

Capital Structure with Risky Foreign Investments

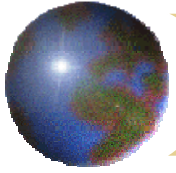
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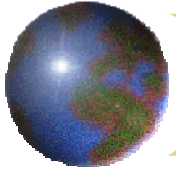


Motivation (1)

Exposure to political risk is a central consideration in financing investments in emerging markets.

Over time, multinational firms face rising exposures to foreign political risks.

How are greater political risks manifest in returns? How do these risks influence financing choices?

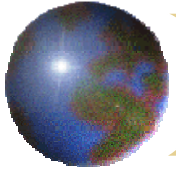


Motivation (2)

An empirical investigation of multinational firms offers evidence on the effects more broadly of the impact of business risks on capital structure.

It has proved difficult to isolate the effects of risk on financing choices.

It is possible to use differences among firms in their exposures to country risk to identify any effects on capital structure.



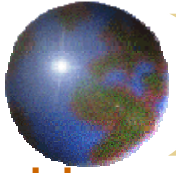
Preview of Results

A simple model of multinational financial decision-making yields distinct predictions for subsidiary capital structure and parent capital structure.

Political risk measures are correlated with the volatility of returns realized by local affiliates of multinational firms.

Debt levels of local affiliates are higher in countries with greater political risk, reflecting the desire to economize on equity investment exposure.

Parent domestic borrowing falls as foreign political risk rises, reflecting the potential cost of financial distress.

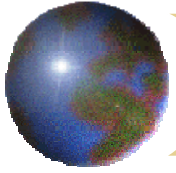


How does exposure to country risks change financial decision-making?

In a simple model, we show that firms facing costly external finance in bad states of the world benefit from using higher debt ratios for investments in risky countries.

This increase in leverage at the subsidiary level is more than offset by reduced leverage at parent level given increased risk exposure.

Overall leverage declines, but there is significant shifting to local lenders.



Data

BEA USDIA Survey Results

Data cover 1982-1999 period

Most extensive data in benchmark years (1982, 1989, 1994, 1999)

Data from different countries reported following GAAP

Affiliates and Parents in FIRE industries excluded

Affiliate Specific Volatility

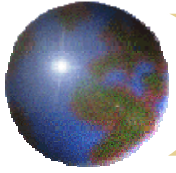
Use sample of affiliates that report in all years in between two benchmark years

Compute standard deviation of profits over those samples

Affiliate Leverage

Analyze ratio of current liabilities and long term debt to assets

Consider effects of treating cash as negative debt



Data

Parent Leverage

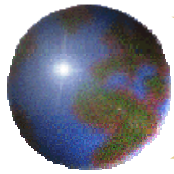
Analyze ratio of current liabilities and long term debt to assets and ratio of current liabilities and long term debt excluding trade credit to assets

Consider effects of treating cash as negative debt

Shares of firm activity in politically risky environments

Compute share of total firm (including parent) sales, employment, net ppe in countries with above median levels of political risk

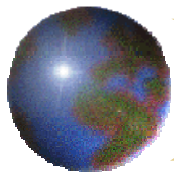
Political Risk is average of monthly index of political risk presented in International Country Risk Guide



Does political risk influence volatility of earnings?

Table 2
Political Risk and Volatility of Earnings

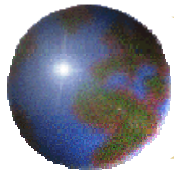
Dependent Variable:	Standard Deviation of Affiliate ROA		Standard Deviation of Affiliate ROE	
	(1)	(2)	(3)	(4)
Constant	0.0628 (0.0055)	0.1755 (0.0443)	0.0443 (0.0044)	0.1503 (0.0474)
Political Risk	0.0936 (0.0185)	0.0607 (0.0227)	0.0946 (0.0180)	0.0658 (0.0262)
Log of GDP		-0.0031 (0.0016)		-0.0030 (0.0019)
Log of GDP per capita		-0.0024 (0.0028)		-0.0014 (0.0032)
Year Fixed Effects?	Y	Y	Y	Y
Parent Fixed Effects?	N	Y	N	Y
No. of Obs.	16,337	16,292	10,618	10,600
R-Squared	0.0107	0.2137	0.0240	0.2231



Does political risk change subsidiary capital structure?

Table 3
The Impact of Political Risk on Affiliate Leverage

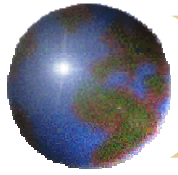
Dependent Variable:	Affiliate Leverage		Affiliate Leverage (Cash Viewed as Negative Debt)	
	(1)	(2)	(3)	(4)
Constant	0.1343 (0.1917)	-0.2593 (0.2281)	0.3088 (0.1274)	-0.0886 (0.1922)
Political Risk	0.1049 (0.0420)	0.1549 (0.0677)	0.0920 (0.0413)	0.1713 (0.0654)
Log of Affiliate Sales	0.0035 (0.0024)	0.0020 (0.0025)	0.0031 (0.0025)	0.0014 (0.0027)
Affiliate Net PPE/Affiliate Assets	-0.0173 (0.0186)	-0.0167 (0.0185)	0.0179 (0.0172)	0.0199 (0.0171)
Affiliate EBITDA/Affiliate Assets	-0.4071 (0.0270)	-0.3988 (0.0260)	-0.4485 (0.0311)	-0.4403 (0.0302)
Host Country Tax Rate	0.2445 (0.0591)	0.1555 (0.0615)	0.2161 (0.0614)	0.1383 (0.0616)
Host Country Rate of Inflation		-0.0030 (0.0012)		-0.0033 (0.0013)
Host Country Log of GDP		0.0168 (0.0045)		0.0146 (0.0042)
Host Country Log of GDP per		-0.0011 (0.0071)		0.0054 (0.0067)
Parent, Affiliate Industry, and Year Fixed Effects?	Y	Y	Y	Y
No. of Obs.	22,723	22,719	21,692	21,688
R-Squared	0.3218	0.3248	0.3001	0.3028



Does political risk change parent capital structure?

Table 4
The Impact of Political Risk on Parent Leverage

Dependent Variable:	Parent Leverage			Parent Non-Trade Account Leverage		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.4314 (0.0279)	0.4198 (0.0275)	0.4278 (0.0276)	0.2352 (0.0266)	0.2267 (0.0262)	0.2314 (0.0265)
Share of Firm Sales in Countries with above Median Political Risk	-0.1022 (0.0292)			-0.0828 (0.0268)		
Share of Firm Employment in Countries with above Median Political Risk		-0.0432 (0.0210)			-0.0441 (0.0201)	
Share of Firm Net PPE in Countries with above Median Political Risk			-0.0845 (0.0236)			-0.0642 (0.0220)
Log of Parent Sales	0.0202 (0.0032)	0.0237 (0.0030)	0.0225 (0.0030)	0.0194 (0.0030)	0.0218 (0.0028)	0.0214 (0.0028)
Log of Aggregate Affiliate Sales	-0.0096 (0.0027)	-0.0129 (0.0026)	-0.0119 (0.0024)	-0.0049 (0.0025)	-0.0071 (0.0024)	-0.0069 (0.0023)
Parent Net PPE/Parent Assets	-0.0837 (0.0164)	-0.0819 (0.0164)	-0.0876 (0.0166)	-0.0510 (0.0162)	-0.0500 (0.0162)	-0.0542 (0.0164)
Parent EBITDA/Parent Assets	-0.4483 (0.0328)	-0.4485 (0.0328)	-0.4472 (0.0328)	-0.3735 (0.0315)	-0.3738 (0.0315)	-0.3728 (0.0314)
Parent Industry q	-0.0328 (0.0083)	-0.0313 (0.0084)	-0.0319 (0.0084)	-0.0232 (0.0081)	-0.0220 (0.0081)	-0.0223 (0.0081)
Parent Industry and Year Fixed Effects?	Y	Y	Y	Y	Y	Y
No. of Obs.	6,954	6,953	6,951	6,966	6,965	6,963
R-Squared	0.1330	0.1317	0.1327	0.0986	0.0979	0.0984



Implications/Conclusions

There appear to be significant effects of risk exposures on financing choices.

Specifically, there is considerable risk shifting to local lenders and reduced overall leverage within the multinational group.

These patterns, that appear in the foreign risks of U.S. multinational firms, are suggestive of reactions to risk that may appear in other contexts.

Capital Structure with Risky Foreign Investment

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Abstract

American multinational firms respond to politically risky environments by adjusting their capital structures abroad and at home. Foreign affiliates located in politically risky countries are significantly more levered than other foreign affiliates of the same parent companies. American firms also limit their exposures in politically risky countries by sharing ownership with local partners and serving foreign markets with exports rather than local production. The residual political risk borne by parent companies leads them to use less domestic leverage, resulting in lower firm-wide leverage. Multinational firms with above-average exposures to politically risky countries have 7.6 percent less domestic leverage than do other firms. These results illustrate the impact of risk exposures on capital structure.

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1. Introduction

Capital investments may expose firms to risks that carry implications for their financial decisions. Significant risk exposures increase probabilities of future financial distress and can discourage the use of debt. The relationship between risk exposures and firm financial decisions is an element of many theories of capital structure, but heretofore these theories have received mixed empirical support. Multinational firms are commonly exposed to significant risks as a result of their worldwide operations. This paper measures the extent to which exposures to foreign political risks influence the financing choices of multinational firms in order to explore the relationship between capital structure and risky investments.

Using detailed data on American multinational firms, the paper begins by analyzing if political risks translate into distinctive return environments for multinational firms. The analysis indicates that the return characteristics of subsidiaries of the same parent are more volatile in countries that are assessed to be politically riskier. An increase in political risk corresponding to the difference between Canada and Mexico translates into a change in the standard deviation of the return on assets of a multinational subsidiary that is equal to 12.8% of its mean. This increased volatility of returns is also manifest in a greater likelihood of annual losses among foreign affiliates in politically risky countries. Returns measured as operating profits exhibit the same patterns, suggesting that the greater volatility of returns in politically risky countries is not merely an artifact of more extensive use of debt by multinational affiliates located there.

A simple model of costly external finance and local lenders that price political risk differentially implies that multinational firms have incentives to limit their equity exposures in politically risky locations. The model also implies that firms facing substantial foreign risks benefit from reducing their domestic leverage in response to these risks. The evidence provided in the paper supports these predictions. The analysis indicates that foreign affiliates located in politically risky countries are more highly levered than other foreign affiliates of the same multinational parents. The difference in political risk between Canada and Mexico translates into a difference in affiliate leverage equal to 3.9% of its mean value. Efforts to economize on equity extend beyond financing decisions to operational decisions. Multinational firms serving politically risky foreign

markets are more likely to share ownership with local partners and to serve customers through exports from the United States rather than produce locally. Multinational firms alter both financial and operating decisions to hedge their exposures in politically risky markets.

Parent companies exposed to significant foreign political risks are also shown to use less debt domestically than parent companies without such exposure. A one standard deviation increase in exposure to foreign risks reduces domestic leverage by 3.8% of its mean. This effect is large enough that overall firm leverage falls, despite the greater leverage of affiliates in risky countries. These results highlight a cost of operating in politically risky markets and illuminate the degree to which risk exposures can influence financing decisions.

The results in this paper are related to those appearing in the literatures on the determinants of capital structure decisions, the distinctive nature of finance in emerging markets, and the determinants of multinational financing and investment behavior. As reviewed in Harris and Raviv (1991), empirical efforts to link the volatility of firm or industry returns to capital structure decisions have not provided strong or consistent results. The more recent literature on determinants of cash holdings similarly emphasizes the role of volatility, as in Opler, Pinkowitz and Stulz (1999). The relative absence of results on the role of volatility in determining capital structure is particularly surprising given that the Graham and Harvey (2001) survey of Chief Financial Officers concludes that “informal criteria such as financial flexibility and credit ratings are the most important debt policy factors.” The results in this paper employ heterogeneity in exposures to political risk to identify the role of firm risk on capital structure, finding significant effects in the multinational setting. Evidence of the impact of risk on the capital structures of foreign affiliates extend the results of Geczy, Minton and Schrand (1997), Kedia and Mazumdar (2003) and Allayanis, Brown and Klapper (2003) on hedging decisions in emerging markets by considering the response of multinational firms.

As noted in Bekaert (1995), Harvey (1995) and Bekaert and Harvey (1997, 2000), stock markets in emerging markets feature distinctive return distributions, and aspects of

institutional environments, including measures of political risks, contribute to higher return volatilities. This paper demonstrates that these results carry over for multinational firms operating in risky environments, providing some support for the various capital budgeting practices, described in Sabal (2004), used to capture risks. Corporate finance practices in emerging markets have also received increasing attention with particular emphasis on the role of legal or contractual institutions, as in La Porta, Lopez-de-Silanes, Shleifer and Visny (1997, 1998). While various papers trace through the effects of legal or contracting rules on financing and investment patterns, Acemoglu and Johnson (2005) emphasize the distinction between property rights institutions (protections from expropriation by the state) and contractual institutions (the environment for enforcing contacts between private parties), showing that property rights institutions are more determinative of economic outcomes than contractual institutions. Indeed, Bekaert, Harvey and Lundblad (forthcoming) and Bekaert, Harvey, Lundblad and Siegel (forthcoming) find that political institutions mediate the effects of capital markets liberalizations. The results in this paper provide evidence of the distinctive role of political institutions in influencing financing decisions.

Finally, the results in the paper illustrate how the internal capital and product markets of multinational firms respond to politically risky settings. The choice between serving foreign customers through exports and FDI has been traced to tariffs, as in Helpman (1984), or firm attributes, as in Helpman, Melitz and Yeaple (2004). The results in this paper add political risk as another determinant of the export/FDI decision. Desai, Foley and Hines (2004a, 2004b) emphasize capital market conditions and the importance of intrafirm transactions in dictating ownership and financing decisions. The results in this paper indicate that political risk appears to shape these decisions as well, and to have aggregate effects on multinational firms operating in these markets.

Section 2 of the paper outlines an intuition for multinational financing in response to political risk in order to motivate subsequent empirical tests. Section 3 offers an overview of the available data. Section 4 presents empirical evidence of the effects of political risk on multinational return distributions, the financing decisions of subsidiaries and the domestic and overall leverage of parent companies. Section 5 is the conclusion.

2. *Business risks and capital structure.*

Exposures to business risks have the potential to influence capital structure decisions through a variety of mechanisms. This relationship is complicated in the multinational firm setting by the separate incorporation of activities around the world and the possibility of segmented capital markets. This section outlines an intuition for considering the role of exposures to political risks for a multinational firm that faces costly external financing.

Multinational firms can respond to such exposures in at least three ways. The first, and most obvious, is to avoid or limit risky investments relative to what would be consistent with maximizing expected returns. A second step is to modify the financing and organization of investments to reduce the likelihood of financial distress. Finally, it may be possible to arrange financial affairs in a way that minimizes the cost of financial distress in the event of adverse investment outcomes. Formalization of such responses can illuminate when and how such responses can be optimal.

Firms with risky foreign investments can limit their exposures to downside risk by sharing the costs and returns with other investors. Consider, for example, a firm contemplating a foreign investment of K that produces an uncertain return $\theta(K)$. If this investment is entirely financed with funds (F) from the parent company, then the net investment return is $\theta(F) - F$. The potential cost of financial distress induces the parent firm to value this uncertain return with a concave function $V[\theta(F) - F]$. Hence value maximization implies that the investment level satisfies the first order condition:

$$(1) \quad E\{[\theta'(F) - 1]V'[\theta(F) - F]\} = 0,$$

in which $E\{\cdot\}$ is the expectations operator. Since concavity implies that $V'[\theta(F) - F]$ is a decreasing function of θ , whereas θ' is an increasing function of θ , it follows that value-maximizing investment is characterized by $E\{\theta'(F)\} > 1$: the expected marginal product of investment resources exceeds the cost of funds.

In such a setting, there is scope for beneficial trade with an investment partner whose risk preferences are not identical to the multinational firm's. Such trade can take

many forms, including loans from unrelated parties or more active investments such as equity participation. Consider the case in which foreign lenders provide capital of B in return for interest payments in non-default states of the world; the firm's total capital then consists of $K = F + B$. The proviso that foreign lenders are not fully repaid in the event of default implies that they bear some of the investment risk, so their returns can be denoted $r(B, \theta)$. Multinational firms then choose K , F , and B to maximize $V[\theta(K) - r(B, \theta) - F]$ subject to the constraint that $K \leq F + B$. The first order condition with respect to the choice of B can be expressed as:

$$(2) \quad E \left\{ \left[1 - \frac{\partial r(B, \theta)}{\partial B} \right] V'[\theta(F) - r(B, \theta) - F] \right\} = 0.$$

Equation (2) reflects the firm's demand for external financing in risky environments. Since unrelated parties providing external finance bear some of the business risk of foreign activities, it follows that $\frac{\partial^2 r(B, \theta)}{\partial B \partial \theta} > 0$: additional borrowing produces higher payoffs to lenders in more favorable states of the world. Borrowing costs are lower when there are unfavorable outcomes, thereby affording multinational investors the opportunity to hedge part of their investment risks. The extent to which firms exploit their hedging opportunities depend on the nature of the $r(B, \theta)$ function, the curvature of the $V[\cdot]$ function, and the distribution of θ . As a general matter, equation (2) suggests that greater investment riskiness will be accompanied by greater use of external finance.

When parent firms reduce their foreign equity exposures by financing foreign investments with debt or by taking joint venture partners, another party assumes the residual risk. Why would unrelated parties find such investments worthwhile, particularly in view of the moral hazard costs that are intrinsic to such risk-sharing arrangements. There are at least two reasons to expect such investments to be priced in a way that would make them attractive to outside investors. First, the parent company faces idiosyncratic investment risk correlated with the rest of its worldwide operations that it may find difficult to diversify in a world of costly external finance. Unrelated parties can incur relatively smaller risks when they absorb small fractions of this risk and this can lead to

risk sharing. Second, local investors in politically risky countries may face limited investment choices or may be more tolerant of these risks given their knowledge of the local environment. Political riskiness can manifest itself in the adoption of capital controls that restrict the range of allowable investments by domestic firms and individuals. Foreign investors seeking to borrow locally or to start a joint venture provide a ready outlet for local investment funds for which the opportunity cost is low. Alternatively, local investors are more comfortable with these risks and may price them differentially.

While sharing their foreign risks with investors who price this risk differentially, multinational investors can also reduce the cost of foreign income fluctuations by modifying their domestic capital structures and thereby changing the curvature of their $V[\cdot]$ functions. Greater domestic leverage increases the likelihood that a firm is unable to meet its contractual obligations and therefore is exposed to financial distress. Consequently, firms with particularly risky cash flows stand to benefit from reducing their exposures to these risks by reducing their reliance on funds that are borrowed from unrelated parties.

The analysis of the determinants of capital structure takes a firm's investment profile as given in analyzing the effect of uncertain cash flows. In fact, optimal decision-making entails both selecting optimal capital structure for a given investment profile and selecting optimal investments for a given capital structure. Myers (1977) notes that the incomplete nature of most bond contracts provides equity investors of levered firms a greater incentive to choose risky investments than they would otherwise. This endogeneity of investment choice to capital structure therefore implies that American parent companies with high debt/equity ratios should be expected to choose riskier foreign investments than do other multinational investors, which is the opposite of the implication of the previous discussion of capital structure choice in risky settings. This possibility and its implications for the results in the paper are discussed in the conclusion.

3. Data

The empirical work presented in section 4 is based on the most comprehensive available data on the activities of American multinational firms. The Bureau of

Economic Analysis (BEA) annual survey of U.S. Direct Investment Abroad from 1982 through 1999 provides a panel of data on the financial and operating characteristics of U.S. firms operating abroad.¹ U.S. direct investment abroad is defined as the direct or indirect ownership or control by a single U.S. legal entity of at least ten percent of the voting securities of an incorporated foreign business enterprise or the equivalent interest in an unincorporated foreign business enterprise. A U.S. multinational entity is the combination of a single U.S. legal entity that has made the direct investment, called the U.S. parent, and at least one foreign business enterprise, called the foreign affiliate. As a result of confidentiality assurances and penalties for noncompliance, BEA believes that coverage is close to complete and levels of accuracy are high.

The foreign affiliate survey forms that U.S. multinational enterprises are required to complete vary depending on the year, the size of the affiliate, and the U.S. parent's percentage of ownership of an affiliate. The most extensive data for the period examined in this study are available for 1982, 1989, 1994, and 1999 when BEA conducted Benchmark Surveys. For 1982, 1989 and 1994, all affiliates with sales, assets, or net income in excess of \$3 million in absolute value and their parents were required to file extensive reports; in 1999, the exemption limit increased to \$7 million.²

The first panel of Table 1 provides descriptive statistics for the dependent variables investigated below including measures of the return experiences of affiliates, affiliate leverage, ownership and export decisions, and parent domestic and parent worldwide leverage. These measures are typically based only on benchmark year data with the exception that variables describing the return experiences of multinational firms employ the periods between benchmark years. The second and third panels of Table 1 provide descriptive statistics for the independent variables that are, respectively, firm or country specific.

An index of country specific, time varying political risk is available from the *International Country Risk Guide*. This guide assigns numbers between 0 and 100 that

¹ Coverage and methods of the BEA survey are described in Desai, Foley and Hines (2002).

² In non-benchmark years, exemption levels were higher and less information was collected. From 1983 to 1988, data on affiliates with sales, assets, or net income greater than \$10 million were collected, and this cutoff rose to \$15 million for 1990-1993 and \$20 million for 1995-1999.

correspond to aggregated assessments of components of political stability.³ These measures are transformed to lie between 0 and 1 so that higher numbers correspond to greater political stability. This measure exhibits considerable variation with a mean value across all affiliate-year observations of 0.2171 with a standard deviation of 0.1002. In 1989, the United States had a value of 0.16, Canada a value of 0.13, Mexico a value of 0.33, and Nigeria a measure of 0.53. While such measures are sufficient to characterize affiliate political risk exposures, characterizing parent political risk exposures requires a method of aggregation. Parent measures of risk exposures are created by taking the share of worldwide activity, measured by sales, employment or net PPE, in countries evaluated to have political risk above the median level of 0.1950. These measures indicate that, on average, parents have between 10.4 and 14.6 percent of their activity in such countries.

4. Empirical Results

4.1. Multinational return characteristics in politically risky countries

While previous studies have described how political risk translates into more variable stock market returns, it is useful to see if multinational firms are similarly exposed in these countries. Multinational firms may have market positions or political power that might limit the exposure to political risk relative to local individual investors. Alternatively, previous studies of stock market returns may reflect capital market conditions rather than the operating environment of firms.

An analysis of multinational firm returns reflects the impact of political risk on the operational outcomes of firms in these countries. Table 2 presents the results of estimating the effect of political risk on two different measures of earnings volatility. The first two columns of Table 2 report estimated coefficients from regressions in which the dependent variable is the standard deviation of an affiliate's local return on assets,

³ The International Country Risk Guide data are compiled by the editors of *International Reports* based on subjective evaluations of specific features of local political conditions in each country. These specific features are aggregated to produce local measures of government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and bureaucracy quality; and, in turn, these measures are aggregated to produce single measures of local political stability. The International Country Risk Guide methodology is described in detail at www.icrgonline.org.

calculated only for those affiliates with continuous data between benchmark years.⁴ Column 1 presents estimated coefficients from regressing these standard deviations on political risk, GDP, GDP per capita, and GDP growth. The estimated 0.0527 coefficient in column one implies that 0.1 higher political risk (or a one standard deviation change in political risk) is associated with a 0.0053 higher standard deviation of returns. Evaluated at the mean standard deviation of return on assets of 0.0824, this corresponds to a 6.4 percent greater variability of returns. GDP, GDP per capita, and the GDP growth rate are all negatively associated with the standard deviation of returns, though, of these, only the effect of GDP is statistically significant. It is noteworthy that this regression, along with all others reported in Table 2, includes parent company and year fixed effects as independent variables, so the effect of political risk is identified by comparing the variability of returns earned by affiliates of the same company located in different foreign countries in the same period.

More variable returns may reflect endogenous operational and financial decisions in response to political risk. In order to explore this possibility, the regression reported in column two includes independent variables corresponding to affiliate size and leverage. The estimated effects of these variables indicate that small affiliates, and those financed disproportionately with debt, exhibit the greatest return variability. The -0.0098 coefficient in column two implies that reducing the size of a foreign affiliate by ten percent increases the standard deviation of its rate of return by approximately 0.1 percent, which would represent a 1.2 percent reduction at the sample mean. The 0.0229 coefficient reported in column two implies that increasing affiliate leverage by ten percent of its mean value of 0.5446 similarly increases the standard deviation of returns by 0.1 percent. Inclusion of these variables reduces, but only slightly, the estimated effect of political risk on the standard deviation of returns.

While the standard deviation of returns is a standard measure of risk, many claims about the role of political risk suggest a greater likelihood of negative returns. Table 1 reports that foreign affiliate net income is negative 21.5 percent of the time. Columns 3 and 4 of Table 2 present regressions in which the dependent variable is the fraction of the

⁴ Accordingly, there is a maximum of three observations for each affiliate, representing standard deviations of returns separately calculated for 1982-1989, 1990-1994, and 1995-1999.

years between benchmark surveys in which net income is negative, and the independent variables are the same as those in the regressions presented in columns 1 and 2. With the exception of the coefficients on log GDP, the estimates reported in columns 3 and 4 have the same signs as those reported in columns 1 and 2. The 0.2315 coefficient on political risk in column 3 implies that 0.1 higher political risk is associated with a 2.3 percent greater chance that annual returns are negative, thereby raising the chance of negative returns by 10.8 percent. Greater political risk appears to influence both the volatility of returns and the likelihood of a negative outcome.

Because a greater use of debt increases the likelihood that a firm has negative returns, it is useful to investigate if the estimated effect of political risk on negative returns merely represents the effect (estimated in section 4.2) of political risk on affiliate capital structure. In order to distinguish this interpretation from others, the regressions reported in columns 5 and 6 repeat those in columns 3 and 4, but use the incidence of negative operating profits as a dependent variable. Since this measure of performance is computed without subtracting interest expense, it cannot reflect negative outcomes induced by leverage. The coefficients reported in columns 5 and 6 are very similar to those appearing in columns 3 and 4. Political risk is positively associated with the likelihood that returns are negative; the coefficient magnitudes are somewhat smaller in columns 5 and 6, but this largely reflects that the mean likelihood that operating profits are negative is 11 percent, compared to 21.5 percent for net income.

4.2. *Political risk and the capital structures of foreign affiliates*

Table 3 presents estimates of the determinants of foreign affiliate capital structure. The dependent variable in the regressions reported in columns 1 and 2 is the ratio of affiliate debt to total assets, and the independent variables include measures of affiliate size, capital intensity and profitability, as well as country-specific variables such as tax rates, extent of private credit availability, inflation, log GDP, log GDP per capita, and of course political risk.

The regressions reported in Table 3 indicate that greater political risk is associated with higher levels of affiliate leverage. The 0.1049 coefficient in column 1 implies that a 0.1 higher level of political risk induces firms to increase their leverage by 1.049 percent

of assets, which is 1.9 percent of the mean debt/assets ratio. Noteworthy among the other results is the 0.2445 coefficient on the host country tax rate, a reflection of benefits of the tax deductibility of interest payments to creditors but not dividend payments to shareholders; this tax effect is consistent with those reported by Desai, Foley and Hines (2004b). Adding inflation, GDP, and GDP per capita as independent variables increases the estimated coefficient on political risk by almost 50 percent, to 0.1549. All of the regressions in Table 3 include dummy variables for parent firms and affiliate industries.

A variety of recent empirical efforts identify the particular role of cash in financing decisions and the characterization of cash positions as negative debt. In this context, it is possible that the estimated effects of political risk on capital structure reported in columns 1 and 2 could reflect effects that are offset by cash positions. Higher political risk could be associated with more borrowing *and* more cash so that the net effect is minimal, non-existent, or the opposite sign. In order to consider this possibility, the dependent variable in the regressions reported in columns 3 and 4 of Table 3 is the ratio of affiliate debt minus cash assets to total affiliate assets. While the mean of this dependent variable is somewhat smaller than that used in the regressions reported in columns 1 and 2, the estimated coefficients, particularly those on the political risk variable, differ minimally.

In addition to altering their capital structure, parent firms can reduce their exposures to political risks by finding partners to share ownership with. Table 4 presents regressions estimating the determinants of affiliate ownership by American parent companies. The dependent variable in the regressions presented in columns 1 and 2 takes the value of one if an American affiliate is wholly owned by its parent company, and zero otherwise; 77 percent of the sample is wholly owned. Due to the limited nature of the dependent variable, the regressions are run as conditional logits that account for fixed effects that are specific to parent/affiliate industry/year cells.

A higher level of local political risk significantly reduces the likelihood that an American parent owns 100% of its foreign affiliate, as evidenced by the negative 3.5758

coefficient in column 1.⁵ Laws restricting the ability of foreign investors to own 100% of local enterprises have the predictable effect of reducing 100% ownership; these laws are described in Desai, Foley and Hines (2004a). High tax rates reduce the extent to which affiliates are 100% owned, a phenomenon that Desai, Foley and Hines (2004a) attribute to the need to own 100% of enterprises in low-tax countries in order to maximize potential benefits from tax planning. Host country capital market conditions also appear to influence ownership shares perhaps indicating the desirability of local partners in underdeveloped capital markets. The effect of political risk on ownership shares persists with the inclusion of additional macroeconomic variables in the regression reported in column 2. Given the distinction in control conferred by majority ownership it is useful to consider if these effects persist in settings where the multinational firm has at least majority control. The regressions reported in columns 3 and 4 are run on a sample of foreign affiliates that excludes minority owned affiliates, so the dependent variable takes the value one if an affiliate is 100% owned, and zero if it is majority but less than 100% owned. These regressions also indicate that greater political risk discourages whole ownership, and the coefficients in these regressions resemble those in the regressions reported in columns 1 and 2.

American firms can also respond to political risk by limiting their local exposures in the most extreme manner - by serving foreign markets with exports from the United States rather than local production. In order to consider this possibility, Figure 1 compares mean levels of local political risks in foreign locations to which American multinational firms export but do not produce locally, and risks in locations where American firms produce but to which they do not export.⁶ As the figure reveals, places where firms locate their production are significantly less risky than those to which firms export, a pattern that is consistent with a desire to avoid exposure to political risks.

⁵ To consider the effects of clustering by country/year on the standard errors presented in this Table 4, the specifications are also run as linear probability models that allow error terms to be clustered in this manner. The coefficients on political risk remain significant in these specifications.

⁶ This figure is constructed by computing the ratio of parent exports from the U.S. to a country to the sum of these exports and all local sales of that parent through affiliates. A value of zero corresponds to serving customers in those countries entirely through local production and a value of one corresponds to serving customers in those countries entirely through exports.

Table 5 presents regressions that estimate the determinants of the choice between exports and local production as methods of serving foreign markets more rigorously. The dependent variable in the regressions presented in columns 1 and 2 is the ratio of the value of parent company exports to unrelated parties to the sum of these parent exports and sales by the parent company's local affiliates.⁷ Local political risk contributes positively to this ratio: the 0.6952 coefficient in column 1 implies that 0.1 greater political risk is associated with a 7 percent higher ratio of exports to total local sales, increasing this ratio by 12 percent of its mean value. The inclusion of additional macroeconomic variables in the regression reported in column 2 reduces the estimated magnitude of this effect, though it remains large and statistically significant. All of the regressions in Table 5 include fixed effects for parent companies, affiliate industries, and years.

Given the importance of intrafirm trade and global production chains, measures of total affiliate sales may include sales that are not targeted toward local customers. The dependent variable in the regressions presented in columns 3 and 4 is the same as that in the regressions presented in columns 1 and 2 except that only local sales are included in the measure of affiliate sales, in order to restrict attention to measures directed at local markets. Data limitations related to reporting requirements slightly reduce the sample sizes in these regressions, but the effects of political risk and other explanatory variables are very similar to those obtained in the regressions reported in columns 1 and 2. Finally, the dependent variable in the regressions presented in columns 5 and 6 is constructed using a measure of affiliate sales that subtracts parent company exports to its affiliates, in order better to identify the value of local production undertaken by affiliates; the results are very similar to those presented in columns 1-4.

4.3. Parent leverage and total borrowing

The theory sketched in section 2 points out that multinational parents with particularly high operating risks stand to benefit from reducing their financial risks since these parent firm may need to draw on costly external finance to fund ongoing operations. Anticipating this possibility, parent companies whose foreign investments are

⁷ This variable excludes parent company exports to local affiliates in order to avoid double counting the value of parent company exports that subsequently contribute to affiliate sales.

located in countries with significant political risk have incentives to economize on the use of debt. The empirical work presented in this section measures the extent to which this consideration appears to influence domestic leverage levels. Given the prior results on the role of political risk in increasing affiliate leverage, it is conceivable that risk effects on parent leverage are offsetting so overall leverage levels are investigated as well.

Figure 2 initiates this analysis by comparing the leverage of parent companies whose foreign affiliates are located in countries with greater than average political risks and those whose foreign affiliates are located in politically safer countries. For such a comparison, political risk must be aggregated to the parent level. This is accomplished by computing the share of worldwide activity each parent system performs in countries with above the median level of political risk. Figure 2 breaks the sample of parent companies into two groups, those with above-average and below-average weighted foreign political risks using a measure in which firm activity is measured in terms of sales. As is evident from the figure, parent companies facing greater foreign political risks use less debt (defined as the sum of current liabilities and long-term debt) than do parent companies facing safer foreign environments. The median debt/asset ratio of the sample of parent companies with risky foreign operations is 0.4268, whereas the corresponding median debt/asset ratio for parent firms whose foreign operations are located in safer countries is 0.4612, a difference of 7.6 percent of the median value of parent leverage in the overall sample.

While illustrative, the comparison in Figure 2 does not control for various parent characteristics that have the potential to influence capital structures. Table 6 presents the results of regressing two measures of parent company leverage on independent variables that include the fraction of parent company foreign investments in countries with above-average political risks. The dependent variable in the regressions presented in columns 1-3 is the same parent leverage measure depicted in Figure 2 but the exposure to political risk is measured using sales as well as two alternative weights. The regressions include independent variables measuring firm size, the degree of multinationality, profitability, concentration of assets in tangible capital, and contemporaneous market measures of parent industry q . The regressions also include industry and year dummy variables.

The negative 0.1022 coefficient in column one indicates that a one standard deviation increase in the share of firm sales in countries with above-average political risk is associated with 1.8% reduced parent borrowing as a fraction of assets. A similar result appears in the regression reported in column two, in which shares of firm activity in risky environments are measured on the basis of employment. The -0.0845 coefficient in column three likewise implies that parent companies with property, plant and equipment in risky countries borrow less than do otherwise-similar companies who locate their assets in safer foreign jurisdictions. Columns 4-6 repeat these regressions using a dependent variable in which parent cash holdings are treated as negative debt; the results are quite similar to those appearing in columns 1-3.

Exposures to risky foreign environments encourage parent companies to reduce their domestic leverage ratios. The mean parent leverage ratio is 0.47 so a one standard deviation increase in a firm's foreign risk exposure from the mean value would, according to the estimate in column 1, reduce the parent company's leverage ratio by 0.018, or 3.8 percent of its mean value. It is noteworthy that regressions run using an alternative definition of parent leverage, one that excludes trade accounts and notes payable, produce results that are very similar to those appearing in Table 6. Appendix Table 1 presents estimated coefficients from these regressions.

American multinational firms with exposures to political risky environments respond by increasing the leverage of the exposed foreign operation and decreasing leverage domestically. These results leave open the question of the net effect of such exposures. Indeed, it is possible that either effect dominates. In order to consider these net effects, the regressions in Table 7 employ a firm-wide leverage ratio, defined to include total parent and affiliate borrowing, as the dependent variable. Specifically, the dependent variable in the regressions presented in columns 1-3 of Table 7 is the ratio of the sum of parent and affiliate borrowing to total parent and affiliate assets; the dependent variable in the regressions presented in columns 4-6 is the same variable minus parent company cash assets.⁸

⁸ Given the selective reporting of cash assets at the affiliate level, affiliate cash is not aggregated.

The coefficient estimates in the regressions reported in Table 7 imply that greater exposure to foreign political risks is associated with reduced overall leverage. The -0.0818 coefficient in column 1 implies that a one standard deviation increase in the fraction of foreign sales in risky countries would reduce total firm leverage by 1.4 percent of assets, or 3.0 percent of its mean value. This effect, which is smaller in percentage terms than the effect of foreign riskiness on domestic borrowing alone, nonetheless is both statistically significant and economically consequential for multinational investors. Political riskiness is associated with reduced net borrowing in each of the regressions presented in columns 2-6, with magnitudes that are similarly somewhat smaller than those appearing in the corresponding parent leverage regressions presented in Table 6. These results confirm that the net effect of exposures to risky environments is reduced overall leverage.

V. Conclusion

American firms investing abroad face a broad array of risks that are wider than the risks they face domestically. Political risks are manifest in more volatile returns and firms respond by financing risky foreign investments with high levels of debt and by sharing ownership. In addition, firms facing higher political risks reduce domestic and overall leverage. As these adjustments are costly, their magnitude illuminates one aspect of the costs that foreign investors bear in politically unstable environments.

By extension, the magnitude of these costs also illuminates the consequences of these environments for local firms. American multinational firms can exploit internal capital markets to modify capital structures in response to external incentives. Whatever costs political instability imposes on American firms is likely to be smaller than the costs incurred by their local competitors unable to access these internal markets. While the risks created by political instability surely discourage American investment, there effects are likely even stronger for local firms.

This paper examines the impact of risks created through foreign investments both because these risks loom ever larger to American companies and because foreign risks are relatively easily identified. The ease of identifying risks in this setting provides a window onto corporate reactions to general business risks, an area emphasized by practitioners but underappreciated in academic work. The domestic business risks faced

by firms are likely to affect capital structures for many of the same reasons that foreign business risks do. As firms jointly determine the location of their foreign business operations and their capital structures, it can be difficult to establish whether business risks affect capital structure or capital structure affects the willingness to undertake risky investments. The evidence provided in this paper contradicts the prevailing theory of the effect of capital structure on business risk which suggests that firms with greater debt should engage in riskier foreign investments. As such, it appears that risky investment returns faced by multinational firms have implications for capital structure that are stronger than any effects of their capital structure on the riskiness of their investments.

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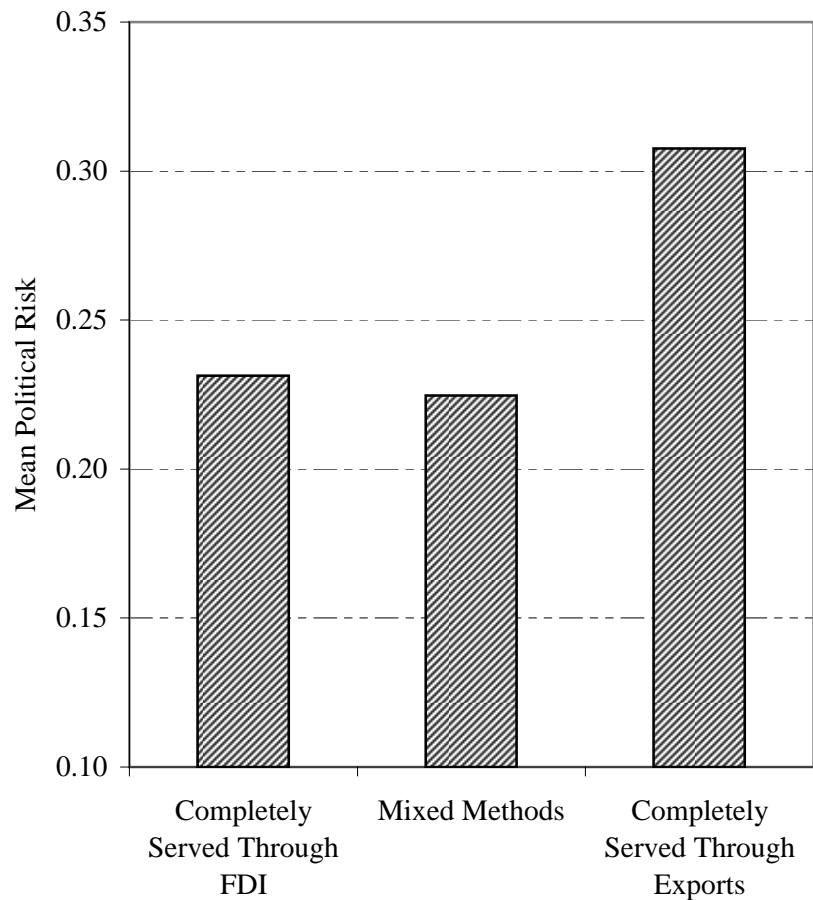
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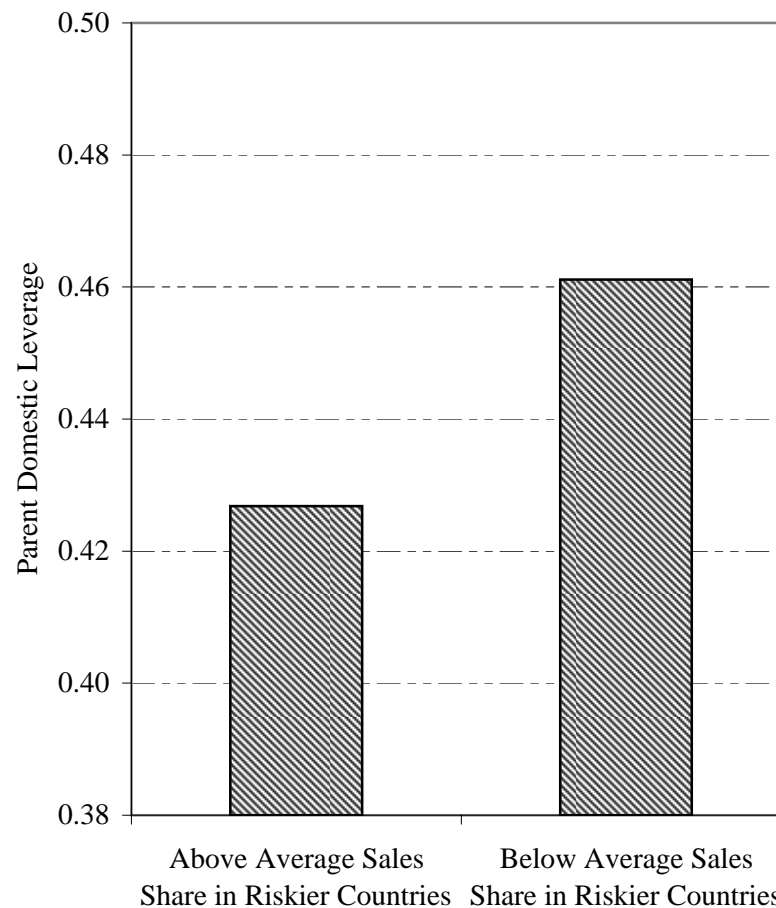
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Figure 1: The Relationship Between Political Risk and the Export/FDI Decision



Notes: The figure plots the mean political risk of parent/country pairs by the degree to which parents serve customers in that country by exports or local sales. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. The sample is divided into parent/country cells where the variable "Arm's Length Exports/(Arm's Length Exports + Affiliate Sales)" is either zero, between zero and one, or one, from left to right.

Figure 2: The Relationship Between Political Risk Exposures and Domestic Leverage



Notes: The figure plots the median ratio of parent domestic current liabilities and long term debt to parent domestic assets for firms with above and below average exposures to political risk. A firm's exposure to political risk is measured as the share of firm sales in countries with above median political risk. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. The sample is divided at the median political risk measure across all affiliates in the sample.

Table 1
Descriptive Statistics

Notes: The Standard Deviation of Affiliate ROA is measured in the benchmark years (1989, 1994, 1999), is computed using returns for the periods between benchmark years (1982-1989, 1990-1994, 1995-1999), and is only calculated for affiliates that report in at least five years in each period. The Share of Occurrences of Negative Net Income and the Share of Occurrences of Negative Operating Profits are computed using these same data and are equal to the ratio of the number of years with negative outcomes divided by the number of reported outcomes for a period. All other data items are measured for each benchmark year (1982, 1989, 1994, 1999). Affiliate Leverage is the ratio of affiliate current liabilities and long term debt to affiliate assets. Affiliate Leverage (Cash Viewed as Negative Debt) is calculated similarly but cash is removed from the numerator. The Dummy for Whole Ownership is a dummy equal to one for wholly owned affiliates and zero for other affiliates. The Dummy for Whole v. Majority Ownership is a dummy equal to one for affiliates that are wholly owned and zero for all other majority owned affiliates. Arm's Length Exports/(Arm's Length Exports + Affiliate Sales) is the ratio of parent exports to unrelated parties in a country to the sum of such exports and the sales of parent affiliates in that country. Arm's Length Exports/(Arm's Length Exports + Affiliate Local Sales) is similarly calculated but the local sales of parent affiliates replaces total sales of parent affiliates; Arm's Length Exports/(Arm's Length Exports + Affiliate Sales – Parent Exports to Affiliate) is also similarly calculated but parent exports to the affiliate are subtracted from the denominator. Parent Leverage is the ratio of parent current liabilities and long term debt to parent assets; Parent Leverage (Cash Viewed as Negative Debt) is calculated similarly but cash is removed from the numerator. Aggregate Leverage is the ratio of the sum of affiliate and parent current liabilities and long term debt to the sum of affiliate and parent assets. Aggregate Leverage (Parent Cash Viewed as Negative Debt) is calculated similarly but parent cash is removed from the numerator. Parent Non-Trade Account Leverage is the ratio of parent current liabilities and long term debt, less accounts payable, to parent assets. Affiliate Net PPE/Affiliate Assets is the ratio of affiliate net property plant and equipment (PPE) to affiliate assets, and Affiliate EBITDA/Assets is the ratio of affiliate earnings before interest, taxes, depreciation and amortization to affiliate assets. The share of firm sales, employment, and net PPE in countries with above median political risk are calculated using the median political risk across all affiliates in the sample. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. The Log of Aggregate Affiliate Sales is the log of the sum of a parent's affiliate sales. Parent Net PPE/Parent Assets is the ratio of parent net PPE to parent assets and Parent EBITDA/Parent Assets is the ratio of parent earnings before interest, taxes, depreciation and amortization to parent assets. Parent Industry q is the median industry q of the parent's industry in a particular year. Aggregate Affiliate Net PPE/Aggregate Affiliate Assets is the ratio of the sum of net PPE across affiliates to the sum of assets across affiliates. Log of GDP, log of GDP per Capita, and the rate of Inflation are taken from the World Bank's World Development Indicators. GDP Growth Rate is computed as the rate of growth between benchmark years. Corporate Tax Rate is the median effective tax rate paid by affiliates in a particular country and year. Private Credit is the ratio of private credit lent by deposit money banks to GDP, as provided in Beck et. al. (1999). Ownership Restrictions is a dummy equal to one if two measures of restrictions on foreign ownership as measured by Shatz (2000) are above 3 on a scale of 1 to 5 and zero otherwise.

	<u>Mean</u>	<u>Median</u>	<u>Standard Deviation</u>
<i><u>Multinational Firm Dependent Variables</u></i>			
Standard Deviation of Affiliate ROA	0.0824	0.0554	0.0880
Share of Occurrences of Negative Net Income	0.2150	0.1250	0.2709
Share of Occurrences of Negative Operating Profits	0.1102	0.0000	0.2137
Affiliate Leverage	0.5446	0.5281	0.3068
Affiliate Leverage (Cash Viewed as Negative Debt)	0.5117	0.4951	0.2882
Dummy for whole ownership	0.7707	1.0000	0.4204
Dummy for whole v. majority ownership	0.8897	1.0000	0.3132
Arm's Length Exports/(Arm's Length Exports + Affiliate Sales)	0.5704	1.0000	0.4792
Arm's Length Exports/(Arm's Length Exports + Affiliate Local Sales)	0.6132	1.0000	0.4704
Arm's Length Exports/(Arm's Length Exports + Affiliate Sales-Parent Exports to Affiliate)	0.5743	1.0000	0.4781
Parent Leverage	0.4713	0.4497	0.2423
Parent Leverage (Cash Viewed as Negative Debt)	0.4161	0.4119	0.2704
Aggregate Leverage	0.4858	0.4668	0.2128
Aggregate Leverage (Parent Cash Viewed as Negative Debt)	0.4416	0.4372	0.2344
Parent Non-Trade Account Leverage	0.3483	0.3170	0.2310
Parent Non-Trade Account Leverage (Cash Viewed as Negative Debt)	0.2938	0.2774	0.2579
<i><u>Multinational Firm Independent Variables</u></i>			
Log of Affiliate Sales	9.7081	9.7371	2.0959
Affiliate Net PPE/Affiliate Assets	0.2346	0.1557	0.2971

Table 1 (contd.)
Descriptive Statistics

	<u>Mean</u>	<u>Median</u>	<u>Standard Deviation</u>
<i><u>Multinational Firm Independent Variables (contd.)</u></i>			
Affiliate EBITDA/Affiliate Assets	0.1454	0.1330	0.2061
Share of Firm Sales in Countries with above Median Political Risk	0.1199	0.0484	0.1735
Share of Firm Employment in Countries with above Median Political Risk	0.1463	0.0587	0.2053
Share of Firm Net PPE in Countries with above Median Political Risk	0.1042	0.0265	0.1800
Log of Parent Sales	12.5491	12.4860	1.9201
Log of Aggregate Affiliate Sales	10.9170	10.6836	2.1305
Parent Net PPE/Parent Assets	0.3520	0.2796	0.2749
Parent EBITDA/Parent Assets	0.1336	0.1273	0.1086
Parent Industry q	1.4595	1.2814	0.6104
Aggregate Affiliate Net PPE/Aggregate Affiliate Assets	0.2532	0.1992	0.2128
<i><u>Country Dependent Variables</u></i>			
Political Risk	0.2171	0.1950	0.1002
Log of GDP	26.8054	27.0026	1.4365
Log of GDP per capita	9.6021	9.8774	1.0140
GDP Growth Rate	0.0283	0.0258	0.0201
Corporate Tax Rate	0.3282	0.3362	0.1218
Private Credit	0.7800	0.8374	0.4043
Rate of Inflation	0.3989	0.0394	2.6036
Ownership Restrictions	0.2129	0.0000	0.4093

Table 2
Political Risk and the Volatility of Earnings

Notes: The dependent variable in columns 1 and 2 is the Standard Deviation of Affiliate ROA. The Standard Deviation of Affiliate ROA is measured in the benchmark years (1989, 1994, 1999), is computed using returns for the periods between benchmark years (1982-1989, 1990-1994, 1995-1999), and is only calculated for affiliates that report in at least five years in each period. The Share of Occurrences of Negative Net Income is the dependant variable in columns 3 and 4 and the Share of Occurrences of Negative Operating Profits is the dependant variable in columns 5 and 6. The Share of Occurrences of Negative Net Income and the Share of Occurrences of Negative Operating Profits are computed using the same data as the standard deviation of affiliate ROA, and these measure are equal to the ratio of the number number of years with negative outcomes divided by the number of reported outcomes for a period. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. Log of GDP, log of GDP per Capita, and the rate of Inflation are taken from the World Bank's World Development Indicators. GDP Growth Rate is computed as the rate of growth between benchmark years. Log of Affiliate Sales is the natural log of affiliate sales. Affiliate Leverage is the ratio of affiliate current liabilities and long term debt to affiliate assets. All regressions are estimated by ordinary least squares and include parent and year fixed effects. Standard errors that correct for clustering of errors by country/year are presented in parentheses.

<i>Dependent Variable:</i>	Standard Deviation of Affiliate ROA		Share of Negative Occurences of:			
			<i>Net Income</i>		<i>Operating Profits</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.1942 (0.0382)	0.2613 (0.0454)	-0.2874 (0.1028)	-0.0674 (0.1255)	-0.2123 (0.0835)	0.0069 (0.0861)
Political Risk	0.0527 (0.0231)	0.0469 (0.0231)	0.2315 (0.0686)	0.1865 (0.0713)	0.1550 (0.0494)	0.1057 (0.0477)
Log of GDP	-0.0033 (0.0011)	-0.0025 (0.0013)	0.0213 (0.0033)	0.0200 (0.0040)	0.0106 (0.0030)	0.0118 (0.0032)
Log of GDP per capita	-0.0031 (0.0024)	-0.0026 (0.0026)	-0.0093 (0.0069)	-0.0066 (0.0071)	0.0045 (0.0064)	0.0055 (0.0061)
GDP growth rate	-0.0887 (0.0672)	-0.0954 (0.0749)	-0.5746 (0.1973)	-0.5742 (0.2014)	-0.1019 (0.1765)	-0.0579 (0.1632)
Log of Affiliate Sales		-0.0098 (0.0008)		-0.0359 (0.0024)		-0.0249 (0.0026)
Affiliate Leverage		0.0229 (0.0038)		0.2848 (0.0133)		0.0848 (0.0136)
Parent and Year Fixed Effects?	Y	Y	Y	Y	Y	Y
No. of Obs.	16,288	13,969	16,288	13,969	9,817	8,523
R-Squared	0.2140	0.2405	0.1948	0.2980	0.2562	0.3029

Table 3

The Impact of Political Risk on Affiliate Leverage

Notes: The dependent variable in columns 1 and 2 is Affiliate Leverage, defined as the ratio of affiliate current liabilities and long term debt to affiliate assets. The dependent variable in columns 3 and 4, Affiliate Leverage (Cash Viewed as Negative Debt), is computed similarly but cash is subtracted from the numerator of the calculation. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. GDP Growth Rate is computed as the rate of growth between benchmark years. Log of Affiliate Sales is the natural log of affiliate sales. Affiliate Net PPE/ Assets is the ratio of affiliate net PPE to affiliate assets, and Affiliate EBITDA/Assets is the ratio of affiliate earnings before interest, taxes, depreciation and amortization to assets. Corporate Tax Rate is the median effective tax rate paid by all affiliates in a country and year. Private Credit is the ratio of private credit lent by deposit money banks to GDP, as provided in Beck et. al. (1999). Log of GDP, log of GDP per Capita, and the rate of Inflation are taken from the World Bank's World Development Indicators. All regressions are estimated by ordinary least squares and include parent, affiliate industry, and year fixed effects. Standard errors that correct for clustering of errors by country/year are presented in parentheses.

<i>Dependent Variable:</i>	Affiliate Leverage		Affiliate Leverage (Cash Viewed as Negative Debt)	
	(1)	(2)	(3)	(4)
Constant	0.1343 (0.1917)	-0.2593 (0.2281)	0.3088 (0.1274)	-0.0886 (0.1922)
Political Risk	0.1049 (0.0420)	0.1549 (0.0677)	0.0920 (0.0413)	0.1713 (0.0654)
Log of Affiliate Sales	0.0035 (0.0024)	0.0020 (0.0025)	0.0031 (0.0025)	0.0014 (0.0027)
Affiliate Net PPE/Assets	-0.0173 (0.0186)	-0.0167 (0.0185)	0.0179 (0.0172)	0.0199 (0.0171)
Affiliate EBITDA/Assets	-0.4071 (0.0270)	-0.3988 (0.0260)	-0.4485 (0.0311)	-0.4403 (0.0302)
Corporate Tax Rate	0.2445 (0.0591)	0.1555 (0.0615)	0.2161 (0.0614)	0.1383 (0.0616)
Private Credit	0.0028 (0.0195)	-0.0139 (0.0205)	0.0090 (0.0193)	-0.0109 (0.0196)
Rate of Inflation		-0.0030 (0.0012)		-0.0033 (0.0013)
Log of GDP		0.0168 (0.0045)		0.0146 (0.0042)
Log of GDP per Capita		-0.0011 (0.0071)		0.0054 (0.0067)
Parent, Affiliate Industry, and Year Fixed Effects?	Y	Y	Y	Y
No. of Obs.	22,723	22,719	21,692	21,688
R-Squared	0.3218	0.3248	0.3001	0.3028

Table 4**The Impact of Political Risk on Affiliate Ownership**

Notes: The dependent variable in columns 1 and 2 is a dummy equal to one for wholly owned affiliates and zero for other affiliates and the dependent variable in columns 3 and 4 is a dummy equal to one for affiliates that are wholly owned and zero for all other majority owned affiliates. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. Ownership Restrictions is a dummy equal to one if two measures of restrictions on foreign ownership as measured by Shatz (2000) are above 3 on a scale of 1 to 5 and zero otherwise. Corporate Tax Rate is the median effective tax rate paid by affiliates in a particular country and year. Private Credit is the ratio of private credit lent by deposit money banks to GDP, as provided in Beck et. al. (1999). Log of GDP, Log of GDP per Capita, and the rate of inflation are taken from the World Bank's World Development Indicators. All regressions are estimated as conditional logits using parent/affiliate industry/year fixed effects.

<i>Dependent Variable:</i>	Dummy for whole ownership		Dummy for whole v. majority ownership	
	(1)	(2)	(3)	(4)
Political Risk	-3.5758 (0.2489)	-2.6058 (0.3052)	-4.4514 (0.3201)	-2.9954 (0.3959)
Ownership Restrictions	-1.0549 (0.0440)	-0.9087 (0.0481)	-0.9161 (0.0608)	-0.6765 (0.0676)
Corporate Tax Rate	-2.2366 (0.1939)	-1.5117 (0.2113)	-1.3723 (0.2410)	-1.0597 (0.2776)
Private Credit	-0.7279 (0.0574)	-0.6476 (0.0653)	-0.6561 (0.0822)	-0.6492 (0.0881)
Rate of Inflation		0.0443 (0.0058)		0.0348 (0.0071)
Log of GDP		-0.1989 (0.0205)		-0.1719 (0.0265)
Log of GDP per Capita		0.2752 (0.0362)		0.3590 (0.0446)
Parent/Affiliate Industry/Year Fixed Effects?	Y	Y	Y	Y
No. of Obs.	27,971	27,971	17,731	17,731
Log Likelihood	-10,195	-10,050	-5,460	-5,372

Table 5
The Impact of Political Risk on Exports/FDI Decision

Notes: The dependent variable in columns 1 and 2 is the ratio of parent exports to unrelated parties in a country to the sum of parent's affiliate sales in that country and parent exports to unrelated parties in that country; the dependent variable in columns 3 and 4 is calculated similarly but the local sales of a parent's affiliates replaces total sales of a parent's affiliates in the denominator; and the dependent variable in columns 5 and 6 is similarly calculated but parent exports to the affiliate are subtracted from the denominator. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. Corporate Tax Rate is the median effective tax rate paid by all affiliates in a particular country and year. Private Credit is the ratio of private credit lent by deposit money banks to GDP, as provided in Beck et. al. (1999). Log of GDP, Log of GDP per Capita, and the rate of inflation are taken from the World Bank's World Development Indicators. All regressions are estimated by ordinary least squares and include parent, affiliate industry, and year fixed effects. Standard errors that correct for clustering of errors by country/year are presented in parentheses.

<i>Dependent Variable:</i>	Arm's Length Exports/(Arm's Length Exports + Affiliate Sales)		Arm's Length Exports/(Arm's Length Exports + Affiliate Local Sales)		Arm's Length Exports/(Arm's Length Exports + Affiliate Sales- Parent Exports to Affiliate)	
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.1203 (0.3402)	1.8570 (0.1782)	0.3882 (0.0768)	1.4570 (0.4297)	0.5235 (0.0946)	1.7491 (0.1811)
Political Risk	0.6952 (0.0734)	0.4322 (0.0895)	0.6811 (0.0738)	0.3869 (0.0904)	0.6835 (0.0721)	0.4249 (0.0881)
Corporate Tax Rate	-0.2400 (0.0633)	-0.0409 (0.0709)	-0.2757 (0.0667)	-0.0808 (0.0700)	-0.2316 (0.0628)	-0.0364 (0.0701)
Private Credit	-0.0222 (0.0274)	0.0459 (0.0287)	-0.0201 (0.0299)	0.0524 (0.0312)	-0.0216 (0.0273)	0.0453 (0.0286)
Rate of Inflation		0.0006 (0.0010)		0.0002 (0.0010)		0.0005 (0.0010)
Log of GDP		-0.0442 (0.0057)		-0.0433 (0.0059)		-0.0434 (0.0056)
Log of GDP per Capita		-0.0197 (0.0084)		-0.0263 (0.0083)		-0.0195 (0.0082)
Parent, Affiliate Industry, and Year Fixed Effects?	Y	Y	Y	Y	Y	Y
No. of Obs.	81,195	81,147	76,634	76,586	81,078	81,030
R-Squared	0.4828	0.4944	0.5161	0.5285	0.4869	0.4982

Table 6
The Impact of Political Risk on Domestic Leverage

Notes: The dependent variable in columns 1-3 is the ratio of parent current liabilities and long term debt to parent assets; in columns 4-6, the dependent variable is computed similarly but cash is subtracted from the numerator. The share of firm sales, employment, and net PPE in countries with above median political risk are calculated using the median political risk across all affiliates in the sample. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. Log of Parent Sales is the natural log of parent sales. The Log of Aggregate Affiliate Sales is the log of the sum of a parent's affiliate sales. Parent Net PPE/Parent Assets is the ratio of parent net PPE to parent assets, and Parent EBITDA/Parent Assets is the ratio of parent earnings before interest, taxes, depreciation and amortization to parent assets. Parent Industry q is the median industry q of the parent's industry in a particular year. All regressions are estimated by ordinary least squares and include industry and year fixed effects. Standard errors that correct for clustering of errors by parent are presented in parentheses.

<i>Dependent Variable:</i>	Parent Leverage			Parent Leverage (Cash Viewed as Negative Debt)		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.4314 (0.0279)	0.4198 (0.0275)	0.4278 (0.0276)	0.3228 (0.0350)	0.2902 (0.0309)	0.2989 (0.0311)
Share of Firm Sales in Countries with above Median Political Risk	-0.1022 (0.0292)			-0.1071 (0.0315)		
Share of Firm Employment in Countries with above Median Political Risk		-0.0432 (0.0210)			-0.0443 (0.0228)	
Share of Firm Net PPE in Countries with above Median Political Risk			-0.0845 (0.0236)			-0.0874 (0.0263)
Log of Parent Sales	0.0202 (0.0032)	0.0237 (0.0030)	0.0225 (0.0030)	0.0259 (0.0035)	0.0296 (0.0033)	0.0282 (0.0033)
Log of Aggregate Affiliate Sales	-0.0096 (0.0027)	-0.0129 (0.0026)	-0.0119 (0.0024)	-0.0076 (0.0029)	-0.0112 (0.0028)	-0.0101 (0.0026)
Parent Net PPE/Parent Assets	-0.0837 (0.0164)	-0.0819 (0.0164)	-0.0876 (0.0166)	-0.0435 (0.0177)	-0.0414 (0.0177)	-0.0476 (0.0179)
Parent EBITDA/Parent Assets	-0.4483 (0.0328)	-0.4485 (0.0328)	-0.4472 (0.0328)	-0.5395 (0.0365)	-0.5398 (0.0365)	-0.5383 (0.0364)
Parent Industry q	-0.0328 (0.0083)	-0.0313 (0.0084)	-0.0319 (0.0084)	-0.0473 (0.0101)	-0.0456 (0.0101)	-0.0463 (0.0101)
Industry and Year Fixed Effects?	Y	Y	Y	Y	Y	Y
No. of Obs.	6,954	6,953	6,951	6,915	6,914	6,912
R-Squared	0.1330	0.1317	0.1327	0.1402	0.1389	0.1399

Table 7**The Impact of Political Risk on Firm-Wide Leverage**

Notes: The dependent variable in columns 1 to 3 is the ratio of the sum of affiliate and parent current liabilities and long term debt to the sum of affiliate and parent assets; in columns 4 to 6, the dependent variable is similarly calculated but parent cash is subtracted from the numerator. The share of firm sales, employment, and net PPE in countries with above median political risk are calculated using the median political risk across all affiliates in the sample. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. Log of Parent Sales is the natural log of parent sales. The Log of Aggregate Affiliate Sales is the log of the sum of a parent's affiliate sales. Parent Net PPE/Parent Assets is the ratio of parent net PPE to parent assets, and Aggregate Affiliate Net PPE/Aggregate Affiliate Assets is the ratio of the sum of net PPE across affiliates to the sum of assets across affiliates. Parent EBITDA/Parent Assets is the ratio of parent earnings before interest, taxes, depreciation and amortization to parent assets. Parent Industry q is the median industry q of the parent's industry in a particular year. All regressions are estimated by ordinary least squares and include industry and year fixed effects. Standard errors that correct for clustering of errors by parent are presented in parentheses.

<i>Dependent Variable:</i>	Aggregate Leverage			Aggregate Leverage (Parent Cash Viewed as Negative Debt)		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.4958 (0.0267)	0.4758 (0.0236)	0.4793 (0.0238)	0.3994 (0.0306)	0.3903 (0.0303)	0.3814 (0.0273)
Share of Firm Sales in Countries with above Median Political Risk	-0.0818 (0.0237)			-0.0753 (0.0260)		
Share of Firm Employment in Countries with above Median Political Risk		-0.0378 (0.0183)			-0.0320 (0.0200)	
Share of Firm Net PPE in Countries with above Median Political Risk			-0.0609 (0.0203)			-0.0520 (0.0228)
Log of Parent Sales	0.0109 (0.0028)	0.0135 (0.0026)	0.0130 (0.0026)	0.0122 (0.0031)	0.0147 (0.0029)	0.0143 (0.0029)
Log of Aggregate Affiliate Sales	-0.0037 (0.0024)	-0.0062 (0.0023)	-0.0059 (0.0022)	0.0011 (0.0026)	-0.0014 (0.0025)	-0.0012 (0.0024)
Parent Net PPE/Parent Assets	-0.0670 (0.0151)	-0.0665 (0.0152)	-0.0725 (0.0155)	-0.0436 (0.0164)	-0.0428 (0.0164)	-0.0480 (0.0168)
Aggregate Affiliate Net PPE/Aggregate Affiliate Assets	-0.0152 (0.0163)	-0.0120 (0.0165)	-0.0029 (0.0172)	0.0020 (0.0180)	0.0043 (0.0181)	0.0122 (0.0189)
Parent EBITDA/Parent Assets	-0.4053 (0.0290)	-0.4053 (0.0290)	-0.4037 (0.0290)	-0.4770 (0.0324)	-0.4770 (0.0324)	-0.4756 (0.0324)
Parent Industry q	-0.0271 (0.0075)	-0.0258 (0.0075)	-0.0262 (0.0075)	-0.0401 (0.0091)	-0.0388 (0.0091)	-0.0391 (0.0091)
Industry and Year Fixed Effects?	Y	Y	Y	Y	Y	Y
No. of Obs.	6,922	6,921	6,919	6,885	6,884	6,882
R-Squared	0.1355	0.1345	0.1345	0.1318	0.1310	0.1310

Appendix Table 1
The Impact of Political Risk on Parent Leverage: Trade Credit Analysis

Notes: The dependent variable in columns 1 to 3 is the ratio of parent current liabilities and long term debt, less accounts payable, to parent assets; in columns 4 to 6, the dependent variable is computed similarly but parent cash is subtracted from the numerator. The share of firm sales, employment, and net PPE in countries with above median political risk are calculated using the median political risk across all affiliates in the sample. Political risk is derived from the ICRG political risk data and has been rescaled to lie between zero and one with higher numbers reflecting higher risks. Log of Parent Sales is the natural log of parent sales. The Log of Aggregate Affiliate Sales is the log of the sum of a parent's affiliate sales. Parent Net PPE/Parent Assets is the ratio of parent net PPE to parent assets, and Parent EBITDA/Parent Assets is the ratio of parent earnings before interest, taxes, depreciation and amortization to parent assets. Parent Industry q is the median industry q of the parent's industry in a particular year. All regressions are estimated by ordinary least squares and include industry and year fixed effects. Standard errors that correct for clustering of errors by parent are presented in parentheses.

<i>Dependent Variable:</i>	Parent Non-Trade Account Leverage			Parent Non-Trade Account Leverage (Cash Viewed as Negative Debt)		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.2352 (0.0266)	0.2267 (0.0262)	0.2314 (0.0265)	0.1157 (0.0335)	0.1088 (0.0331)	0.1130 (0.0334)
Share of Firm Sales in Countries with above Median Political Risk	-0.0828 (0.0268)			-0.0722 (0.0289)		
Share of Firm Employment in Countries with above Median Political Risk		-0.0441 (0.0201)			-0.0405 (0.0218)	
Share of Firm Net PPE in Countries with above Median Political Risk			-0.0642 (0.0220)			-0.0581 (0.0242)
Log of Parent Sales	0.0194 (0.0030)	0.0218 (0.0028)	0.0214 (0.0028)	0.0247 (0.0032)	0.0266 (0.0031)	0.0263 (0.0031)
Log of Aggregate Affiliate Sales	-0.0049 (0.0025)	-0.0071 (0.0024)	-0.0069 (0.0023)	-0.0028 (0.0028)	-0.0046 (0.0026)	-0.0046 (0.0025)
Parent Net PPE/Parent Assets	-0.0510 (0.0162)	-0.0500 (0.0162)	-0.0542 (0.0164)	-0.0118 (0.0172)	-0.0110 (0.0172)	-0.0149 (0.0174)
Parent EBITDA/Parent Assets	-0.3735 (0.0315)	-0.3738 (0.0315)	-0.3728 (0.0314)	-0.4712 (0.0347)	-0.4714 (0.0347)	-0.4704 (0.0347)
Parent Industry q	-0.0232 (0.0081)	-0.0220 (0.0081)	-0.0223 (0.0081)	-0.0353 (0.0096)	-0.0343 (0.0096)	-0.0345 (0.0096)
Industry and Year Fixed Effects?	Y	Y	Y	Y	Y	Y
No. of Obs.	6,966	6,965	6,963	6,916	6,915	6,913
R-Squared	0.0986	0.0979	0.0984	0.1211	0.1207	0.1210