.43]
Intercept	-0.002	[0.96]	-0.002	[0.96]	-0.002	[0.96]	-0.002	[0.96]	-0.002	[0.95]
Adjusted R2	0.083		0.075		0.083		0.083		0.078	
Observations	3533		3533		3533		3533		3533	

Appendix: Variable Definitions

Variable	Definition
Firm Characteristics	
p-score	Propensity score of being a Non-U.S. firm, estimated each year by industry
Market-to-Book Value	Common Equity Market Price-Year End / Book Value Per Share
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
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
Leverage	(Total Debt + Preferred Stock) divided by Size
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
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
Preferred Stock	Book Value of preferred shares outstanding
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
Total Risk	Annualized standard deviation of weekly stock return measured in U.S. Dollars
Market 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-squared from regression with weekly excess returns from local market index
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
Percent Zero Returns	Percentage of available firm weekly returns in a year that are equal to zero (excluding leading and trailing strings of zeros)
Country & Other Characteristics	
Anti-self-dealing Index	From Djankov, LaPorta, Lopez-de-Silanes, Andrei Shleifer (2005)
Disclosure Index	As defined in Jin and Myers (2005), additional data from Global Competitiveness Reports (1999, 2000).
Stock Market Capital (% GDP)	Ratio of end of year stock market capitalization to Nominal GDP. Data from World Bank
GDP Per Capita	GDP per capita on a purchasing power parity basis (millions of USD). Data from World Bank
Stock Market Turnover Ratio	Ratio of annual trading volume to shares outstanding. Data from World Bank
Net Portfolio Investment (% GDP)	Net Portfolio Investment in Equities and Bonds as a percent of GDP. Data from IMF-IFS database.

(continued)

Appendix: Variable Definitions (continued)

Variable	Definition
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 Financial	From PRS Group. Average of foreign debt as a percent of GDP, foreign debt service as a percent of exports, the current account balance as a percent of exports, international reserves as a percent of imports, exchange rate volatility. Higher values represent lower financial risk.
Creditor Rights Index	From Djankov, McLiesh and Shleifer (2007)
Domestic Market Risk Index	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.