

# On the Origins of the Multinational Premium\*

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## Abstract

This paper studies the relationship between management, firm expansion, and firm risk exposure. We document three empirical regularities. First, multinational enterprises (MNEs) and acquirers are more likely to be run by managers with previous experience in multinational entry and acquisitions. Second, MNEs and acquirers are riskier than domestic, non-acquiring firms. This is true even prior to MNE entry. Third, managers' characteristics contribute to explain MNEs' and acquirers' risk premia and risk exposure. To rationalize these facts, we develop a dynamic model in which managerial experience shapes the relationship between firm characteristics, selection into FDI, and risk premia.

**Keywords:** multinational firms, mergers and acquisitions, management, stock returns.

**JEL Classification:** F12, F23, F36.

## 1 Introduction

Managers have an impact on many firm decisions, some of them related to the risks firms are exposed to. In this paper, we study the relationship between management, firm expansion, and firm risk exposure. More precisely, we examine firm expansion via entry into foreign markets through foreign affiliates (multinational entry) and via mergers and acquisitions (M&A). We argue that managers play an important role for the decisions of firms to engage in multinational entry and acquisitions, and that managerial characteristics affect the risk exposure of these firms.

We start by establishing three empirical regularities. First, multinational enterprises (MNEs) and acquirers are more likely to be run by managers who have previous experience in episodes of MN entry and

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acquisitions at other firms. Second, MNEs and acquirers are riskier than domestic non-acquiring firms. We establish this fact by looking at both risk premia and risk exposure across firms with different multinational and acquisition statuses. Multinationals firms and acquirors have systematically higher expected excess returns (risk premia) than domestic, non-acquiring firms. Surprisingly, this is true even prior to MNE entry. Moreover, current and future MNEs have higher loadings on aggregate risk factors than domestic firms. Third, we find that managers' characteristics contribute to explain MNEs' and acquirers' risk premia and risk exposure.

To rationalize these empirical patterns, we nest a dynamic model of foreign direct investment and M&A activities into a standard CCAPM model. In the model, the aggregate source of risk is given by fluctuations in the agents' stochastic discount factor. Firms are heterogeneous in productivity and in the experience of their manager. Depending on the realizations of the shocks, firms may decide to engage in M&A and/or to start doing FDI. Consistently with the empirical evidence, we assume that firms that are managed by experienced CEOs have lower fixed costs of multinational expansion. For this reason, productivity and management style drive selection into FDI and M&A. Moreover, heterogeneity in managerial experience affects the firms' operating leverage, driving heterogeneity in firm exposure to aggregate risk and, hence, heterogeneity in expected returns. The model is also able to explain the observed differences in expected returns between domestic firms and future multinationals thanks to the effect that managerial experience has on the option value of FDI.

In the model, firm-level risk premia coincide with firm-level expected returns in excess of the risk-free rate and are driven by the covariance of changes in the value of the firm with the stochastic discount factor. In our empirical analysis, we measure risk premia with long-run average stock returns, or the reward stock-holders require to bear the risk associated with holding shares of a firm, also in excess of the risk-free interest rate.

Our analysis is made possible by a novel data set derived from a combination of sources. We combine firm-level data from Compustat and from the Center for Research on Security Prices (CRSP) with deal-level data from the Thomson Reuters Mergers & Acquisitions database. CRSP contains data on our dependent variable of interest, the stock returns of the firm, our measure of risk premium. Compustat has accounting data that allow us to control for many firm characteristics. We recover information about the multinational status of the firm from the SEC 10-K filings using a textual analysis algorithm that identifies the existence and location of each firm's foreign subsidiaries. We then match these data to the Thomson Reuters Mergers and Acquisitions data so that we can observe accounting and financial characteristics of the acquirers in the sample of mergers and their changes after international acquisitions. We complement the firm-level data sets with data from Execucomp, which tracks the CEOs of S&P 1500 firms, and with the World Management Survey (WMS), which contains indicators of management quality for a small subset of our sample.

Our data are unique in that they allow us to compare a firm's characteristics before and after its first episode of multinational entry. Moreover, it allows us to track MNE expansion by country and whether it

happens via an acquisition or via greenfield investment.

This paper contributes to the literature at the intersection of international economics, asset pricing, and corporate finance. There is a growing literature studying the relationship between risk, stock returns, and firms' international activities. De Sousa et al. (2020), Esposito (2020), and Heiland (2020) study export decisions in risky environments. Barrot et al. (2019) and Bianconi et al. (2020) link measures of globalization and trade policy to asset prices. The analysis of the decisions of MNEs under conditions of risk is inherently more complex, as it involves decisions about the location of production. International macro analyses of the risk implications of multinational production are featured in Rowland and Tesar (2004) and Ghironi and Wolfe (2018). Ramondo and Rappoport (2010) study MNEs' location decisions in a risky environment. By exploiting cross-sectional variation across firms, Fillat and Garetto (2015) document stock return differentials among multinationals, exporters, and domestic firms. Using detailed data on the distribution of MNE sales across countries, Fillat et al. (2015) show that MNEs operating in countries that are costlier to enter and whose GDP growth covaries more with the GDP growth of the origin country have higher stock returns compared with MNEs operating in countries that are easier to access and have less correlated GDP growth. This paper contributes to this line of work by investigating the relationship of management, FDI, and M&A activity with stock returns.

Our analysis is related to a large empirical literature on finance focusing on anomalies or regularities in the cross section of expected returns that cannot be rationalized by theoretical models. Fama and French (1993) present evidence on the relation between firm stock returns, aggregate market returns, book-to-market ratios, and market value. They find that market *betas*—the slope of a regression of individual stock returns on the aggregate market return—are not sufficient to describe the cross section of returns. This suggests that there is more than one source of aggregate risk. Conversely, subsequent studies, such as Berk et al. (1999) and Gomes et al. (2003), explore the implications of production and investment on the cross section of returns and argue that firms' exposure to a single systematic source of risk does explain the cross-sectional differences but only conditional on the firm's life cycle. The results in Berk et al. (1999) rely on the difference between assets in place and growth options, and Gomes et al. (2003) account for cross-sectional differences in firm productivity in addition to differences in growth options. These papers establish a negative relationship between productivity and stock returns, conditional on firm size. The additional implication of this relationship is that expected returns are lower for firms that have higher investment in place relative to their size. Similarly, in our model, firms differ in investment levels, and the lower their returns are, the higher their capital investment is, consistent with the empirical finding that stock returns are inversely related to merger deepening.

Our emphasis on management as an important characteristic driving firm status and stock returns links this paper to the management literature. Several papers examine the relationship between management and firm performance using the WMS, most notably, Bloom and Van Reenen (2007), and Bloom et al. (2013). Our emphasis on acquisitions and risk premia, however, makes our paper closer to contributions in corporate

finance. Bertrand and Schoar (2003) investigate how individual managers affect corporate behavior and performance, and Schoar et al. (2020) study their effect on firm’s systematic risk. Going deeper in the properties of management that are driving firm outcomes, Malmendier and Tate (2008) highlight the role of managerial overconfidence. Our paper contributes to this line of research by finding that managers may affect the risk exposure of a firm and its likelihood of engaging in FDI and M&A, especially through their past experience in disruptive events like acquisitions.

Lastly, the international economics literature examines acquisitions with international targets as events that change firms’ country of ownership. Due to data availability, most of this literature focuses on targets’ characteristics and implications of mergers and acquisitions for targets’ performance (see, among others, Arnold and Javorcik, 2009, Guadalupe et al., 2012, and Blonigen et al. 2014). In this paper, we take the perspective of the acquirer firm and study how foreign acquisitions are related to its stock-market performance.

## 2 Data

Our data set derives from combining three main sources: the Thomson Reuters Mergers & Acquisitions database, linked CRSP-Compustat data, and the 10-K files, which are the primary text source behind Compustat. Our sample period spans 25 years, from 1993 through 2017.<sup>1</sup> We complement these three data sets with information about firm management from Execucomp and from the World Management Survey.

The Thomson-Reuters data provide information about acquisitions originating from US firms. In particular, the data include firm identifiers (historical CUSIP) for both the acquirer and target at the time of the acquisition, the target’s country of incorporation and industry classification, and the type of acquisition that occurred.<sup>2</sup> In addition, the data contain the dates of the announcement and completion of the acquisition and the acquisition deal value. This information is available for 89,678 acquisitions originating from 18,900 acquiring firms. Out of those, 16,938 (19 percent) involve foreign targets collectively located in 146 different countries.<sup>3</sup>

Using the historical firm CUSIP, we merge the Thomson-Reuters data with CRSP-Compustat, which contains quarterly accounting data and monthly stock returns of publicly listed firms in the United States.

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<sup>1</sup>The sample period of the Thomson Reuters Mergers & Acquisitions database ranges from January 1976 through July 2017, though the data are far more populated toward the end of the sample. Only 1 percent of the observations are from before June 1982, and half of the observations are from 2000 onward.

<sup>2</sup>Throughout our paper, we refer to all type of deals as acquisitions. However, the data set contains different types of deals: acquisition of assets, acquisitions of interest, mergers, and also buybacks and recapitalizations. We disregard buybacks and recapitalizations. In the data, both types of deals, mergers and acquisitions, have an acquirer and a target reported. In a merger, a new company is created and stockholders retain their equity—but obtain new stocks—and are exposed to the risks to which the merged company was exposed. In an acquisition, a new company is not created. The stockholders retain the same stocks and are exposed to the risks of the acquired company as well. Thus, from the point of view of the investor, both mergers and acquisitions have the same effect. Friendly mergers of equals are rare.

<sup>3</sup>Figure B.1 shows the distribution of foreign mergers in the top target countries.

Compustat data provide a complete picture of the acquiring firm’s accounting data before and after each acquisition or change in international exposure it undertakes.

Lastly, we recover information about each firm’s exposure to international markets from the firm’s SEC 10-K filings. More precisely, we extract data from the text of each firm’s Exhibit 21, a document that lists the firm’s set of subsidiaries and the countries where they are located.<sup>4</sup> We define a firm as a *multinational* in a given year if it reports the existence of foreign affiliates in its Exhibit 21. Alternately, we define a firm as *domestic* in a given year if its Exhibit 21 does not report the existence of foreign subsidiaries.<sup>5</sup> The resulting merged sample contains data for 11,983 firms, among which 41.2 percent don’t report any foreign subsidiaries at any point in time (*always domestic* firms), while 23.8 percent report the existence of foreign affiliates every year they are present in the sample (*always MNEs*).<sup>6</sup> The remaining firms exhibit changes in international status during their life: We define as *new MNE acquirers* those firms that enter the sample as domestic and gain exposure to foreign markets via a merger with or an acquisition of a foreign firm. We infer that the firms entering the sample as domestic and later reporting the existence of foreign affiliates, without an acquisition, must have established that affiliate afresh. We call these firms *new greenfield MNEs* to indicate their type of MNE entry. We use the term *other firms* to refer to firms that enter the sample as MNEs but stop reporting the existence of foreign affiliates later in their life. Table 1 reports firm counts for these different groups.

In our sample, foreign affiliates are located in 169 countries. The resulting geographic distribution of FDI activity is comparable to those of other data sets, including the Bureau of Economic Analysis data on the operations of multinational enterprises.<sup>7</sup> Moreover, there is a large overlap between the most common FDI host countries and acquisition target countries.

The groupings listed in Table 1 reflect the extensive margin of firm expansion via international status changes. Additionally, the mergers data show that firm expansion often happens through repeated mergers, both with domestic and foreign targets, within a firm. Appendix Table B.1 shows the frequency with which firms in our sample engage in a given number of domestic and foreign deals. While 32.2 percent of firms in our sample don’t engage in any acquisition, it is not uncommon for a firm to go through many acquisitions during its time in the sample. Only about 15 percent of the firms undertake only one acquisition during the sample period, and there is a sizeable right tail of firms that experience very large numbers of acquisitions. While foreign acquisitions are on average less common than domestic acquisitions within a firm, many firms in the sample experience multiple acquisitions of both types. The zeros on the upper-right corner of the

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<sup>4</sup>Appendix A contains details of the textual analysis procedure and examples of the information contained in Exhibit 21.

<sup>5</sup>Non-multinational firms could also be exposed to foreign markets through exports. In a robustness exercise, we performed all the empirical analysis contained in this paper after dropping from the sample all firms that report exports but not foreign affiliates at any point in time. The results, available upon request, are qualitatively unchanged compared with the baseline specification.

<sup>6</sup>These numbers reveal the selection of firms populating the Compustat sample: Since the data set contains only publicly listed firms, only the largest firms in the economy are represented, so the share of multinationals is much higher than in the entire population of firms.

<sup>7</sup>See Appendix Figures B.2 and B.3. Garetto et al. (2021) report the same sorting properties of FDI destinations for US MNEs using the BEA data.

Table 1: Firm Count by International Status

	N. of Firms
Always Domestic Firms	4,937
Always Multinational Firms	2,846
New MNE Acquirors	729
New Greenfield MNE	2,089
Other Firms	1,382
Total Firms	11,983
Total Acquiring Firms	8,123

Note: *New MNE acquirers* are firms that enter the sample as domestic firms and later acquire a foreign firm and their 10-K filings simultaneously start reporting a foreign subsidiary. *New Greenfield MNE* are firms that change their multinational status according to the 10-K filings but don't undertake foreign acquisitions. *Other firms* are those firms that enter the sample as MNEs and later appear as domestic according to the 10-K filings. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

table indicate that merger waves within a firm typically involve more domestic than foreign mergers: The maximum number of foreign mergers experienced by a firm is 15, while there are firms in the sample that experience more than 40 domestic mergers. On average, an acquirer undertakes eight mergers during the sample period, and 1.5 of them involve foreign targets.

It is worth noting that our merged data set is unique in its capacity to identify US firms' entry into multinationality.<sup>8</sup> The information contained in the 10-K affiliate reporting informs us about the extensive margin of multinationality, on aggregate and by foreign country. The mergers data inform us about the intensive margin of foreign exposure and provide more details on multinational entry events.

We supplement our firm-level data with management information by merging in CEO-firm pairs from the S&P 1500 firms obtained from Execucomp. This data set tracks several levels of executive-firm pairs. However, we focus on the CEO as an important driver of the decisions that are relevant to our paper: M&A engagement and firm expansion into foreign countries. 22.6% of firms in our sample have information about the identity of their CEO. There is a lot of variation in terms of the involvement of different firm-manager pairs in MNE activity and M&A: 21.6% of managers in our sample oversaw their firm's transition into multinationality, and 67% of mergers in our sample oversaw at least one acquisition.

Finally, we perform some robustness exercise using a smaller sample of firms which exploits the information contained in the World Management Survey. The WMS offers additional data on management practices.<sup>9</sup> We use the aggregate score of management practices for the subset of surveyed firms that are headquartered in the United States and are publicly traded. We successfully match 238 firms to our Compustat sample.

<sup>8</sup>Most empirical analyses of US MNEs use the affiliate-level data from the Bureau of Economic Analysis (<https://www.bea.gov/surveys/diasurv>), which is a sample including only MNEs, hence it does not allow us to observe these firms *before* their entry into multinationality.

<sup>9</sup>The survey methodology is described in detail in Bloom and Van Reenen (2007). Each surveyed firm provides scores for different management practices for each firm. The management score is an aggregation of practices related to operations management, performance monitoring, target setting, leadership management, and talent management.

## 2.1 Summary Statistics

We measure firm-level risk premia with long-run average stock returns.<sup>10</sup> The international exposure of a firm is measured by its multinational status and its involvement in foreign acquisitions. In this section, we provide summary statistics of the main variables of interest, breaking down the sample into subgroups according to the firms' MNE status and M&A activities.

Table 2 reports summary statistics of firm-level stock returns by firm type. A comparison of mean and median returns across groups shows that i) conditional on acquisition status, MNEs have on average higher returns than domestic firms (consistent with Fillat and Garetto, 2015); ii) conditional on MNE status, acquirers have on average higher returns than non-acquirers; and iii) new MNEs (either through M&A or greenfield investment) have higher returns than always MNEs. Interestingly, the groups that present higher mean and median returns also tend to have lower standard deviations of returns: The returns of new MNEs tend to be higher *and* less volatile than the returns of other firms. Appendix Table C.1 shows that the return differentials shown in Table 2 are robust to the inclusion of size controls and industry-quarter fixed effects.

Table 2: Annualized Quarterly Returns by Firm Type.

	Mean	Median	Standard Dev.
Always Dom.; No Acq.	3.21	4.69	18.15
Always Dom.; Only Dom. Acq.	5.60	5.45	15.67
Always MNE; No Acq.	3.01	4.03	21.70
Always MNE; Only Dom. Acq.	6.35	5.96	17.82
Always MNE; Has Foreign Acq.	6.48	6.36	9.32
New Acquirors	8.03	7.36	10.78
New Greenfield MNEs	7.02	6.73	10.50
Other MNEs	6.83	6.47	11.42

Note: Firms missing all quarterly returns are dropped. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

Table 3 reports summary statistics of size measures of the firms in our sample together with firm and acquisition counts. The table confirms the well-known fact that MNEs are larger than domestic firms in terms of sales, employment, and market capitalization. Acquisitions are also associated with a size advantage, especially when targets are foreign.

<sup>10</sup>Stock returns are defined as one-year capital gains plus dividend yields:  $R_{t+1} = (p_{t+1} + d_t)/p_t$ , where  $p_t$  denotes the price of a share and  $d_t$  the dividends per share at time  $t$ . We identify firm-level returns with the returns of the firm's common equity. Since data on returns are available at the monthly level, we compound them to the annual level for the summary statistics and to the quarter level for the regressions in Section 3.

Table 3: Firm Characteristics by Firm Type.

	Revenue (USD Million)	Employees (Thousands)	Mkt. Cap. USD Million	Nr. of Firms	Acquisitions	
					Dom.	For.
Always Dom.; No Acq.	61.01	1.19	363.54	2155	0	0
Always Dom.; Only Dom. Acq.	105.79	1.90	550.79	2743	12317	0
Always MNE; No Acq.	270.43	3.75	1395.04	802	0	0
Always MNE; Only Dom. Acq.	322.42	4.54	1648.88	665	2312	0
Always MNE; Has Foreign Acq.	1228.89	15.77	7752.24	1356	11798	7129
New Acquirors	387.64	5.92	1818.51	643	5533	1934
New Greenfield MNEs	287.13	4.79	1297.28	2089	12341	886
Other MNEs	333.30	5.65	1511.55	1381	7087	2201

Note: Firms missing all quarterly returns are dropped. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

### 3 Empirical Analysis

This section establishes three empirical findings: 1. Multinational enterprises and acquirers are more likely to be run by managers with previous experience in MN entry and acquisitions; 2. MNEs and acquirers are riskier than domestic non-acquiring firms. For MNEs, this is true even prior to MNE entry. 3. Managers' characteristics contribute to explain MNEs' and acquirers' risk premia and risk exposure.

#### 3.1 Management and Firm Expansion

There is a large empirical literature documenting the role of managers and managerial practices on different aspects of firm performance. Inspired by this literature, we start by exploring the role managers play in determining firms' expansion strategies. Our measures of firm expansion are entry into foreign markets via foreign affiliates (firms becoming MNEs) and acquisitions.

The relationship between good managerial practices and multinational activity is pointed out by Bloom et al. (2013), who show that multinational corporations achieve consistently higher management scores in the WMS compared with domestic firms, regardless of their location or country of incorporation. On the acquisitions side, Bertrand and Schoar (2003) show that managers' identities contribute to explain acquisition behavior by exploiting variation across managers within the firm. Malmendier and Tate (2008) show that managerial overconfidence increases the likelihood that managers undertake acquisitions.

We provide new evidence on the role of managers for MN entry. Table 4 shows the results of regressions in which the left-hand side variable is the multinational status dummy  $M_{it}$ . The explanatory variables include the vector of firm-level controls  $X_{it}$  and industry-quarter fixed effects. Columns (1) and (2) present a linear probability model with and without CEO fixed effects, respectively. Comparing the adjusted  $R^2$  in column (2) versus column (1) shows that the identity of the manager significantly contributes to explaining a firm's



Table 4: Becoming a Multinational: Management Matters

VARIABLES	(1) Lin. Prob.	(2) Lin. Prob.	(3) Probit	(4) Probit
Market Capitalization	0.002*** (0.000)	-0.000** (0.000)	0.011*** (0.000)	0.009*** (0.000)
Leverage Ratio	0.134*** (0.006)	0.094*** (0.008)	0.043*** (0.005)	0.026*** (0.005)
Sales/Employee	-0.013*** (0.004)	-0.024*** (0.008)	-0.077*** (0.009)	-0.061*** (0.009)
Capital/Employee	-0.012*** (0.001)	-0.005*** (0.001)	-0.042*** (0.001)	-0.043*** (0.001)
Beta (Annual)	0.063*** (0.003)	0.012*** (0.003)	0.121*** (0.003)	0.120*** (0.003)
Manager with MNE experience			0.234*** (0.004)	
Manager with acquisition experience				0.181*** (0.003)
Constant	0.622*** (0.004)	0.691*** (0.003)		
Observations	76,054	76,054	76,531	76,531
Adjusted R-squared	0.193	0.742		
Executive FE	No	Yes		

Note: The dependent variable is a dummy taking a value of 1 if a firm is a multinational in quarter-year  $t$ . Columns (1)-(2) present a linear probability model to include manager fixed effects. Columns (3)-(4) present a probit specification. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

choice to engage in multinational activity.

Columns (3) and (4) present the results of a probit model where we add proxies for managerial experience to the controls. Our managerial experience measures rely on the information that our merged data make available about the employment history of the managers. In particular, we look at previous experience in firm expansion episodes, by introducing dummies taking value 1 if the manager had previous experience in guiding a firm through a MN entry episode or through an acquisition. The Table shows that both definitions of managerial experience are positively correlated with the multinational status of the firm.

We also confirm the role of managers in promoting acquisition activity in our data. Appendix Table C.2 shows the results of regressions analogous to the ones of Table 4, but where the left-hand side variable is the acquirer dummy  $A_{it}$ . Also in this case, the manager fixed effect and their previous experience significantly contribute to explaining a firm's choice to engage in acquisitions.

Lastly, the role of managerial practices for multinational activity and acquisitions is also confirmed by a

probit regression run on the smaller WMS sample: managerial practices are positively correlated with and contribute to explaining a firm’s multinational and acquirer status, as shown in Appendix Tables C.3-C.4. Also in line with the results of Malmendier and Tate (2008), managerial overconfidence also contributes to explaining a firm’s multinational and acquirer status, as shown in Appendix Table C.5.

What is the mechanism whereby certain managers (possibly, the ones with past MNE and M&A experience) increase the likelihood that a firm engages in FDI and M&A? Appendix Table C.6 provides suggestive evidence that managers contribute to explain variation in firm-level fixed costs, and that managerial experience is negatively correlated with the fixed operating costs of current and future MNEs.<sup>11</sup> Building on this evidence, in our model, we assume that managers affect the fixed costs of foreign operations.

## 3.2 Multinational and Acquirer Premia

We follow two complementary approaches to establish the relationship between multinational status, acquisition experience, and risk. First, we study the role of firm characteristics on expected returns.<sup>12</sup> We take expected returns as a measure of risk because, keeping everything else constant, riskier investments should have higher expected returns than safer investments. The firm characteristics we use to explain stock returns include indicators of multinational and acquisition activity, among others. Second, we examine whether the covariance of these characteristics with aggregate risk factors drives the risk premia of multinationals and acquiring firms. This analysis takes the form of portfolio regressions in which the construction of the portfolios is based on multinational and acquisition status.

### 3.2.1 Characteristics Regressions

To identify a cross-sectional correlation between a firm’s multinational status and its stock returns, we define an “MNE dummy,”  $M_{it}$ , taking value 1 if firm  $i$  reports having foreign affiliates in quarter-year  $t$ . To identify firms with acquisition experience, we define an “acquirer dummy,”  $A_{it}$ , taking value 1 if firm  $i$  acquired any target at any time  $\tau \leq t$ .<sup>13</sup>

We explore the role of firm characteristics as drivers of the multinational and acquirer risk premia running the following regression:

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<sup>11</sup>We measure firm-level fixed costs with the variable “Selling, General and Administrative Expense”. The variable description in Compustat reports that “*this item represents all commercial expenses of operation (i.e., expenses not directly related to product production) incurred in the regular course of business pertaining to the securing of operating income*”.

<sup>12</sup>We proxy expected returns with long-run average stock returns in the data.

<sup>13</sup>We identify the time of an acquisition based on the date when it is announced, rather than completed, to reflect investor expectations, which may change between the acquisition and completion times. Appendix Table B.2 illustrates that the time elapsed between the announcement and the completion of a merger is within three months for more than 80 percent of the mergers in our sample. Since we use quarterly data in our analysis, this implies that using mergers data based on completion dates produces very similar results.

Table 5: Multinational Premium and Acquirer Premium

	(1)	(2)	(3)
Multinational	1.348*** (0.078)	0.557*** (0.139)	0.847*** (0.224)
Acquirer		0.664*** (0.098)	1.074*** (0.175)
Multinational $\times$ Acquirer		0.909*** (0.160)	0.211 (0.256)
Market Capitalization			0.029*** (0.002)
Leverage Ratio			-0.489*** (0.163)
Sales/Employee			0.000 (0.000)
Capital/Employee			-0.000 (0.000)
Beta (Annual)			1.481*** (0.110)
Constant	2.558*** (0.052)	2.160*** (0.078)	0.264*** (0.157)
Observations	417,314	417,314	199,762
R-squared	0.147	0.148	0.150

Note: The dependent variable is quarterly annualized firm-level stock returns. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm beta. All specifications include industry-quarter fixed effects. Robust standard errors are in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

$$ret_{it} = \alpha + \beta_m M_{it} + \beta_a A_{it} + \beta_{ma} M_{it} \cdot A_{it} + \gamma X_{it} + \delta_{NAICSt} + \varepsilon_{it}, \quad (1)$$

where the dependent variable  $ret_{it}$  denotes the stock returns of firm  $i$  in quarter  $t$ .  $X_{it}$  is a set of firm-level controls including capital/labor ratio, sales per employee (our measure of productivity), measures of size (such as total revenues and market capitalization), leverage, and the firm market  $beta$ .<sup>14</sup>  $\delta_{NAICSt}$  denotes four-digit industry-quarter fixed effects. The coefficient  $\beta_m$  identifies the cross-sectional differential stock returns of multinational firms compared with domestic firms within an industry-quarter bin. Similarly, the coefficient  $\beta_a$  identifies the cross-sectional differential stock returns of acquirers compared with non-acquirers within an industry-quarter bin.

Table 5 shows the results. In the first two columns, we show that multinational firms exhibit significantly higher returns compared with domestic firms, consistent with what Fillat and Garetto (2015) show for the

<sup>14</sup>The market  $beta$  of the primary security of firm  $i$  captures the comovement of the firm's excess returns with the aggregate excess market returns. We computed the market  $betas$  by running a regression of individual security returns on the market aggregate returns (NYSE, AMEX, and Nasdaq) for the entire sample period. The risk-free rate is the yield on the three-month US Treasury Bill. The purpose of adding the market  $betas$  is to control for each firm's individual exposure to aggregate market risk.

manufacturing sector. In addition, firms that engage in acquisitions exhibit systematically higher returns compared with non-acquirers. These results are robust to the inclusion of controls related to firm size, profitability, and leverage (column 3).

Multinational activity is an endogenous choice of the firm. Our data allows us to identify the time when firms start operating abroad. We take advantage of this dimension of the data to investigate whether multinational firms exhibit higher returns than domestic firms also prior to their engagement in foreign markets. To do so, we examine the stock returns of *future MNEs*, defined as firms that have been domestic up to a given point in time but will become MNEs in future periods, and compare them with the stock returns of firms that are domestic for the entire sample. To do so, we regress:

$$ret_{it} = \alpha + \beta_m M_{it} + \beta_f [1 - M_{it}] \cdot \max_{\tau > t} M_{i\tau} + \beta_a A_{it} + \gamma X_{i,t} + \delta_{NAICS_t} + \varepsilon_{it}, \quad (2)$$

where  $M_{i\tau}$  is a dummy variable that assumes a value of 1 if firm  $i$  is an MNE at any future time  $\tau > t$ . The coefficient  $\beta_f$  measures the additional returns that firms that are not currently MNEs, but will be at some point in the future, carry over always domestic firms (the excluded category). The other controls are the same as in regression (1). To correct for the fact that the number of future MNEs decreases by construction toward the end of our sample period, we run the regression using data for the first half of the sample only:  $t = 1993, \dots, 2005$ , so that  $\tau$  can go up to 12 years after  $t$ .

The results in Table 6 indicate that prior to MNE entry, future MNEs already had higher returns when compared with domestic firms. In our baseline specification (column 1), the premia for current and future MNEs are both sizeable, and they are statistically different from each other. Interestingly, the premium associated with future MNEs is even higher than the one associated with current MNEs. The specification in column 2 uses a propensity-score-matching procedure to restrict the sample by using a subset of domestic (untreated) firms that are comparable to the current and future MNEs.<sup>15</sup> The results are analogous to the baseline specification. It is important to notice that we do not include a control for future acquirers. Since we can't observe firms at birth, a firm may have experienced acquisitions before entering the sample. While this is also true for MNE activity, the lumpy nature of FDI alleviates this problem.

### 3.2.2 Portfolio Regressions

We now move to show evidence about MNEs' and acquirers' exposure to systematic risk.

As first introduced by Fama and French (1993), firm characteristics may be proxies for non-diversifiable factor risk.<sup>16</sup> We follow a simple approach in which we form portfolios based on multinational status

<sup>15</sup>For the propensity-score-matching regression, we first compute a logistic regression for the treatment (current MNE) probabilities as a function of firm characteristics. Each treated firm is matched with the untreated firm that has the highest propensity scored. These matched firms are used in the regression (2), along with the treated firms.

<sup>16</sup>In Fama and French (1993), the firm characteristics are related to size and value relative to fundamentals (book value divided by market value).

Table 6: Returns of Future MNEs

VARIABLES	(1)	(2)
Current Multinationals	0.529** (0.224)	0.496** (0.247)
Future Multinationals	1.328*** (0.255)	1.249*** (0.280)
Acquirer	2.373*** (0.272)	2.263*** (0.283)
Market Capitalization	1.858*** (0.081)	1.833*** (0.084)
Leverage Ratio	-1.236*** (0.254)	-1.030*** (0.291)
Sales/Employee	0.001 (0.000)	0.001* (0.001)
Capital/Employee	-0.000** (0.000)	-0.000** (0.000)
Beta (Annual)	-0.081 (0.189)	-0.131 (0.201)
Constant	0.948*** (0.187)	0.952*** (0.234)
Observations	78,300	68,411
Adjusted R-squared	0.139	0.142
Current Minus Future MNE p-Val	.001	.002
Executive FE	No	No
PSM	No	Yes

Note: The dependent variable is quarterly firm-level stock returns. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects. The sample excludes “Other MNEs” or firms that enter the sample period as MNEs and later switch to only domestic operations. Column (2) features a propensity score-weighted control group. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

and acquisition experience to estimate portfolio covariances with systematic risk factors as drivers of risk premia. In these portfolio-level regressions, we explore the source of the multinational and acquirer premia by estimating the portfolio loadings on non-diversifiable factor risks. Higher average returns in the cross section do not constitute a puzzle per se; they simply indicate that MNE acquirers are riskier than domestic non-acquirers. We adopt a classic asset pricing interpretation and view the riskiness of a stock as reflecting a higher covariance with financial market factors.

We build portfolios based on time-invariant MNE- and acquirer-status categories. The returns of each portfolio are given by the market capitalization-weighted average of the stock returns of the firms in the portfolio. For each portfolio, we run one time-series regression of returns on the Fama-French factors.<sup>17</sup> The

<sup>17</sup>The CAPM model explains higher returns of certain assets as being generated by a larger covariance with systematic risk,

Table 7: Fama-French Portfolio Regressions: MN status

	Always Domestic	Future MNEs	Always MNEs
$\beta_{MKT}$	<b>0.821***</b> (0.031)	<b>1.011***</b> (0.033)	<b>0.976***</b> (0.019)
$\beta_{HML}$	<b>0.435***</b> (0.045)	<b>0.226***</b> (0.047)	<b>-0.157***</b> (0.028)
$\beta_{SMB}$	<b>0.388***</b> (0.034)	<b>0.349***</b> (0.036)	<b>-0.126***</b> (0.021)
Constant	<b>0.011***</b> (0.001)	<b>0.010***</b> (0.001)	<b>0.010***</b> (0.001)
Observations	156	156	156
Adjusted R-squared	0.841	0.889	0.958

Note: The dependent variable is the market capitalization-weighted average of the stock returns of firms in each portfolio at a monthly frequency. Sample years 1993-2005. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1  
Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10K filings.

results are displayed in Table 7.

The risk to which multinationals are exposed, and the corresponding higher returns they provide to investors, are partially explained by higher market *betas*: The portfolios formed by multinational corporations exhibit higher market *betas* compared with the portfolios of domestic firms. Interestingly, this is true for both current and future MNEs. Analogous regressions run for portfolios of acquirers and non-acquirers don't display significant differences across the market *betas*, while the loadings on the other factors differ.

These results suggest that multinational firms' stock returns co-vary more with systematic risk factors, especially with the aggregate US stock market, than domestic firms. This evidence motivates the structure of the model in Section 4, in which firms' cash flows are exposed to an aggregate source of risk.

### 3.3 Managers and Firm Risk

Finally, we examine whether managers' characteristics contribute to explain the multinational and acquirer risk premia. In order to do so, we follow the approach in Bertrand and Schoar (2003) and augment our characteristics regressions with CEO fixed effects.

represented by the returns on the aggregate market portfolio. Fama and French (1993) introduced a multifactor extension of the original CAPM that explains a high portion of the variation in expected returns. Higher returns must be explained by higher exposure to either of these three factors: market excess returns, high-minus-low book-to-market, or small-minus-big portfolio, as these characteristics seem to provide independent information about average returns. The small-minus-big (SMB) and high-minus-low (HML) factors are constructed on six portfolios formed on size and book-to-market. The portfolios are the intersection of two portfolios formed on size (small and big) and three portfolios formed on book equity to market equity (from higher to lower: value, neutral, and growth.) This generates six portfolios: small-value, small-neutral, small-growth, big-value, big-neutral, and big-growth. SMB represents a portfolio formed by going long on the three small portfolios and short on the three big portfolios. HML is a portfolio formed by going long on the two value portfolios and short on the two growth portfolios. For more details, see Fama and French (1993). Therefore, any asset is represented as a linear combination of the three Fama-French factors. We enlarge the set of factors by considering the excess returns on an international market portfolio that serves as a market benchmark for firms with foreign operations. Data on the excess returns on this global market portfolio are obtained from Kenneth French's data library on international indexes, [http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data\\_Library/int\\_index\\_port\\_formed.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/int_index_port_formed.html).

Table 8: Returns of Future MNEs: Management Matters

VARIABLES	(1)	(2)	(3)
Current Multinationals	0.529** (0.224)	0.496** (0.247)	3.347 (5.483)
Future Multinationals	1.328*** (0.255)	1.249*** (0.280)	4.901 (5.455)
Acquirer	2.373*** (0.272)	2.263*** (0.283)	0.387 (0.412)
Market Capitalization	1.858*** (0.081)	1.833*** (0.084)	1.218*** (0.115)
Leverage Ratio	-1.236*** (0.254)	-1.030*** (0.291)	-2.678* (1.575)
Sales/Employee	0.001 (0.000)	0.001* (0.001)	0.010*** (0.003)
Capital/Employee	-0.000** (0.000)	-0.000** (0.000)	-0.001* (0.001)
Beta (Annual)	-0.081 (0.189)	-0.131 (0.201)	1.013* (0.605)
Constant	0.948*** (0.187)	0.952*** (0.234)	-1.384 (4.800)
Observations	78,300	68,411	24,880
Adjusted R-squared	0.139	0.142	0.211
Current Minus Future MNE p-Val	.001	.002	.027
Executive FE	No	No	Yes
PSM	No	Yes	Yes

Note: The dependent variable is quarterly firm-level stock returns. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects, and feature a propensity-score nearest neighbor control group. The sample excludes “Other MNEs,” or firms that enter the sample period as MNEs and later switch to only domestic operations. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

Table 8 shows the results of estimating regression (2) augmented with information about management. Adding CEO fixed effects (the comparison between column 2 and column 3), the current and future multinational premium and the acquirer premium vanish. At the same time, the  $R^2$  increases considerably.

To provide further evidence on the effect of managers on firm risk, Appendix Table C.7 shows that manager fixed effects contribute to explain current and future MNEs systematic risk.

Manager fixed effects appear to explain the multinational premium, but are silent on the mechanism behind it. However, the evidence we have shown about the effects of managerial experience on firm-level fixed costs and selection gives us confidence about a mechanism whereby managerial experience has an effect on firms’ decisions. The structural model we present in the next section will link the observed relationship

between managerial experience and firm expansion to stock returns.

## 4 Model

In this section, we propose a simple model where managers' role for firm expansion rationalizes the higher risk premia and risk exposure of MNEs and acquirers that we observe in the data.

In the model firms are heterogeneous in productivity and in the type of manager they have, and choose whether to become MNEs and whether to engage in acquisitions.

The results of our Fama-French regressions in Table 7 show that stock returns are at least partially driven by firm-level exposure to aggregate factors. Consistent with this evidence, we assume that aggregate risk factors are reflected in the agents' intertemporal marginal rate of substitution, so that expected returns are higher the lower the covariance between the agents' stochastic discount factor ( $dM/M$ ) and changes in the value of the firm ( $dV/V$ ):

$$E(r) - r_f = -r_f \cdot Cov\left(\frac{dM}{M}, \frac{dV}{V}\right), \quad (3)$$

where  $E(r)$  denotes the expected return of a firm, and  $r_f$  denotes the risk-free rate.

### 4.1 Preferences, Technology, and Shock Structure

There are two countries, Home and Foreign, populated by agents with identical preferences:

$$U = \int_0^\infty e^{-\rho t} \frac{C(t)^{1-\gamma}}{1-\gamma} dt, \quad (4)$$

where  $\rho > 0$  is the subjective discount factor, and  $\gamma > 1$  denotes risk aversion. Variables related to the foreign country are denoted by an asterisk. The consumption level  $C$  is a CES aggregate of differentiated varieties:

$$C(t) = \left[ \int c_i(t)^{\frac{\eta-1}{\eta}} di \right]^{\frac{\eta}{\eta-1}}, \quad (5)$$

where  $\eta > 1$  denotes the elasticity of substitution across varieties.

Each country is populated by a continuum of firms. Firms are heterogeneous in their productivity level  $\varphi$ , which is drawn from a time-invariant distribution  $F(\varphi)$ . Each firm produces a unique variety  $c(\varphi)$ .

Firms use capital ( $k$ ) and labor ( $l$ ) to produce:  $c(\varphi) = \varphi l k^\vartheta$ , where  $\vartheta \in (0, 1)$  disciplines the returns to capital, and  $\vartheta(\eta - 1) < 1$ . Labor can be adjusted instantaneously, while capital adjustment is subject to



frictions. Conditional on its capital level, a firm's optimal price and variable profits are:

$$p(\varphi; k) = \frac{\eta}{\eta - 1} \frac{w}{\varphi k^\vartheta} \quad (6)$$

$$\pi(\varphi; k) = \frac{1}{\eta - 1} \left( \frac{\eta}{\eta - 1} \right)^{-\eta} \left( \frac{\varphi k^\vartheta}{w} \right)^{\eta-1} P^\eta C. \quad (7)$$

where  $w$  denotes the wage, and  $P$  is the ideal price index:  $P = [\int p(\varphi; k)^{1-\eta} d\varphi]^{\frac{1}{1-\eta}}$ .

**FDI and M&A.** Firms can increase their capital stock  $k$  by engaging in acquisitions. In the model, M&A is simply an increase in the capital stock of the firm. Each unit of capital costs  $\kappa$ , hence the cost of an acquisition that increases firm capital from  $k$  to  $k'$  is  $\kappa(k' - k)$ . All firms operate in their domestic market, where they grow via acquisitions. By paying a sunk cost  $F > 0$ , a firm becomes an MNE and has access to the foreign market as well. The FDI production technology is identical to the one in the domestic country, but it is subject to a fixed operating cost  $f > 0$ . Once it's a multinational, the firm can grow in the foreign market by undertaking acquisitions with foreign targets, at cost  $\kappa^* > \kappa$ .

**Management.** Each firm is run by a manager. Consistent with the empirical evidence shown in Table C.6, we assume that managers' experience affects the fixed cost of FDI. Firms run by experienced managers have lower fixed costs of FDI ( $f_L$ ) compared to firms run by inexperienced managers ( $f_H$ ), where  $f_L < f_H$ . Managers are randomly matched to firms and each firm-manager match lasts for the entire life time of the firm.

**Shocks.** The economy is hit by aggregate shocks, which we model as fluctuations in the aggregate consumption levels in the two countries.  $C$  and  $C^*$  are exogenously given and evolve according to:

$$\frac{dC}{C} = \mu dt + \sigma dz \quad (8)$$

$$\frac{dC^*}{C^*} = \mu^* dt + \sigma^* dz^*, \quad (9)$$

where  $\mu, \mu^* \in \mathfrak{R}$ ,  $\sigma, \sigma^* \in \mathfrak{R}_+$  and  $E(dz, dz^*) = \chi dt$ , where  $\chi \in [-1, 1]$  denotes the correlation between the two country-specific shocks. It follows that the stochastic discount factor is given by:

$$\frac{dM}{M} = -r dt - \gamma \sigma dz, \quad (10)$$

where  $r = \rho + \gamma\mu - \gamma(\gamma + 1)\frac{1}{2}\sigma^2$ .

## 4.2 The Firm's Intertemporal Problem

A firm chooses its international status (domestic or multinational) and its involvement in domestic and international acquisitions to maximize the present discounted value of its profit flow.

Let  $\mathcal{V}(\varphi, m, k, k^*, C, C^*)$  denote the value of a firm with manager of type  $m$  and productivity  $\varphi$  when its domestic (foreign) capital stock is  $k$  ( $k^*$ ) and the realization of the aggregate shock is  $(C, C^*)$ . Similar to Melitz (2003), we assume that the firm makes decisions in the two markets independently, so that we can write the value function as:

$$\mathcal{V}(\varphi, m, k, k^*, C, C^*) = V_D(\varphi, k, C) + \max\{V_F^o(\varphi, m, k^*, C^*), V_F(\varphi, m, k^*, C^*)\}, \quad (11)$$

where  $V_D(\varphi, k, C)$  denotes the value of domestic activities,  $V_F(\varphi, m, k^*, C^*)$  denotes the value of foreign activities for a firm which is currently a multinational, and  $V_F^o(\varphi, m, k^*, C^*)$  denotes the option value of foreign activities for a firm that doesn't currently operate in the foreign market.

**Bellman Equations.** In the domestic market, a firm chooses the level of future capital  $k'$  that maximizes the present discounted value of its domestic profit flow:

$$V_D(\varphi, k, C) = \max_{k'} \pi(\varphi, k, C)M\Delta t + \{E[M\Delta t \cdot V_D(\varphi, k', C')] - \kappa(k' - k)M\Delta t\}, \quad (12)$$

where  $k' \geq k$  and all flows are discounted with the agents' stochastic discount factor  $M$ . In addition, a firm that currently operates only in its domestic market must choose whether to start operating in the foreign market as well or to continue selling only domestically. If the firm decides to become a multinational, it pays the sunk cost  $F$  and derives value from foreign activities,  $V_F(\cdot)$ :

$$V_F^o(\varphi, m, k^*, C^*) = \max\{E[M\Delta t \cdot V_F^o(\varphi, m, k^{*'}, C^{*'})], V_F(\varphi, m, k^*, C^*) - F\}. \quad (13)$$

Once it becomes a multinational, the firm chooses the level of future foreign capital that maximizes the present discounted value of its foreign profit flow:

$$V_F(\varphi, m, k^*, C^*) = \max_{k^{*'}} \pi^*(\varphi, k^*, C^*)M\Delta t - f_m M\Delta t + \{E[M\Delta t \cdot V_F(\varphi, m, k^{*'}, C^{*'})] - \kappa^*(k^{*'} - k^*)M\Delta t\}, \quad (14)$$

where  $k^{*'} \geq k^*$ .

**Value Functions.** By using standard tools in the literature on investment under uncertainty (see K. Dixit and S. Pindyck, 1994), we can solve for the value functions in the continuation regions.

The value of domestic activities is given by:

$$V_D(\varphi, k, C) = B(\varphi, k)C^\beta + \frac{\pi(\varphi, k, C)}{r - \mu + \gamma\sigma^2}, \quad (15)$$

where  $\beta > 1$  is the positive root of the fundamental quadratic,  $\frac{\sigma^2}{2}\beta^2 + \left(\mu - \gamma\sigma^2 - \frac{\sigma^2}{2}\right)\beta - r = 0$ , and  $B(\varphi, k)$

is the option value of domestic acquisitions:

$$B(\varphi, k) = \left( \frac{\beta - 1}{\kappa} \right)^{\beta-1} \left[ \frac{H(\eta)\vartheta(\eta-1) \left(\frac{\varphi}{w}\right)^{\eta-1} P^\eta}{\beta(r - \mu + \gamma\sigma^2)} \right]^\beta \frac{k^{1+\beta[\vartheta(\eta-1)-1]}}{1 + \beta[\vartheta(\eta-1) - 1]} \quad (16)$$

and  $H(\eta) = \frac{1}{\eta-1} \left( \frac{\eta}{\eta-1} \right)^{-\eta}$ .

The solution for the value of existing foreign activities is analogous:

$$V_F(\varphi, m, k^*, C^*) = B^*(\varphi, k^*)C^{*\beta^*} + \frac{\pi^*(\varphi, k^*, C^*)}{r - \mu^* + \gamma\chi\sigma\sigma^*} - \frac{f_m}{r}, \quad (17)$$

where  $\beta^* > 1$  is the positive root of the fundamental quadratic,  $\frac{\sigma^{*2}}{2}\beta^{*2} + (\mu^* - \gamma\chi\sigma\sigma^* - \frac{\sigma^{*2}}{2})\beta - r = 0$ , and  $B^*(\varphi, k^*)$  is the option value of foreign acquisitions:

$$B^*(\varphi, k^*) = \left( \frac{\beta^* - 1}{\kappa^*} \right)^{\beta^*-1} \left[ \frac{H(\eta)\vartheta(\eta-1) \left(\frac{\varphi}{w^*}\right)^{\eta-1} P^{*\eta}}{\beta^*(r - \mu^* + \gamma\chi\sigma\sigma^*)} \right]^{\beta^*} \frac{k^{*1+\beta^*[\vartheta(\eta-1)-1]}}{1 + \beta^*[\vartheta(\eta-1) - 1]}. \quad (18)$$

Lastly, the option value of foreign activities is given by:

$$V_F^o(\varphi, m, k^*, C^*) = B^F(\varphi, m, k^*)C^{*\beta^*}, \quad (19)$$

where  $B^F(\varphi, m, k^*)$  is the option value of becoming an MNE:

$$B^F(\varphi, m, k^*) = B^*(\varphi, k^*) + \frac{1}{\beta^*} \left[ \left( \frac{\beta^* - 1}{\beta^*} \right) \left( \frac{r}{f_m + rF} \right) \right]^{\beta^*-1} \left( \frac{H(\eta) \left(\frac{\varphi k^{*\vartheta}}{w^*}\right)^{\eta-1} P^{*\eta}}{r - \mu^* + \gamma\chi\sigma\sigma^*} \right)^{\beta^*}. \quad (20)$$

As it is standard with this class of models, value functions are given by the sum of the present discounted value of profits plus the option value of additional activities that the firm can undertake: acquisitions in equations (15) and (17) and greenfield FDI in equation (19). Examining the dependence of the option values (16), (20), and (18) on  $\varphi$  reveals that more productive firms have higher option values, indicating the higher value they can obtain from acquisitions and multinational activity compared with less productive firms. Moreover, the option value of FDI is increasing in the option value of foreign acquisitions, indicating that the higher the possibilities of growth through foreign acquisitions are, the more profitable the foreign market is.<sup>18</sup> Lastly, and importantly for the link between the model and our empirical analysis, the option value of becoming an MNE is decreasing in the fixed cost of FDI  $f_m$ .

**Policy Functions.** Becoming an MNE is a discrete choice. Hence, the policy function is a firm-specific

<sup>18</sup>Notice that, since the model is written in continuous time, firms that become MNEs may immediately engage in foreign acquisitions or wait some time before doing so. In this way, the model generates both new MNE acquirers and new greenfield MNEs.

threshold in the realization of the aggregate foreign composite shock that induces the firm to enter the foreign market. More precisely, a firm becomes an MNE when  $C^* \geq \bar{C}^F(\varphi, m; k^*)$ , where  $\bar{C}^F(\varphi, m; k^*)$  is determined by value matching and smooth pasting conditions between  $V_F^o(\cdot)$  and  $V_F(\cdot)$ :

$$\bar{C}^F(\varphi, m; k^*) = \left( \frac{\beta^*}{\beta^* - 1} \right) \left( \frac{f_m + rF}{r} \right) \left( \frac{r - \mu^* + \gamma\chi\sigma\sigma^*}{H(\eta)(w^*)^{1-\eta} P^{*\eta}} \right) (\varphi k^{*\vartheta})^{1-\eta}. \quad (21)$$

The MNE entry threshold is decreasing in firm productivity  $\varphi$  and capital level  $k^*$ , indicating that more productive and more capitalized firms need smaller positive demand shocks to enter foreign markets. The MNE entry threshold is also increasing in the fixed cost of FDI,  $f_m$ , indicating that firms with more experienced managers (lower  $f_m$ ) need smaller positive demand shocks to enter foreign markets. As a result, consistent with our empirical evidence, firms that are run by experienced managers are more likely to become MNEs.

Firms may undertake multiple acquisitions during their lifetime. In particular, they undertake an acquisition any time there is a demand shock that implies that their current capital level is too low. More precisely, a firm undertakes a domestic acquisition when  $C \geq \bar{C}(k; \varphi)$ , where  $\bar{C}(k; \varphi)$  is determined by value matching and smooth pasting conditions between the marginal value of an acquisition ( $\partial V_D(\varphi, k, C)/\partial k$ ) and its marginal cost  $\kappa$ :

$$\bar{C}(k; \varphi) = \left( \frac{\beta}{\beta - 1} \right) \left( \frac{\kappa(r - \mu + \gamma\sigma^2)w^{\eta-1}}{H(\eta)P^{\eta\vartheta}(\eta - 1)} \right) \varphi^{1-\eta} k^{1-\vartheta(\eta-1)}. \quad (22)$$

The policy function for foreign acquisitions is analogous:

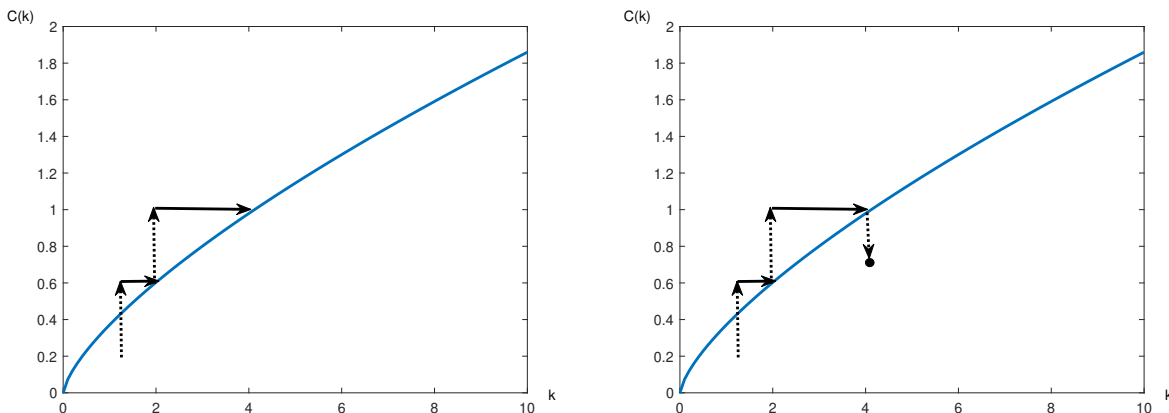
$$\bar{C}^*(k^*; \varphi) = \left( \frac{\beta^*}{\beta^* - 1} \right) \left( \frac{\kappa^*(r - \mu^* + \gamma\chi\sigma\sigma^*)w^{*\eta-1}}{H(\eta)P^{*\eta\vartheta}(\eta - 1)} \right) \varphi^{1-\eta} k^{*1-\vartheta(\eta-1)}. \quad (23)$$

The investment barrier controls  $\bar{C}(k; \varphi)$  and  $\bar{C}^*(k^*; \varphi)$  are increasing in the capital level and decreasing in firm-level productivity, indicating that more productive firms need smaller positive demand shocks to engage in acquisitions, and that firms that already have large amounts of capital need larger positive demand shocks to engage in further acquisitions.

Figure 1 illustrates graphically the acquisition decisions of the firm. When positive shocks to  $C$  bring capital below the level implied by the barrier control  $\bar{Y}_m(k; \varphi)$ , the firm undertakes an acquisition to increase its capital level. In contrast, negative shocks to  $C$  don't affect investment.

For simplicity, we assume that when a firm undertakes greenfield FDI, it starts a foreign affiliate with capital level  $k^*$  located on the optimal barrier control.

Figure 1: Barrier Control for Firm-level Investment.



Note: The horizontal arrows represent acquisitions. The length of each arrow is equal to the increase in capital, which is the outcome of that acquisition. The left panel illustrates acquisitions in the active region, where  $k$  is above the investment barrier control. The right panel illustrates the inaction region, where no acquisitions take place.

### 4.3 Testable Implications of the Model: Selection into FDI and M&A

In this section, we examine the predictions of the model in terms of selection of different firms into FDI and M&A activities. These predictions serve as external validation of the mechanisms built in the model.

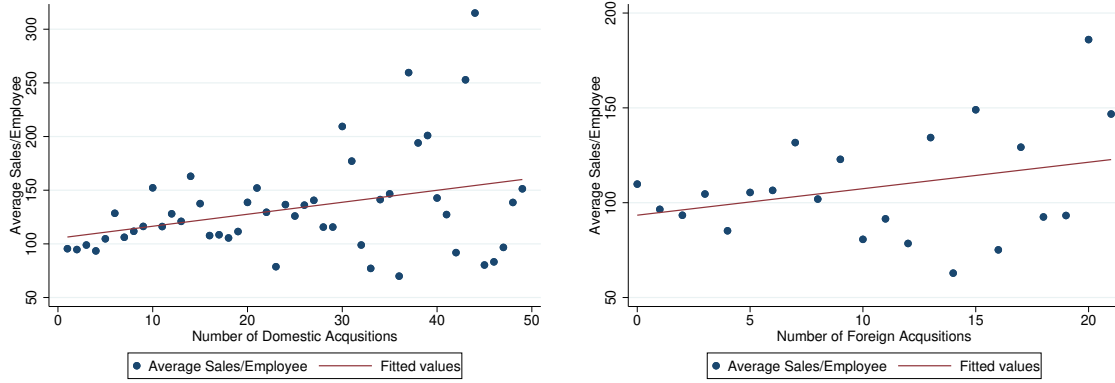
The model has several implications that are qualitatively consistent with the data. First, since the MNE entry threshold  $\bar{C}^F(\varphi, m; k^*)$  is decreasing in firm productivity  $\varphi$ , MNEs are more productive than domestic firms, a well-known fact that has been documented by a large literature (see, most notably, Helpman et al., 2004).

Second, since the barrier controls for acquisitions  $\bar{C}(k; \varphi)$  and  $\bar{C}^*(k^*; \varphi)$  are also decreasing in firm productivity  $\varphi$ , more productive firms undertake more acquisitions, both domestically and abroad. This prediction is novel in the literature, and consistent with the data. Figure 2 shows bin scatter plots where we plot the average firm productivity, measured as sales per employee, of all firms with the same number of domestic (foreign) acquisitions. Both panels of the figure clearly show an increasing relationship, indicating that more productive firms engage—on average—in a larger number of acquisitions, both domestic and foreign.

Third, the monotonicity of the barrier control for acquisitions  $\bar{C}(k; \varphi)$  as a function of the cost of investment  $\kappa$ , together with the assumption that foreign acquisitions are more costly than domestic acquisitions, implies that the number of domestic acquisitions per firm is higher than the number of foreign acquisitions, consistent with the distribution of acquisitions per firm shown in Table B.1.

Fourth, since the MNE entry threshold  $\bar{C}^F(\varphi, m; k^*)$  is decreasing in the fixed cost of FDI,  $f_m$ , firms that are run by experienced managers (and hence have lower fixed costs) are more likely to, consistent with

Figure 2: More Productive Firms Undertake More Acquisitions.



Note: In the left (right) panel, the variable on the vertical axis is the mean sales per employee of all firms in the sample that experience  $N$  domestic (foreign) acquisitions during the sample period.

the empirical evidence reported in Table 4.

## 5 Model Results: Management, Firm Status, and Stock Returns

We now use the lens of the model to interpret the findings of our empirical analysis. To do so, we start by constructing a model-based measure of expected returns.

The expected excess returns of a domestic firm and of a multinational firm with manager of type  $m$  are given by:

$$E(\text{ret}_D) - r = \frac{\gamma\sigma^2 CV'_D(\cdot) + \gamma\chi\sigma\sigma^* C^* V'_F(\cdot, m)}{\mathcal{V}(\cdot, m)} \quad (24)$$

$$E(\text{ret}_{MN}) - r = \frac{\gamma\sigma^2 CV'_D(\cdot) + \gamma\chi\sigma\sigma^* C^* V'_F(\cdot)}{\mathcal{V}(\cdot, m)} \quad (25)$$

where the dependence of the value functions on  $\varphi$ ,  $k$ ,  $k^*$ ,  $C$ , and  $C^*$  is suppressed to ease the notation.

Managers characteristics affect the option value of becoming a multinational (the term  $B^F(\varphi, m, k^*)$ , see equation 20), and the profit of a multinational firm (equation 17). The next propositions highlight the implications of managers' characteristics for expected returns.

**Proposition 1.** *If the two countries are symmetric, domestic firms run by experienced managers have higher expected returns than domestic firms run by unexperienced managers:  $\frac{\partial E(\text{ret}_D)}{\partial f_m} < 0$ .*

As equation 20 shows, lower fixed costs increase the option value of FDI, increase the curvature of the value function, and hence its covariance with the stochastic discount factor, and the firm expected returns. Since firms that are run by experienced managers are more likely to become MNEs, this is consistent with the future MNE premia that we have shown in our empirical analysis.

Why do future MNEs have higher expected returns? In our model, stockholders perceive MN activity as a risky endeavor. The fact that the firm is run by an experienced manager makes MNE entry more likely and increases the expectations that stockholders have about the variability of cash flows the firm will have.

**Proposition 2.** *If the two countries are symmetric, MNEs run by experienced managers have lower expected returns than MNEs run by unexperienced managers:  $\frac{\partial E(\text{ret}_{MN})}{\partial f_m} > 0$ .*

As equation 17 shows, fixed costs decrease the value of a multinational firm. They also make the firm more exposed to negative shocks by increasing operating leverage (the mechanism highlighted in Fillat and Garetto 2015). An experienced manager, by reducing fixed costs, decreases the firm exposure to shocks and reduces the premium differential between MNEs and domestic firms.

This result is consistent with the observation that managers fixed effects account for the differences in risk premia between domestic and multinational firms.

## 5.1 Stock Returns and Acquisitions

In the model, all firms are acquirers, so it is hard to speak of an acquirer premium. However, the model is consistent with two empirical observations linking acquisitions and stock returns.

We have shown in Section 2 that acquirers have higher returns than non acquirers. Appendix Table C.8 shows that in the cross section, stock returns are positively correlated with the number of acquisitions that a firm undertakes.

The model is consistent with this observation. The thresholds for acquisitions  $\bar{C}(k, \varphi), \bar{C}^*(k^*, \varphi)$  are both decreasing in firm productivity  $\varphi$ , indicating that higher productivity firms are more likely to undertake acquisitions. Higher productivity firms are also more likely to be MNEs. The model generates an acquirer premium because the firms that undertake more acquisitions are more likely to be MNEs, and hence to have higher returns than non-acquirers, who are more likely to be domestic firms.

The observation above is related to a comparison *across* firms. *Within* firm, the model predicts that returns decrease as firms engage in acquisitions (it is possible to prove that  $\frac{\partial E(ret)}{\partial k} < 0$ ). Appendix Figure C.1 shows that indeed returns decline with acquisitions, while Appendix Table C.8 shows that within-firm stock returns decline as the number of acquisitions that a firm undertakes increases.

## 6 Conclusions

Multinational corporations are the largest players in the global economy, and M&A account for most of their growth. In this paper, we try to understand the risks these firms are exposed to.

We focus on the role of managers as facilitators of the expansion of firms into foreign markets and of their growth through M&A. Our empirical analysis shows that management matters for firms' selection into multinational and M&A activity, and for firms' risk exposure.

We develop a theoretical model to rationalize the relationship between management, multinational and acquisition activity, and stock returns. The model's tractability makes transparent the channels linking these firms' decisions and highlights how managerial decisions play a fundamental role in the origins and dynamics of MNE and acquirers' risk premia.

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## Appendix

### A Data Assembly and 10-K Parsing Procedure

We download from the SEC Edgar’s website all the 10-K filings for the universe of firms with publicly traded equity from 1993 through 2017. More recent filings have an *html* format, while older files are plain text. The structure for recent filings is such that an Exhibit 21 is submitted as a separate *html* file. Older text filings may have a separate Exhibit 21 *txt* file or include all the information in a unique 10-K file that contains the exhibit 21 information too. Figure A.1 shows the Exhibit 21 for a firm in our sample, McDonald’s Corporation.

The 10-K filings are our main source of information for classifying firms as domestic or multinational in a given year. Our algorithm processes the different *html* and *txt* files separately. For *html* files, the code looks for the label *tables* inside the Exhibit 21 files and extracts the information on each subsidiary and location. For the text files, the algorithm reads each line of the file, looking for a structure containing names of subsidiaries, blank spaces, and locations. For the 10-K files that contain all the information in one file, the code reads each line of the file, looking for any country name from a dictionary. If no country name is found, the firm is defined as domestic. Of the remaining firms where a foreign country is mentioned, the algorithm looks for the structure of the name, blank spaces, and location to determine the multinational status. In addition, the algorithm searches for wording referring to “affiliate,” “subsidiary,” “subsidiaries,” “plant,” “foreign operations,” or “21,” in a window of 100 characters surrounding the mention of a foreign country in order for the firm to be classified as a multinational.

We use quarterly fundamentals from CRSP/Compustat Merged, a detailed database of standardized financial and market information for publicly traded firms provided by Wharton Research Data Services, for the sample firms present during the 1993–2017 period. The data we use range from financial fundamentals such as long-term debt; short-term debt; EBITDA; revenues; property, plant and equipment; and employment to market information such as monthly returns and market capitalization. The parsed SEC 10-K filings are merged onto the quarterly CRSP/Compustat data set based on the Central Index Key (CIK) to provide annual information on the multinational status of Compustat firms. Firms with missing 10-K filings at the start or end of the sample are imputed using the first or latest non-missing filing, respectively. For firms that contain short 10-K filing gaps (that, is domestic to missing to domestic or multinational to missing to multinational for one or two years), values are imputed as the status before and after the gap. For gaps where the status changes following the gap, if the gap is greater than or equal to four quarters, we parse through the 10-K Exhibit 21s manually, imputing values that supersede the algorithm’s output. For gaps shorter than four quarters, we leave it as is, and the missing status is considered within the year of the gap, with respect to firm categorization (described below). There are no attempts made to impute the multinational status for firms that are never captured in the algorithm unless that information was hand-collected at an

earlier point in time. We compute the firm-level betas by running rolling one-year window regressions of monthly firm returns on the CRSP Total Market Index.

Thomson Reuters Mergers and Acquisitions Data provide deal-level M&A data for domestic firms from 1993 through 2017. Thomson Reuters M&A is an expansive platform for analyzing financial market, company fundamentals, and transaction deal data. We opt to exclude any deals that involve buybacks and recapitalizations to ensure we capture only proper acquisitions. Any deals that are related to territories of larger entities are re-categorized within the parent state. Data at the acquisition level are then merged back into the quarterly fundamentals using the historical CUSIP to record the number of acquisitions and the value of the deals, both domestic and foreign, within a given quarter. Foreign acquisitions that do not match with a change of multinational status in the firms' 10-K are checked by hand. If an acquirer shows no change in multinational status following the acquisition, the acquisition is removed.

We then categorize firms using the PERMCO, a unique permanent identifier for firms provided by CRSP/Compustat. Once domestic or multinational status is assigned to each firm in each quarter using 10-K information, firms are categorized into seven unique classifications based on characteristics the year of, the year before, and the year after the initial change into multinational status or the first foreign acquisition. Always domestic firms and always multinational firms are firms for which their status is domestic and multinational, respectively, throughout the entire sample period, with no foreign acquisitions or change of status. New MNE acquirers are firms that enter in the sample as domestic firms and we observe a foreign acquisition in Thomson Reuters M&A data within a year of the 10-K filings showing the existence of a foreign subsidiary. Additionally, we impute the status of new MNE acquirers following the first foreign acquisition as multinational if the foreign acquisition occurs prior to the indicated status change. New greenfield MNEs are firms that change their multinational status according to the 10-K filings but for which we do not identify a foreign acquisition in Thomson Reuters within the year before, of, and after the event. The set of *other firms* comprises firms that change from multinational to domestic or that change status several times in the sample, and also firms for which we do not observe a status change one year around a foreign acquisition. There are 6,155 firms in Compustat for which we are not able to parse 10-K information.

Figure A.1: Example of Exhibit 21: McDonald's Corporation

EX-21 4 mcd-12312019xex2110xk.htm SUBSIDIARIES OF THE REGISTRANT

### Exhibit 21. Subsidiaries of the Registrant

*Name of Subsidiary [State or Country of Incorporation]*

**Domestic Subsidiaries**

- McDonald's Deutschland LLC [Delaware]
- McDonald's Development Italy LLC [Delaware]
- McDonald's Global Markets LLC [Delaware]
- McDonald's International Property Company, Ltd. [Delaware]
- McDonald's Real Estate Company [Delaware]
- McDonald's Restaurant Operations Inc. [Delaware]
- McDonald's USA, LLC [Delaware]
- McD Asia Pacific, LLC [Delaware]

**Foreign Subsidiaries**

- 3072447 Nova Scotia Company [Canada]
- HanGook McDonald's Co. Ltd. [South Korea]
- Limited Liability Company "NRO" [Russia]
- Moscow-McDonalds [Russia]
- McDonald's Limited Liability Company [Russia]
- McD APMEA Singapore Investments Pte. Ltd. [Singapore]
- MCD Europe Limited [United Kingdom]
- MCD Global Franchising Limited [United Kingdom]
- McDonald's Australia Limited [Australia]
- McDonald's France S.A.S. [France]
- McDonald's Franchise GmbH [Austria]
- McDonald's GmbH [Germany]
- McDonald's Immobilien Gesellschaft mit beschränkter Haftung [Germany]
- McDonald's Liegenschaftsverwaltung Gesellschaft m.b.H [Austria]
- McDonald's Nederland B.V. [Netherlands]
- McDonald's Polska Sp. z o.o [Poland]
- McDonald's Real Estate LLP [United Kingdom]
- McDonald's Restaurants Limited [United Kingdom]
- McDonald's Restaurants of Canada Limited [Canada]
- McDonald's Suisse Development Sàrl [Switzerland]
- McDonald's Suisse Franchise Sàrl [Switzerland]
- McDonald's Suisse Restaurants Sàrl [Switzerland]
- Restaurantes McDonald's, S.A.U. [Spain]

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The names of certain subsidiaries have been omitted because they do not constitute significant subsidiaries. These include, but are not limited to: McDonald's Latin America, LLC [Delaware] and other domestic and foreign, direct and indirect subsidiaries of the registrant, including 49 wholly-owned subsidiaries of McDonald's USA, LLC, many of which operate one or more McDonald's restaurants within the United States and the District of Columbia.

[ ] Brackets indicate state or country of incorporation and do not form part of corporate name.

## B Additional Data Description

Figure B.1: Distribution of Mergers by Target Country.

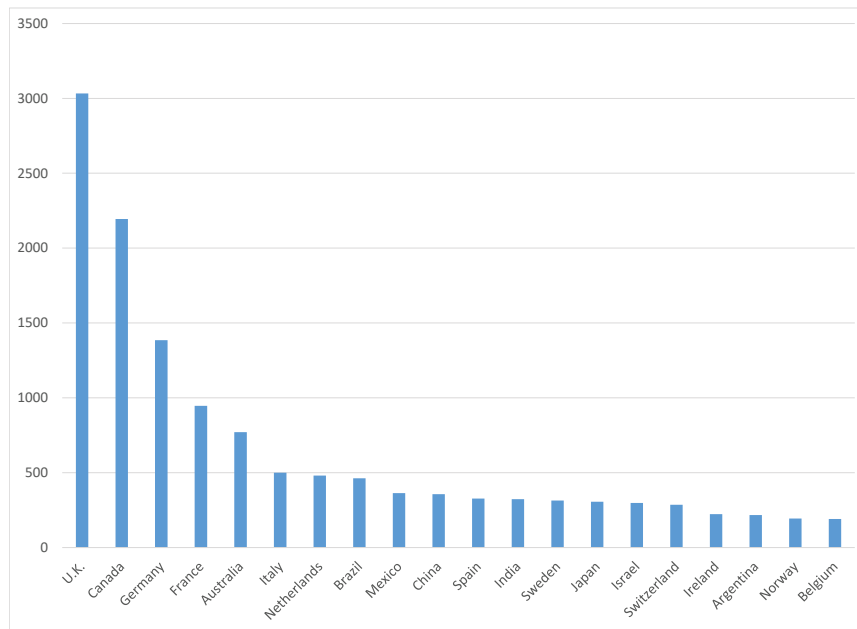
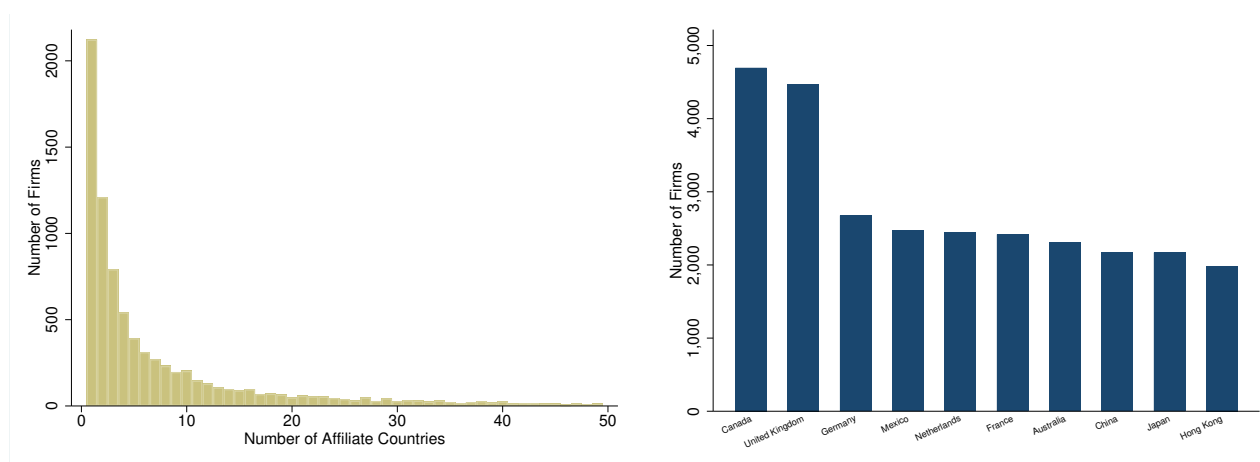
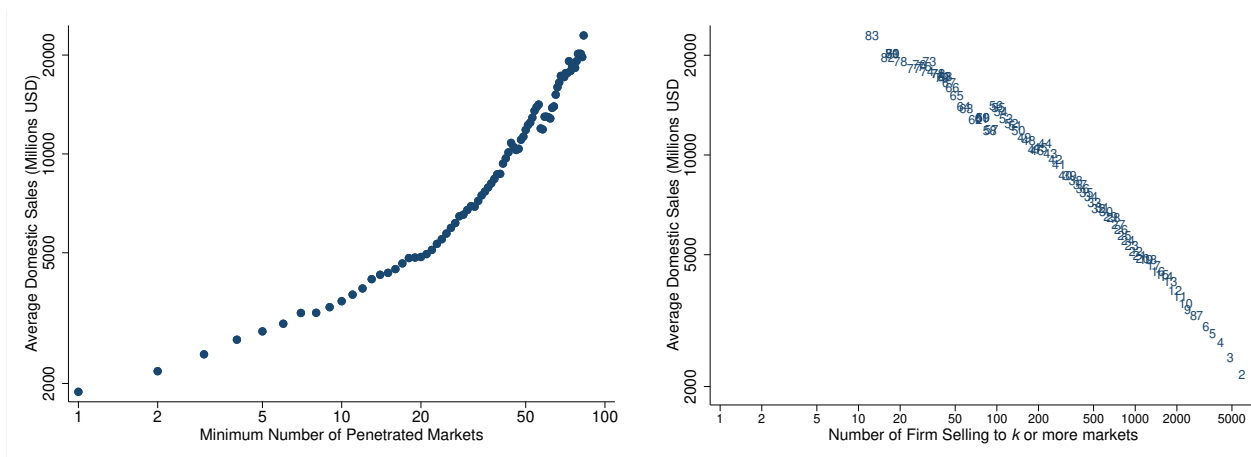


Figure B.2: MNE Affiliates' Host Countries



Note: The left panel shows the distribution of the number of firms having affiliates in  $n$  host countries. The right panel shows the number of firms having affiliates in the top 10 host countries.  
Source: SEC 10-K filings.

Figure B.3: MNE Sorting by Size into Host Countries



Note: The left panel shows an increasing relationship between parent sales and the number of countries in which the firm has affiliates: Firms that are larger in the United States enter more markets. The right panel also shows that larger firms sell to less popular markets.

Source: SEC 10-K filings.

Table B.1: Distribution of the Number of Firms Accounting for  $(n, m)$  Foreign (columns) and Domestic (rows) Acquisitions.

N. For. Mergers	0	1	2-3	4-5	6-7	8-10	11-15	16-20	21-30	31-40	41+	Total
0	3,860	224	76	12	2	4	2	0	0	0	0	4,180
1	1,553	212	114	17	8	5	1	0	1	0	0	1,911
2-3	1,599	322	171	58	14	5	5	2	0	0	0	2,176
4-5	728	169	157	50	18	16	10	3	0	0	0	1,151
6-7	355	91	87	51	20	12	14	3	0	0	0	633
8-10	367	109	78	57	23	28	12	7	2	1	0	684
11-15	252	48	66	60	32	27	18	8	6	2	1	520
16-20	102	27	25	22	16	12	14	6	3	2	1	230
21-30	110	18	27	15	21	21	14	10	14	3	4	257
31-40	45	6	7	10	8	18	5	6	8	3	5	121
41+	31	13	8	11	6	8	12	4	6	13	8	120
Total	9,002	1,239	816	363	168	156	107	49	40	24	19	11,983

Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

Table B.2: Time Elapsed between When a Merger Is Announced and Its Completion. Domestic and International Mergers.

	Domestic Mergers		International Mergers	
	Number	Percentage	Number	Percentage
Same day	36999	51	9763	61.59
Within a week	38460	53	10101	63.72
Within 2 weeks	40119	55	10451	65.93
Within a month	45017	62	11355	71.63
Within 3 months	58409	80	13834	87.27
All	72618	100	15852	100



## C Empirical Analysis: Robustness

Table C.1 illustrates the robustness of the summary statistics on stock returns. It reports the results of the regression:

$$ret_{it} = \alpha + \sum_{j=1}^7 \beta^j type_i^j + \gamma X_{it} + \delta_{NAICSt} \varepsilon_{it}. \quad (C.1)$$

The dependent variable  $ret_{it}$  denotes the stock returns of firm  $i$  in quarter  $t$ .  $type_i^j$ , for  $j = 1, \dots, 7$  is a dummy variable taking a value of 1 when firm  $i$  belongs to group  $j$ , where the firm groupings are the same ones as in Table 2. Domestic firms that don't experience acquisitions are the excluded category, so that the coefficients on the dummies should be interpreted as the additional returns that firms engaged in mergers and/or foreign direct investment command.  $X_{it}$  is a set of controls including capital/labor ratio, sales per employee (our measure of productivity), measures of size such as total revenues and market capitalization, leverage, and the firm market  $beta$ .<sup>1</sup>  $\delta_{NAICSt}$  denotes four-digit industry-quarter fixed effects.

Table C.1 shows that the differences in returns reported in the summary statistics in Table 2 are robust to the inclusion of controls and fixed effects. Multinational status and the presence of acquisitions appear to be associated with higher stock returns.

Table C.2 shows the results of a linear probability model in which the left-hand side variable is the acquirer dummy  $A_{it}$ , illustrating the role of managers for acquisitions.

In Table C.8, we investigate the correlation between stock returns and repeated M&A activity by augmenting our characteristics regressions with variables that measure the deepening of a firm's involvement in mergers and acquisitions, and exploiting variation within firm over time.

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<sup>1</sup>The market  $beta$  of the primary security of firm  $i$  captures the comovement of the firm's excess returns with the aggregate excess market returns. We computed the market  $betas$  by running a regression of individual security returns on the market aggregate returns (NYSE, AMEX, and Nasdaq) for the entire sample period. The risk-free rate is the yield on the three-month US Treasury Bill. The purpose of adding the market  $betas$  is to control for each firm's individual exposure to aggregate market risk.

Table C.1: Cross-sectional Return Differentials by Firm Type

VARIABLES	(1)	(2)
Always Domestic; Only Domestic Acquisitions	0.699*** (0.122)	1.202*** (0.243)
Always Multinational; No Acquisitions	0.295 (0.248)	0.814** (0.383)
Always Multinational; Only Domestic Acquisitions	1.359*** (0.217)	1.669*** (0.336)
Always Multinational; Has Foreign Acquisitions	3.477*** (0.143)	3.574*** (0.246)
New Acquirers	2.599*** (0.176)	2.764*** (0.281)
New Greenfield Multinationals	1.708*** (0.130)	2.242*** (0.232)
Other Multinationals	1.677*** (0.144)	2.091*** (0.243)
Market Capitalization		0.024*** (0.002)
Leverage Ratio		-0.369** (0.160)
Sales/Employee		0.000 (0.000)
Capital/Employee		-0.000 (0.000)
Beta (Annual)		1.413*** (0.110)
Constant	1.641*** (0.107)	-0.417* (0.215)
Observations	413,962	197,931
R-squared	0.149	0.151
Firm FE	No	No

Note: The dependent variable is quarterly annualized firm-level log-stock returns. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm beta. All specifications include industry-quarter fixed effects. Robust standard errors are in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

Table C.2: Becoming an Acquirer: Management Matters

VARIABLES	(1) Lin. Prob.	(2) Lin. Prob.	(3) Probit
Market Capitalization	0.002*** (0.000)	0.000* (0.000)	0.001*** (0.000)
Leverage Ratio	0.061*** (0.004)	-0.071*** (0.010)	0.023*** (0.004)
Sales/Employee	-0.003 (0.002)	-0.012** (0.005)	-0.048*** (0.009)
Capital/Employee	-0.002*** (0.000)	-0.000 (0.001)	-0.009*** (0.001)
Beta (Annual)	0.021*** (0.003)	0.003 (0.004)	0.013*** (0.002)
Manager with MNE experience			0.023*** (0.003)
Constant	0.118*** (0.003)	0.164*** (0.004)	
Observations	76,054	76,054	76,531
R-squared	0.074	0.239	
Executive FE	No	Yes	

Note: The dependent variable is a dummy taking a value of 1 if a firm is an acquirer in quarter-year  $t$ , scaled to 100 for interpretation purposes. Columns (1)-(2) present a linear probability model to include manager fixed effects. Column (3) presents a probit specification. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

Table C.3: Becoming a Multinational: Good Management Matters

	(1)	(2)
Leverage Ratio	0.077*** (0.015)	0.077*** (0.013)
Beta (Annual)	0.063*** (0.007)	0.059*** (0.007)
Sales/Employee	0.000 (0.000)	0.000** (0.000)
Capital/Employee	-0.000*** (0.000)	-0.000*** (0.000)
Market Capitalization	0.098*** (0.003)	0.149*** (0.005)
Average Management Score (Filled)	0.057*** (0.006)	
Bad Management Score		-0.012 (0.012)
Good Management Score		0.073*** (0.009)
Observations	5,762	11,382

Note: Probit regression. The dependent variable is a dummy taking a value of 1 if a firm is a multinational in quarter-year  $t$ , scaled to 100 for interpretation purposes. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

Table C.4: Becoming an Acquirer: Good Management Matters

	(1)	(2)
Leverage Ratio	0.118*** (0.029)	0.108*** (0.019)
Beta (Annual)	0.035** (0.015)	0.026** (0.010)
Sales/Employee	-0.000 (0.000)	-0.000 (0.000)
Capital/Employee	-0.000*** (0.000)	-0.000*** (0.000)
Market Capitalization	0.011*** (0.002)	0.012*** (0.002)
Average Management Score	0.046*** (0.010)	
Bad Management Score		-0.035** (0.015)
Good Management Score		0.011 (0.014)
Observations	2,210	4,700

Note: Probit regression. The dependent variable is a dummy taking a value of 1 if a firm is an acquirer in quarter-year  $t$ , scaled to 100 for interpretation purposes. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

Table C.5: The Role of Managerial Overconfidence on MN Entry and Acquisitions

	(1) Multinational	(2) Acquirer
Leverage Ratio	-0.037*** (0.006)	0.011* (0.006)
Beta (Annual)	0.102*** (0.003)	0.003 (0.003)
Sales/Employee	-0.000*** (0.000)	-0.000 (0.000)
Capital/Employee	-0.000*** (0.000)	-0.000*** (0.000)
Market Capitalization	0.010*** (0.000)	0.002*** (0.000)
Overconfident Manager	0.032*** (0.004)	0.037*** (0.003)
Observations	54,485	54,485

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Note: Probit regression. In column 1, the dependent variable is a dummy taking a value of 1 if a firm is a multinational in quarter-year  $t$ , scaled to 100 for interpretation purposes. In column 2, the dependent variable is a dummy taking a value of 1 if a firm is an acquirer in quarter-year  $t$ , scaled to 100 for interpretation purposes. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects. Robust standard errors are in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

Table C.6: Managerial Experience is Negatively Related to Firm Fixed Costs

	(1)	(2)	(3)	(4)
Multinational	0.941*** (0.012)	0.169*** (0.008)	1.072*** (0.014)	0.992*** (0.013)
Experienced Manager			0.315*** (0.028)	
MNE X Experienced Manager			-0.649*** (0.031)	
Experienced Acq. Manager				0.406*** (0.011)
MNE X Experienced Acq. Manager				-0.390*** (0.012)
Market Capitalization	0.030*** (0.001)	0.004*** (0.000)	0.030*** (0.001)	0.029*** (0.001)
Leverage Ratio	0.988*** (0.020)	0.328*** (0.015)	0.980*** (0.020)	0.913*** (0.019)
Sales/Employee	0.000*** (0.000)	-0.000 (0.000)	0.000*** (0.000)	0.000*** (0.000)
Capital/Employee	-0.000*** (0.000)	-0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Beta (Annual)	0.104*** (0.011)	0.053*** (0.005)	0.103*** (0.011)	0.111*** (0.011)
Constant	2.967*** (0.016)	3.837*** (0.009)	2.930*** (0.016)	2.715*** (0.016)
Observations	63,838	63,451	63,838	63,838
Adjusted R-squared	0.491	0.961	0.497	0.508
Executive Sample	Yes	Yes	Yes	Yes
Sector-Quarter FE	Yes	Yes	Yes	Yes
Executive FE	No	Yes	No	No

Note: The dependent variable is firm-level fixed costs, measured as "Selling, General and Administrative Expense". Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects. Robust standard errors are in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

Table C.7: Managers and Systematic Risk

	F-tests on fixed effects for						N	adj. $R^2$
	Years		Firms		CEOs			
<i>Always Domestic</i>	101.97	(1.76)	6.23	(1.12)			3080	<b>0.488</b>
	93.84	(1.76)	1.58	(1.40)	2.18	(1.20)	3080	<b>0.513</b>
<i>Future MNEs</i>	77.45	(1.75)	7.33	(1.09)			4141	<b>0.532</b>
	71.44	(1.75)	1.39	(1.29)	1.62	(1.14)	4141	<b>0.544</b>
<i>Always MNEs</i>	75.37	(1.75)	12.52	(1.09)			6544	<b>0.580</b>
	65.79	(1.75)	1.97	(1.17)	1.88	(1.09)	6544	<b>0.610</b>

Note: The dependent variable is annual firm *betas* estimated with monthly-level stock returns. *F*-statistics in parentheses.  
Source: CRSP/Compustat, SEC 10K filings, Execucomp.

Table C.8: Returns from Repeated Acquisitions

	(1)	(2)	(3)	(4)	(5)	(6)
Cumulative Domestic Acquisitions	0.028*** (0.004)	-0.096*** (0.008)	-0.082*** (0.008)	0.023*** (0.006)	-0.082*** (0.015)	-0.093*** (0.015)
Cumulative Foreign Acquisitions	0.047*** (0.009)	-0.060*** (0.018)	-0.088*** (0.018)	-0.014 (0.012)	-0.142*** (0.029)	-0.173*** (0.028)
Multinational	1.186*** (0.080)	-0.243* (0.146)	-0.296** (0.139)	1.150*** (0.118)	-0.079 (0.216)	-0.317 (0.206)
Market Capitalization				0.028*** (0.002)	0.056*** (0.006)	0.048*** (0.005)
Leverage Ratio				-0.296* (0.161)	-3.750*** (0.597)	-3.184*** (0.553)
Sales/Employee				0.000 (0.000)	0.000 (0.000)	0.000** (0.000)
Capital/Employee				-0.000 (0.000)	-0.000*** (0.000)	-0.000** (0.000)
Beta (Annual)				1.520*** (0.109)	1.093*** (0.139)	0.724*** (0.146)
Constant	2.471*** (0.053)	3.801*** (0.081)	3.797*** (0.081)	0.845*** (0.116)	2.723*** (0.177)	3.264*** (0.187)
Observations	417,142	417,007	417,001	199,667	199,266	199,257
R-squared	0.148	0.047	0.189	0.150	0.069	0.212
Firm FE	No	Yes	Yes	No	No	No
Industry FE	No	No	No	No	No	No
Quarter FE	No	No	No	No	No	No
Industry-Quarter FE	Yes	No	Yes	Yes	No	Yes

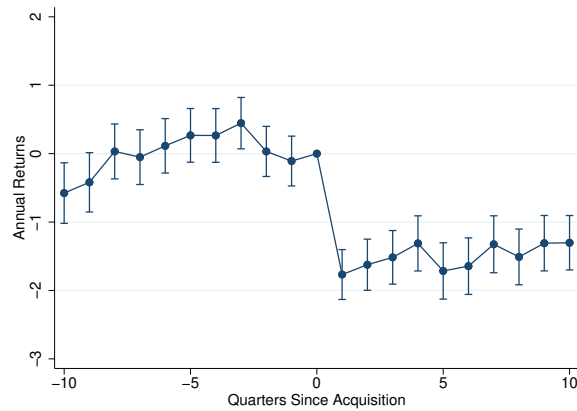
Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

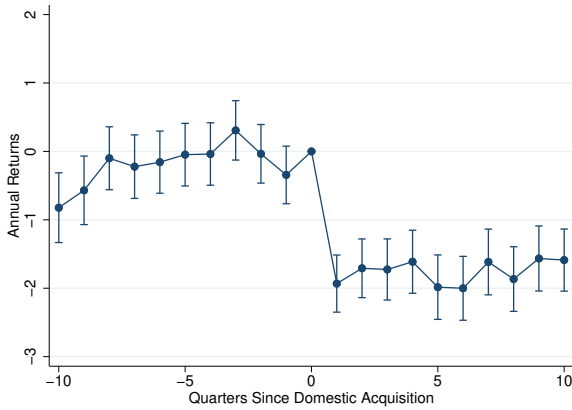


Figure C.1: Changes in Stock Returns after an Acquisition or MN Entry

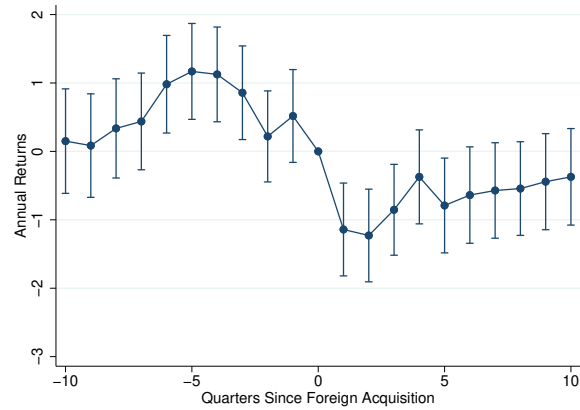
(a) Any Acquisition



(b) Domestic Acquisition



(c) Foreign Acquisition



Note: Coefficients from regressing quarterly annualized returns on a set of dummies indicating quarters since the event. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm beta. Industry-quarter fixed effects and firm fixed effects are also included. Standard errors are clustered at the firm level. 95% confidence intervals shown. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

## D Proofs

[TBA]